UNITED STATES
SECURITIES AND EXCHANGE COMMISSION
Washington, D.C. 20549

FORM 10-K

(Mark One)

☒ ANNUAL REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934
For the fiscal year ended December 31, 2020

or

☐ TRANSITION REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934
For the transition period from _____ to _____

Commission File No.	Exact Name of Registrants as Specified in their Charters, Address and Telephone Number	State of Incorporation	I.R.S. Employer Identification Nos.
1-14201	SEMPRA ENERGY 488 8th Avenue San Diego, California 92101 (619) 696-2000	California	33-0732627
1-03779	SAN DIEGO GAS & ELECTRIC COMPANY 8326 Century Park Court San Diego, California 92123 (619) 696-2000	California	95-1184800
1-01402	SOUTHERN CALIFORNIA GAS COMPANY 555 West Fifth Street Los Angeles, California 90013 (213) 244-1200	California	95-1240705

SECURITIES REGISTERED PURSUANT TO SECTION 12(b) OF THE ACT:

Title of Each Class	Trading Symbol	Name of Each Exchange on Which Registered
SEMPRA ENERGY:		
Common Stock, without par value	SRE	New York Stock Exchange
6.75% Mandatory Convertible Preferred Stock, Series B, $100 liquidation preference	SREPRB	New York Stock Exchange
5.75% Junior Subordinated Notes Due 2079, $25 par value	SREA	New York Stock Exchange
SAN DIEGO GAS & ELECTRIC COMPANY:		
None		
SOUTHERN CALIFORNIA GAS COMPANY:		
None		

SECURITIES REGISTERED PURSUANT TO SECTION 12(g) OF THE ACT:

Title of Each Class
SEMPRA ENERGY:
None
SAN DIEGO GAS & ELECTRIC COMPANY:
None
SOUTHERN CALIFORNIA GAS COMPANY:
6% Preferred Stock, $25 par value
6% Preferred Stock, Series A, $25 par value

Indicate by check mark if the registrant is a well-known seasoned issuer, as defined in Rule 405 of the Securities Act.

Sempra Energy	Yes ☒	No ☐
San Diego Gas & Electric Company	Yes ☐	No ☒
Southern California Gas Company	Yes ☐	No ☒

Indicate by check mark if the registrant is not required to file reports pursuant to Section 13 or Section 15(d) of the Act.

Sempra Energy	Yes ☐	No ☒
San Diego Gas & Electric Company	Yes ☐	No ☒
Southern California Gas Company	Yes ☐	No ☒

Indicate by check mark whether the registrants (1) have filed all reports required to be filed by Section 13 or 15(d) of the Securities Exchange Act of 1934 during the preceding 12 months (or for such shorter period that the registrants were required to file such reports), and (2) have been subject to such filing requirements for the past 90 days.

Yes ☒ No ☐

Indicate by check mark whether the registrants have submitted electronically every Interactive Data File required to be submitted pursuant to Rule 405 of Regulation S-T during the preceding 12 months (or for such shorter period that the registrants were required to submit such files).

Yes ☒ No ☐

Indicate by check mark whether the registrant is a large accelerated filer, an accelerated filer, a non-accelerated filer, a smaller reporting company, or an emerging growth company. See the definitions of “large accelerated filer,” “accelerated filer,” “smaller reporting company,” and “emerging growth company” in Rule 12b-2 of the Exchange Act.

Sempra Energy:

☒ Large Accelerated Filer	☐ Accelerated Filer	☐ Non-accelerated Filer	☐ Smaller Reporting Company	☐ Emerging Growth Company

San Diego Gas & Electric Company:

☐ Large Accelerated Filer	☐ Accelerated Filer	☒ Non-accelerated Filer	☐ Smaller Reporting Company	☐ Emerging Growth Company

Southern California Gas Company:

☐ Large Accelerated Filer	☐ Accelerated Filer	☒ Non-accelerated Filer	☐ Smaller Reporting Company	☐ Emerging Growth Company

If an emerging growth company, indicate by check mark if the registrant has elected not to use the extended transition period for complying with any new or revised financial accounting standards provided pursuant to Section 13(a) of the Exchange Act.

Sempra Energy	☐
San Diego Gas & Electric Company	☐
Southern California Gas Company	☐

Indicate by check mark whether the registrant has filed a report on and attestation to its management's assessment of the effectiveness of its internal control over financial reporting under Section 404(b) of the Sarbanes-Oxley Act by the registered public accounting firm that prepared or issued its audit report.

Sempra Energy	☒
San Diego Gas & Electric Company	☒
Southern California Gas Company	☒

Indicate by check mark whether the registrant is a shell company (as defined in Rule 12b-2 of the Exchange Act).

Sempra Energy	Yes ☐	No ☒
San Diego Gas & Electric Company	Yes ☐	No ☒
Southern California Gas Company	Yes ☐	No ☒

Aggregate market value of the voting and non-voting common equity held by non-affiliates of the registrant as of June 30, 2020:

Sempra Energy	$34.3 billion (based on the price at which the common equity was last sold as of the last business day of the most recently completed second fiscal quarter)
San Diego Gas & Electric Company	$0
Southern California Gas Company	$0

Common Stock outstanding, without par value, as of February 22, 2021:

Sempra Energy	302,591,374 shares
San Diego Gas & Electric Company	Wholly owned by Enova Corporation, which is wholly owned by Sempra Energy
Southern California Gas Company	Wholly owned by Pacific Enterprises, which is wholly owned by Sempra Energy

SAN DIEGO GAS & ELECTRIC COMPANY MEETS THE CONDITIONS OF GENERAL INSTRUCTIONS I(1)(a) AND (b) OF FORM 10-K AND IS THEREFORE FILING THIS REPORT WITH A REDUCED DISCLOSURE FORMAT AS PERMITTED BY GENERAL INSTRUCTION I(2).

DOCUMENTS INCORPORATED BY REFERENCE:

Portions of the Sempra Energy proxy statement to be filed for its May 2021 annual meeting of shareholders are incorporated by reference into Part III of this annual report on Form 10-K.

Portions of the Southern California Gas Company information statement to be filed for its June 2021 annual meeting of shareholders are incorporated by reference into Part III of this annual report on Form 10-K.

SEMPRA ENERGY FORM 10-K
SAN DIEGO GAS & ELECTRIC COMPANY FORM 10-K
SOUTHERN CALIFORNIA GAS COMPANY FORM 10-K
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This combined Form 10-K is separately filed by Sempra Energy, San Diego Gas & Electric Company and Southern California Gas Company. Information contained herein relating to any one of these individual reporting entities is filed by such entity on its own behalf. Each entity makes statements herein only as to itself and its consolidated subsidiaries and makes no statement whatsoever as to any other entity.

You should read this report in its entirety as it pertains to each respective reporting entity. No one section of the report deals with all aspects of the subject matter. Separate Part II – Items 6 and 8 are provided for each reporting entity, except for the Notes to Consolidated Financial Statements in Part II – Item 8. The Notes to Consolidated Financial Statements for all of the reporting entities are combined. All Items other than Part II – Items 6 and 8 are combined for the three reporting entities.

The following terms and abbreviations appearing in this report have the meanings indicated below.

GLOSSARY	
2016 GRC FD	final decision in the California Utilities' 2016 General Rate Case
2019 GRC FD	final decision in the California Utilities' 2019 General Rate Case
AB	California Assembly Bill
AFUDC	allowance for funds used during construction
AMP	Arrearage Management Payment Plan
AOCI	accumulated other comprehensive income (loss)
ARO	asset retirement obligation
ASC	Accounting Standards Codification
ASR	accelerated share repurchase
ASU	Accounting Standards Update
Bay Gas	Bay Gas Storage Company, Ltd.
Bcf	billion cubic feet
Bechtel	Bechtel Oil, Gas and Chemicals, Inc.
Blade	Blade Energy Partners
bps	basis points
Cal PA	California Public Advocates Office
CalGEM	California Geologic Energy Management Division (formerly known as Division of Oil, Gas, and Geothermal Resources or DOGGR)
California Utilities	San Diego Gas & Electric Company and Southern California Gas Company, collectively
Cameron LNG JV	Cameron LNG Holdings, LLC
CARB	California Air Resources Board
CCA	Community Choice Aggregation
CCC	California Coastal Commission
CCM	cost of capital adjustment mechanism
CEC	California Energy Commission
CENACE	Centro Nacional de Control de Energía (Mexico's National Center for Energy Control)
CENAGAS	Centro Nacional de Control de Gas
CFE	Comisión Federal de Electricidad (Mexico's Federal Electricity Commission)
CFIN	Cameron LNG FINCO, LLC, a wholly owned and unconsolidated affiliate of Cameron LNG JV
Chilquinta Energía	Chilquinta Energía, S.A. and its subsidiaries
CNBV	Comisión Nacional Bancaria y de Valores (Mexico's National Banking and Securities Commission)
COFECE	Comisión Federal de Competencia Económica (Mexico's Competition Commission)
COVID-19	coronavirus disease 2019
CPUC	California Public Utilities Commission
CRE	Comisión Reguladora de Energía (Mexico's Energy Regulatory Commission)
CRR	congestion revenue right
DA	Direct Access
DEN	Ductos y Energéticos del Norte, S. de R.L. de C.V.
DOE	U.S. Department of Energy
DOT	U.S. Department of Transportation
DWR	California Department of Water Resources
ECA LNG	ECA LNG Phase 1 and ECA LNG Phase 2, collectively
ECA LNG Phase 1	ECA LNG Holdings B.V.
ECA LNG Phase 2	ECA LNG II Holdings B.V.
ECA Regas Facility	Energía Costa Azul, S. de R.L. de C.V. LNG regasification facility
Ecogas	Ecogas México, S. de R.L. de C.V.
Edison	Southern California Edison Company, a subsidiary of Edison International
EFH	Energy Future Holdings Corp. (renamed Sempra Texas Holdings Corp.)
Eletrans	Eletrans S.A., Eletrans II S.A. and Eletrans III S.A., collectively
EMA	energy management agreement
Enova	Enova Corporation
EPA	U.S. Environmental Protection Agency
EPC	engineering, procurement and construction
EPS	earnings per common share

GLOSSARY (CONTINUED)

ERCOT	Electric Reliability Council of Texas, Inc., the independent system operator and the regional coordinator of various electricity systems within Texas
ERR	eligible renewable energy resource
ESJ	Energía Sierra Juárez, S. de R.L. de C.V.
ETR	effective income tax rate
Exchange Act	Securities Exchange Act of 1934, as amended
FERC	Federal Energy Regulatory Commission
Fitch	Fitch Ratings
FTA	Free Trade Agreement
Gazprom	Gazprom Marketing & Trading Mexico S. de R.L. de C.V.
GCIM	Gas Cost Incentive Mechanism
GHG	greenhouse gas
GRC	General Rate Case
HMRC	United Kingdom's Revenue and Customs Department
IEnova	Infraestructura Energética Nova, S.A.B. de C.V.
IEnova Pipelines	IEnova Pipelines, S. de R.L. de C.V.
IMG JV	Infraestructura Marina del Golfo
InfraREIT	InfraREIT, Inc.
IOU	investor-owned utility
IRC	U.S. Internal Revenue Code of 1986 (as amended)
IRS	Internal Revenue Service
ISFSI	independent spent fuel storage installation
ISO	Independent System Operator
JV	joint venture
kV	kilovolt
kW	kilowatt
kWh	kilowatt hour
LA Storage	LA Storage, LLC
LA Superior Court	Los Angeles County Superior Court
Leak	the leak at the SoCalGas Aliso Canyon natural gas storage facility injection-and-withdrawal well, SS25, discovered by SoCalGas on October 23, 2015
LIBOR	London Interbank Offered Rate
LNG	liquefied natural gas
LPG	liquid petroleum gas
LTIP	long-term incentive plan
Luz del Sur	Luz del Sur S.A.A. and its subsidiaries
MD&A	Management's Discussion and Analysis of Financial Condition and Results of Operations
Mexican Stock Exchange	Bolsa Mexicana de Valores, S.A.B. de C.V., or BMV
Mississippi Hub	Mississippi Hub, LLC
MMBtu	million British thermal units (of natural gas)
MMcf	million cubic feet
Moody's	Moody's Investors Service, Inc.
MOU	Memorandum of Understanding
Mtpa	million tonnes per annum
MW	megawatt
MWh	megawatt hour
NAV	net asset value
NCI	noncontrolling interest(s)
NDT	nuclear decommissioning trusts
NEIL	Nuclear Electric Insurance Limited
NEM	net energy metering
NOL	net operating loss
NRC	Nuclear Regulatory Commission
NYSE	New York Stock Exchange

GLOSSARY (CONTINUED)

O&M	operation and maintenance expense
OCI	other comprehensive income (loss)
OII	Order Instituting Investigation
OIR	Order Instituting a Rulemaking
OMEC	Otay Mesa Energy Center
OMEC LLC	Otay Mesa Energy Center LLC
Oncor	Oncor Electric Delivery Company LLC
Oncor Holdings	Oncor Electric Delivery Holdings Company LLC
OSC	Order to Show Cause
Otay Mesa VIE	OMEC LLC VIE
PBOP	postretirement benefits other than pension
PE	Pacific Enterprises
PEMEX	Petróleos Mexicanos (Mexican state-owned oil company)
PG&E	Pacific Gas and Electric Company
PHMSA	Pipeline and Hazardous Materials Safety Administration
PP&E	property, plant and equipment
PPA	power purchase agreement
PRP	Potentially Responsible Party
PSEP	Pipeline Safety Enhancement Plan
PUCT	Public Utility Commission of Texas
PURA	Public Utility Regulatory Act
RBS	The Royal Bank of Scotland plc
RBS SEE	RBS Sempra Energy Europe
RBS Sempra Commodities	RBS Sempra Commodities LLP
REC	renewable energy certificate
ROE	return on equity
ROU	right-of-use
RPS	Renewables Portfolio Standard
RSU	restricted stock unit
S&P	Standard & Poor's
Saavi Energía	Saavi Energía S. de R.L. de C.V.
SB	California Senate Bill
SCAQMD	South Coast Air Quality Management District
SDG&E	San Diego Gas & Electric Company
SDTS	Sharyland Distribution & Transmission Services, L.L.C. (a subsidiary of InfraREIT)
SEC	U.S. Securities and Exchange Commission
SED	Safety and Enforcement Division of the CPUC
SEDATU	Secretaría de Desarrollo Agrario, Territorial y Urbano (Mexican agency in charge of agriculture, land and urban development)
Sempra Global	holding company for most of Sempra Energy's subsidiaries not subject to California or Texas utility regulation
SENER	Secretaría de Energía de México (Mexico's Ministry of Energy)
series A preferred stock	6% mandatory convertible preferred stock, series A
series B preferred stock	6.75% mandatory convertible preferred stock, series B
series C preferred stock	Sempra Energy's 4.875% fixed-rate reset cumulative redeemable perpetual preferred stock, series C
Sharyland Holdings	Sharyland Holdings, L.P.
Sharyland Utilities	Sharyland Utilities, L.L.C.
Shell Mexico	Shell México Gas Natural, S. de R.L. de C.V.
SoCalGas	Southern California Gas Company
SONGS	San Onofre Nuclear Generating Station
SONGS OII	CPUC's Order Instituting Investigation into the SONGS Outage
STIH	Sempra Texas Intermediate Holding Company LLC
Support Agreement	support agreement, dated July 28, 2020, between Sempra Energy and Sumitomo Mitsui Banking Corporation
TAG JV	TAG Norte Holding, S. de R.L. de C.V.
Tangguh PSC	Tangguh PSC Contractors
TC Energy	TC Energy Corporation (formerly known as TransCanada Corporation)

GLOSSARY (CONTINUED)	
TCJA	Tax Cuts and Jobs Act of 2017
TdM	Termoeléctrica de Mexicali
TechnipFMC	TP Oil & Gas Mexico, S. De R.L. De C.V., an affiliate of TechnipFMC plc
Tecnored	Tecnored S.A.
Tecsur	Tecsur S.A.
TO4	Electric Transmission Owner Formula Rate, effective through December 31, 2018
TO5	Electric Transmission Owner Formula Rate, new application
TTHC	Texas Transmission Holdings Corporation
TTI	Texas Transmission Investment LLC
TURN	The Utility Reform Network
U.S. GAAP	accounting principles generally accepted in the United States of America
USMCA	United States-Mexico-Canada Agreement
VaR	value at risk
VAT	value-added tax
Ventika	Ventika, S.A.P.I. de C.V. and Ventika II, S.A.P.I. de C.V., collectively
VIE	variable interest entity
Wildfire Fund	the fund established pursuant to AB 1054
Wildfire Legislation	AB 1054 and AB 111

References in this report to “we,” “our,” “us,” “our company” and “Sempra Energy Consolidated” are to Sempra Energy and its consolidated entities, collectively, unless otherwise indicated by the context. We refer to SDG&E and SoCalGas collectively as the California Utilities, which do not include the utilities in our Sempra Texas Utilities or Sempra Mexico segments or the utilities in our former South American businesses included in discontinued operations. All references in this report to our reportable segments are not intended to refer to any legal entity with the same or similar name.

Throughout this report, we refer to the following as Consolidated Financial Statements and Notes to Consolidated Financial Statements when discussed together or collectively:

- the Consolidated Financial Statements and related Notes of Sempra Energy and its subsidiaries and VIEs;
- the Consolidated Financial Statements and related Notes of SDG&E and its VIE (until deconsolidation of the VIE in August 2019); and
- the Financial Statements and related Notes of SoCalGas.

INFORMATION REGARDING FORWARD-LOOKING STATEMENTS

We make statements in this report that constitute forward-looking statements within the meaning of the Private Securities Litigation Reform Act of 1995. Forward-looking statements are based on assumptions with respect to the future, involve risks and uncertainties, and are not guarantees. Future results may differ materially from those expressed in any forward-looking statements. These forward-looking statements represent our estimates and assumptions only as of the filing date of this report. We assume no obligation to update or revise any forward-looking statement as a result of new information, future events or other factors.

Forward-looking statements can be identified by words such as “believes,” “expects,” “anticipates,” “plans,” “estimates,” “projects,” “forecasts,” “should,” “could,” “would,” “will,” “confident,” “may,” “can,” “potential,” “possible,” “proposed,” “in process,” “under construction,” “in development,” “target,” “outlook,” “maintain,” “continue,” or similar expressions, or when we discuss our guidance, priorities, strategy, goals, vision, mission, opportunities, projections, intentions or expectations.

Factors, among others, that could cause actual results and events to differ materially from those described in any forward-looking statements include risks and uncertainties relating to:

- California wildfires, including the risks that we may be found liable for damages regardless of fault and that we may not be able to recover costs from insurance, the Wildfire Fund or in rates from customers
- decisions, investigations, regulations, issuances or revocations of permits and other authorizations, renewals of franchises, and other actions by (i) the CFE, CPUC, DOE, PUCT, and other regulatory and governmental bodies and (ii) states, counties, cities and other jurisdictions in the U.S., Mexico and other countries in which we do business
- the success of business development efforts, construction projects and major acquisitions and divestitures, including risks in (i) the ability to make a final investment decision, (ii) completing construction projects or other transactions on schedule and budget, (iii) the ability to realize anticipated benefits from any of these efforts if completed, and (iv) obtaining the consent of partners or other third parties
- the resolution of civil and criminal litigation, regulatory inquiries, investigations and proceedings, and arbitrations, including, among others, those related to the Leak
- the impact of the COVID-19 pandemic on our capital projects, regulatory approval processes, supply chain, liquidity and execution of operations
- actions by credit rating agencies to downgrade our credit ratings or to place those ratings on negative outlook and our ability to borrow on favorable terms and meet our substantial debt service obligations
- moves to reduce or eliminate reliance on natural gas and the impact of volatility of oil prices on our businesses and development projects
- weather, natural disasters, pandemics, accidents, equipment failures, explosions, acts of terrorism, computer system outages and other events that disrupt our operations, damage our facilities and systems, cause the release of harmful materials, cause fires and subject us to liability for property damage or personal injuries, fines and penalties, some of which may not be covered by insurance (including costs in excess of applicable policy limits), may be disputed by insurers or may otherwise not be recoverable through regulatory mechanisms or may impact our ability to obtain satisfactory levels of affordable insurance
- the availability of electric power and natural gas and natural gas storage capacity, including disruptions caused by failures in the transmission grid, limitations on the withdrawal of natural gas from storage facilities, and equipment failures
- cybersecurity threats to the energy grid, storage and pipeline infrastructure, the information and systems used to operate our businesses, and the confidentiality of our proprietary information and the personal information of our customers and employees
- expropriation of assets, failure of foreign governments and state-owned entities to honor their contracts, and property disputes
- the impact at SDG&E on competitive customer rates and reliability due to the growth in distributed and local power generation, including from departing retail load resulting from customers transferring to DA and CCA, and the risk of nonrecovery for stranded assets and contractual obligations
- Oncor’s ability to eliminate or reduce its quarterly dividends due to regulatory and governance requirements and commitments, including by actions of Oncor’s independent directors or a minority member director
- volatility in foreign currency exchange and interest rates and commodity prices and our ability to effectively hedge these risks
- changes in tax and trade policies, laws and regulations, including tariffs and revisions to international trade agreements that may increase our costs, reduce our competitiveness, or impair our ability to resolve trade disputes
- other uncertainties, some of which may be difficult to predict and are beyond our control

We caution you not to rely unduly on any forward-looking statements. You should review and consider carefully the risks, uncertainties and other factors that affect our business as described herein and in other reports that we file with the SEC.

SUMMARY OF RISK FACTORS

There are a number of risks that you should understand before making an investment decision in our securities or the securities of our subsidiaries. This summary is not intended to be complete and should only be read together with the information set forth in "Risk Factors" in this report. If any of these risks occur, Sempra Energy's and its subsidiaries' businesses, cash flows, financial condition, results of operations and/or prospects could be materially and adversely affected, and the trading prices of Sempra Energy's securities and those of its subsidiaries could substantially decline. These risks include, among others, the following:

Risks Related to Sempra Energy

- Sempra Energy's cash flows, ability to pay dividends and ability to meet its debt obligations largely depend on the performance of its subsidiaries and entities that are accounted for as equity method investments, such as Oncor Holdings and Cameron LNG JV.
- The economic interest, voting rights and market value of our outstanding common and preferred stock may be adversely affected by any additional equity securities we may issue and, with respect to our common stock, by our outstanding preferred stock.

Risks Related to All Sempra Energy Businesses

- Severe weather conditions, natural disasters, pandemics, accidents, equipment failures, explosions or acts of terrorism could materially adversely affect us.
- The substantial debt service obligations of Sempra Energy, SDG&E and SoCalGas could have a material adverse effect on us, and with respect to Sempra Energy, could require additional equity securities issuances.
- The availability and cost of debt or equity financing could be adversely affected by conditions in the financial markets and economic conditions generally, as well as other factors, and any such negative effects could materially adversely affect us.
- Certain credit rating agencies may downgrade our credit ratings or place those ratings on negative outlook.
- Our businesses are subject to complex governmental regulations and tax and accounting requirements and may be materially adversely affected by these regulations or requirements or any changes to them.
- Our businesses require numerous permits, licenses, franchises, and other approvals and agreements from various federal, state, local and foreign governmental agencies, and the failure to obtain or maintain any of them could materially adversely affect us.

Risks Related to the California Utilities

- Wildfires in California pose a significant risk to the California Utilities (particularly SDG&E) and Sempra Energy.
- The electricity industry is undergoing significant change, including increased deployment of distributed energy resources, technological advancements, and political and regulatory developments.
- Natural gas and natural gas storage have increasingly been the subject of political and public scrutiny, including a desire by some to substantially reduce or eliminate reliance on natural gas as an energy source.
- The California Utilities are subject to extensive regulation by state, federal and local legislative and regulatory authorities, which may materially adversely affect us.
- SoCalGas has incurred and may continue to incur significant costs, expenses and other liabilities related to the Leak, a substantial portion of which may not be recoverable through insurance.

Risks Related to Our Interest in Oncor

- Certain ring-fencing measures, governance mechanisms and commitments limit our ability to influence the management and policies of Oncor.
- Changes in the electric utility industry, including changes in regulation of ERCOT, could materially adversely affect Oncor, which could materially adversely affect us.

Risks Related to Our Businesses Other Than the California Utilities and Our Interest in Oncor

- Project development activities may not be successful and projects under construction may not commence operation as scheduled, be completed within budget or operate at expected levels, which could have a material adverse effect on us.

- Our businesses depend on the performance of counterparties, including with respect to long-term supply, sales and capacity agreements, and any failure by these parties to perform could result in substantial expenses and business disruptions and exposure to commodity price risk and volatility, any of which could materially adversely affect us.
- Our international businesses and operations expose us to legal, tax, economic, geopolitical, management oversight, foreign currency and inflation risks and challenges.

Risks Related to Our Proposed IEnova Exchange Offer and Our Proposed Transaction Related to Sempra Infrastructure Partners

- Our ability to complete our proposed IEnova exchange offer is subject to various conditions and other risks and uncertainties that could cause the transaction to be abandoned, delayed or restructured, which could materially adversely affect us.
- We expect to issue shares of our common stock in the proposed exchange offer, which would dilute the voting interests and could dilute the economic interests of our current shareholders and may adversely affect the market value of our common stock and preferred stock.
- The proposed exchange offer, if completed, would subject us to additional regulation and liability in Mexico.
- Our proposed transaction related to Sempra Infrastructure Partners is subject to a number of risks and uncertainties.

PART I.

ITEM 1. BUSINESS

OVERVIEW

We are a California-based holding company with energy infrastructure investments in North America. Our businesses invest in, develop and operate energy infrastructure, and provide electric and gas services to customers through regulated public utilities.

Sempra Energy was formed in 1998 through a business combination of Enova and PE, the holding companies of our regulated public utilities in California: SDG&E, which began operations in 1881, and SoCalGas, which began operations in 1867. We have since expanded our regulated public utility presence into Texas through our 80.25% interest in Oncor and 50% interest in Sharyland Utilities.

We have had a strong and growing presence in Mexico through IEnova. IEnova has a diverse portfolio of energy infrastructure projects and assets serving Mexico's growing energy needs. Our energy infrastructure footprint includes our 50.2% interest in Cameron LNG JV, which is a natural gas liquefaction export facility operating in Louisiana, and construction and development of LNG projects and assets on the Gulf Coast and Pacific Coast of North America.

In 2018, we announced a multi-phase portfolio optimization initiative designed to sharpen our strategic focus on North America. We have since executed on that initiative by completing the sales of our renewables businesses and our non-utility natural gas storage assets in the U.S., and by completing the sales of our businesses in South America. We present the South American businesses as discontinued operations throughout this report.

Business Strategy

Our mission is to be North America's premier energy infrastructure company. We are primarily focused on transmission and distribution investments among other areas that we believe are capable of producing stable cash flows and improved earnings visibility, with the goal of delivering safe and reliable energy to our customers and increasing shareholder value.

DESCRIPTION OF BUSINESS BY SEGMENT

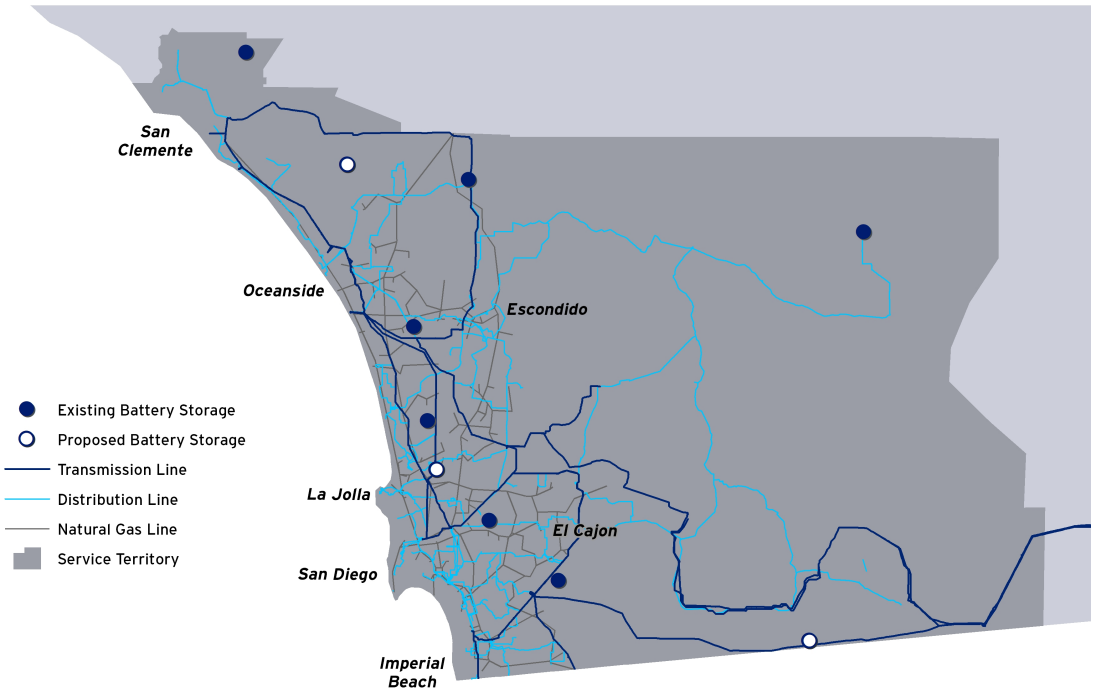
Our business activities are organized under the following reportable segments:

- SDG&E
- SoCalGas
- Sempra Texas Utilities
- Sempra Mexico
- Sempra LNG

SDG&E

SDG&E is a regulated public utility that provides electric services to a population of, at December 31, 2020, approximately 3.7 million and natural gas services to approximately 3.4 million of that population, covering a 4,100 square mile service territory in Southern California that encompasses San Diego County and an adjacent portion of Orange County.

SDG&E's assets at December 31, 2020 covered the following territory:



Electric Utility Operations

Electric Transmission and Distribution System. Service to SDG&E's customers is supported by its electric transmission and distribution system, which includes substations and overhead and underground lines. These electric facilities are primarily in the San Diego, Imperial and Orange counties of California, and in Arizona and Nevada and consisted of 2,129 miles of transmission lines, 23,926 miles of distribution lines and 183 substations at December 31, 2020. Periodically, various areas of the service territory require expansion to accommodate customer growth and maintain reliability and safety.

SDG&E's 500-kV Southwest Powerlink transmission line, which is shared with Arizona Public Service Company and Imperial Irrigation District, extends from Palo Verde, Arizona to San Diego, California. SDG&E's share of the line is 1,162 MW, although it can be less under certain system conditions. SDG&E's Sunrise Powerlink is a 500-kV transmission line constructed and operated by SDG&E with import capability of 1,000 MW of power.

Mexico's Baja California transmission system is connected to SDG&E's system via two 230-kV interconnections with combined capacity of up to 600 MW in the north-to-south direction and 800 MW in the south-to-north direction, although it can be less under certain system conditions.

Edison's transmission system is connected to SDG&E's system via five 230-kV transmission lines.

Electric Resources. To meet customer demand, SDG&E supplies power from its own electric generation facilities and procures power on a long-term basis from other suppliers for resale through CPUC-approved purchased-power contracts or through purchases on a spot basis. SDG&E does not earn any return on commodity sales volumes. SDG&E's supply at December 31, 2020 was as follows:

SDG&E – ELECTRIC RESOURCES[1]

	Contract expiration date	Net operating capacity (MW)	% of total
Owned generation facilities, natural gas[2]		1,204	23 %
Purchased-power contracts:			
Renewables:			
Wind	2023 to 2035	1,131	22
Solar	2030 to 2041	1,326	26
Other	2022 and thereafter	203	4
Tolling and other	2022 to 2042	1,292	25
Total		5,156	100 %

(1) *Excludes approximately 107.5 MW of battery storage owned and approximately 174 MW of battery storage contracted.*

(2) *SDG&E owns and operates four natural gas-fired power plants, three of which are in California and one of which is in Nevada.*

Charges under contracts with suppliers are based on the amount of energy received or are tolls based on available capacity. Tolling contracts are purchased-power contracts under which SDG&E provides natural gas for generation to the energy supplier.

SDG&E procures natural gas under short-term contracts for its owned generation facilities and for certain tolling contracts associated with purchased-power arrangements. Purchases are from various southwestern U.S. suppliers and are primarily priced based on published monthly bid-week indices.

SDG&E is a participant in the Western Systems Power Pool, which includes an electric-power and transmission-rate agreement that allows access to power trading with more than 300 member utilities, power agencies, energy brokers and power marketers located throughout the U.S. and Canada. Participants can make power transactions on standardized terms, including market-based rates, preapproved by the FERC. Participation in the Western Systems Power Pool is intended to assist members in managing power delivery and price risk.

Customers and Demand. SDG&E provides electric services through the generation, transmission and distribution of electricity to the following customer classes:

SDG&E – ELECTRIC CUSTOMER METERS AND VOLUMES

	Customer meter count	Volumes[1] (millions of kWh)		
	December 31,	Years ended December 31,		
	2020	2020	2019	2018
Residential	1,317,080	6,606	5,982	6,336
Commercial	151,210	5,873	6,295	6,539
Industrial	370	1,842	2,044	2,169
Street and highway lighting	2,090	77	76	81
	1,470,750	14,398	14,397	15,125
CCA and DA	12,480	3,482	3,549	3,628
Total	1,483,230	17,880	17,946	18,753

(1) *Includes intercompany sales.*

San Diego's mild climate and SDG&E's robust energy efficiency programs contribute to lower consumption by our customers. Rooftop solar installations continue to reduce residential and commercial volumes sold by SDG&E. At December 31, 2020, 2019 and 2018, the residential and commercial rooftop solar capacity in SDG&E's territory totaled 1,423 MW, 1,233 MW and 1,023 MW, respectively.

Demand for electricity is dependent on the health and expansion of the Southern California economy, prices of alternative energy products, consumer preference, environmental regulations, legislation, renewable power generation, the effectiveness of energy efficiency programs, demand-side management impact and distributed generation resources. California's energy policy supports

increased electrification, particularly electrification of vehicles, which could result in significant increases in sales volumes in the coming years. Other external factors, such as the price of purchased power, the use of hydroelectric power, the use of and further development of renewable energy resources and energy storage, development of new natural gas supply sources, demand for natural gas and general economic conditions, can also result in significant shifts in the market price of electricity, which may in turn impact demand. Demand for electricity is also impacted by seasonal weather patterns (or "seasonality"), tending to increase in the summer months to meet cooling load and in the winter months to meet heating load.

Competition. SDG&E faces competition to serve its customer load from the growth in distributed and local power generation, including rooftop solar installations and battery storage, and the corresponding decrease in demand for power from departing retail load from customers transferring to load serving entities other than SDG&E. While SDG&E currently provides procurement service for the majority of its customer load, customers do have the ability to receive procurement service from a load serving entity other than SDG&E through programs such as DA and CCA. DA is currently limited by a cap based on gigawatt hours and CCA is only available if the customer's local jurisdiction (city) offers such a program. Several local jurisdictions, including the City and County of San Diego and other municipalities, have implemented, are implementing or are considering implementing CCA, which could result in SDG&E providing procurement service for less than half of its current customer load as early as December 31, 2021. When customers are served by another load serving entity, SDG&E no longer procures electricity for this departing load and the associated costs of the utility's procured resources could then be borne by SDG&E's remaining bundled procurement customers. To help achieve the goal of ratepayer indifference (whether or not customers are served by DA or CCA), the CPUC revised the Power Charge Indifference Adjustment framework by adopting several refinements designed to equitably share costs among customers served by SDG&E and customers served by DA and CCA, which SDG&E implemented on January 1, 2019.

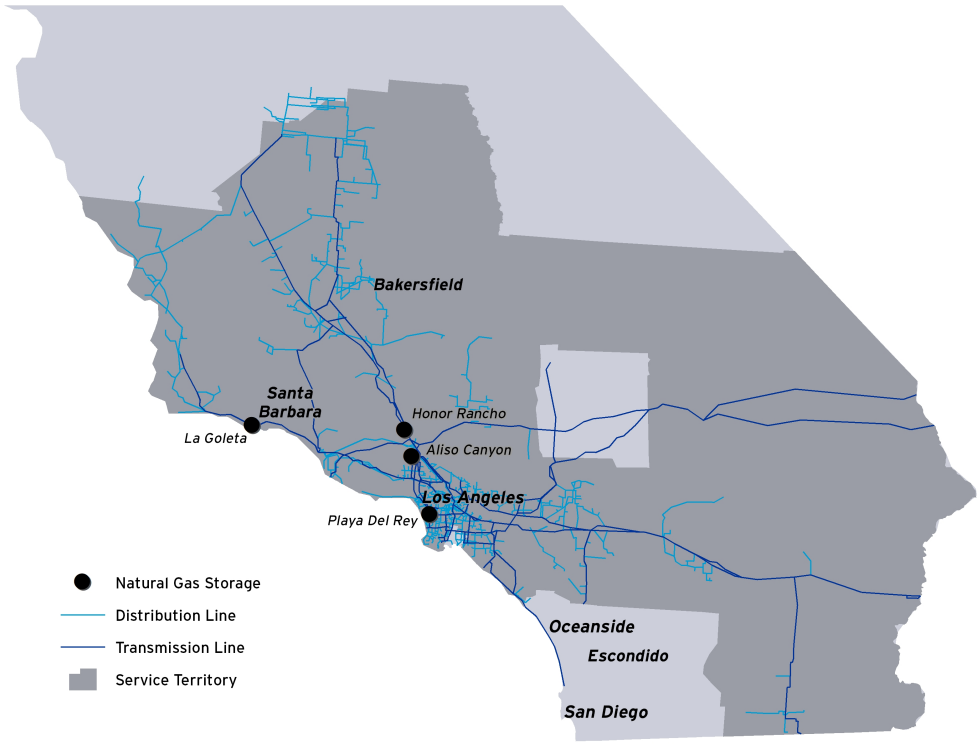
Natural Gas Utility Operations

We describe SDG&E's natural gas utility operations below in "California Utilities' Natural Gas Utility Operations."

SoCalGas

SoCalGas is a regulated public utility that owns and operates a natural gas distribution, transmission and storage system that supplies natural gas to a population of, at December 31, 2020, approximately 22 million, covering a 24,000 square mile service territory that encompasses Southern California and portions of central California (excluding San Diego County, the City of Long Beach and the desert area of San Bernardino County).

SoCalGas' assets at December 31, 2020 covered the following territory:



Natural Gas Utility Operations

We describe SoCalGas' natural gas utility operations below in "California Utilities' Natural Gas Utility Operations."

California Utilities' Natural Gas Utility Operations

Natural Gas Procurement and Transportation

At December 31, 2020, SoCalGas' natural gas facilities included 3,059 miles of transmission and storage pipelines, 51,367 miles of distribution pipelines, 48,492 miles of service pipelines and nine transmission compressor stations, and SDG&E's natural gas facilities consisted of 178 miles of transmission pipelines, 8,971 miles of distribution pipelines, 6,615 miles of service pipelines and one compressor station.

SoCalGas purchases natural gas under short-term and long-term contracts for the California Utilities' core customers. SoCalGas purchases natural gas from various sources, including from Canada, the U.S. Rockies and the southwestern regions of the U.S. Purchases of natural gas are primarily priced based on published monthly bid-week indices.

To support the delivery of natural gas supplies to its distribution system and to meet the seasonal and annual needs of customers, SoCalGas has firm interstate pipeline capacity contracts that require the payment of fixed reservation charges to reserve firm transportation rights. Energy companies, primarily El Paso Natural Gas Company, Transwestern Pipeline Company and Kern River Gas Transmission Company, provide transportation services into SoCalGas' intrastate transmission system for supplies purchased by SoCalGas from outside of California and its transportation customers.

Natural Gas Storage

SoCalGas owns four natural gas storage facilities with a combined working gas capacity of 137 Bcf and over 150 injection, withdrawal and observation wells that provide natural gas storage services for core, noncore and non-end-use customers. SoCalGas' and SDG&E's core customers are allocated a portion of SoCalGas' storage capacity. SoCalGas offers the remaining storage capacity for sale to others, including SDG&E for its non-core customer requirements. Natural gas withdrawn from storage is important to help maintain service reliability during peak demand periods, including consumer heating needs in the winter, as well as peak electric generation needs in the summer. The Aliso Canyon natural gas storage facility has a storage capacity of 86 Bcf and, subject to the CPUC limitations described below, represents 63% of SoCalGas' natural gas storage capacity. SoCalGas

discovered a natural gas leak at one of its wells at the Aliso Canyon natural gas storage facility in October 2015 and permanently sealed the well in February 2016. SoCalGas was subsequently authorized to make limited withdrawals and injections of natural gas at the Aliso Canyon natural gas storage facility and has been directed by the CPUC to maintain up to 34 Bcf of working gas at the facility to help achieve reliability for the region at reasonable rates as determined by the CPUC. To help maintain system reliability, the CPUC issued a protocol authorizing withdrawals of natural gas from the facility if available gas supply and gas prices reach defined thresholds for SoCalGas' system, as determined by the protocol. We discuss the Leak in Note 16 of the Notes to Consolidated Financial Statements, in "Part I – Item 1A. Risk Factors" and in "Part II – Item 7. MD&A – Capital Resources and Liquidity – SoCalGas."

Customers and Demand

SoCalGas and SDG&E sell, distribute and transport natural gas. SoCalGas purchases and stores natural gas for its core customers in its territory and SDG&E's territory on a combined portfolio basis. SoCalGas also offers natural gas transportation and storage services for others.

CALIFORNIA UTILITIES – NATURAL GAS CUSTOMER METERS AND VOLUMES

	Customer meter count	Volumes (Bcf)[1]		
	December 31,	Years ended December 31,		
	2020	2020	2019	2018
SDG&E:				
Residential	869,520			
Commercial	28,690			
Electric generation and transportation	2,870			
Natural gas sales		43	45	40
Transportation		40	26	28
Total	901,080	83	71	68
SoCalGas:				
Residential	5,792,600			
Commercial	248,720			
Industrial	24,880			
Electric generation and wholesale	40			
Natural gas sales		312	329	297
Transportation		572	547	553
Total	6,066,240	884	876	850

(1) *Includes intercompany sales.*

For regulatory purposes, end-use customers are classified as either core or noncore customers. Core customers are primarily residential and small commercial and industrial customers.

Most core customers purchase natural gas directly from SoCalGas or SDG&E. While core customers are permitted to purchase directly from producers, marketers or brokers, the California Utilities are obligated to provide reliable supplies of natural gas to serve the requirements of their core customers.

Noncore customers at SoCalGas consist primarily of electric generation, wholesale, and large commercial and industrial customers. A portion of SoCalGas' noncore customers are non-end-users. SoCalGas' non-end-users include wholesale customers consisting primarily of other utilities, including SDG&E, or municipally owned natural gas distribution systems. Noncore customers at SDG&E consist primarily of electric generation and large commercial customers.

Noncore customers are responsible for the procurement of their natural gas requirements, as the regulatory framework does not allow us to recover the cost of natural gas procured and delivered to noncore customers.

Demand for natural gas largely depends on the health and expansion of the Southern California economy, prices of alternative energy products, consumer preference, environmental regulations, legislation, California's energy policy supporting increased electrification and renewable power generation, and the effectiveness of energy efficiency programs. Other external factors such as weather, the price of and demand for electricity, the use of hydroelectric power, the use of and further development of renewable energy resources and energy storage, development of new natural gas supply sources, demand for natural gas outside

California, and general economic conditions can also result in significant shifts in market price, which may in turn impact demand.

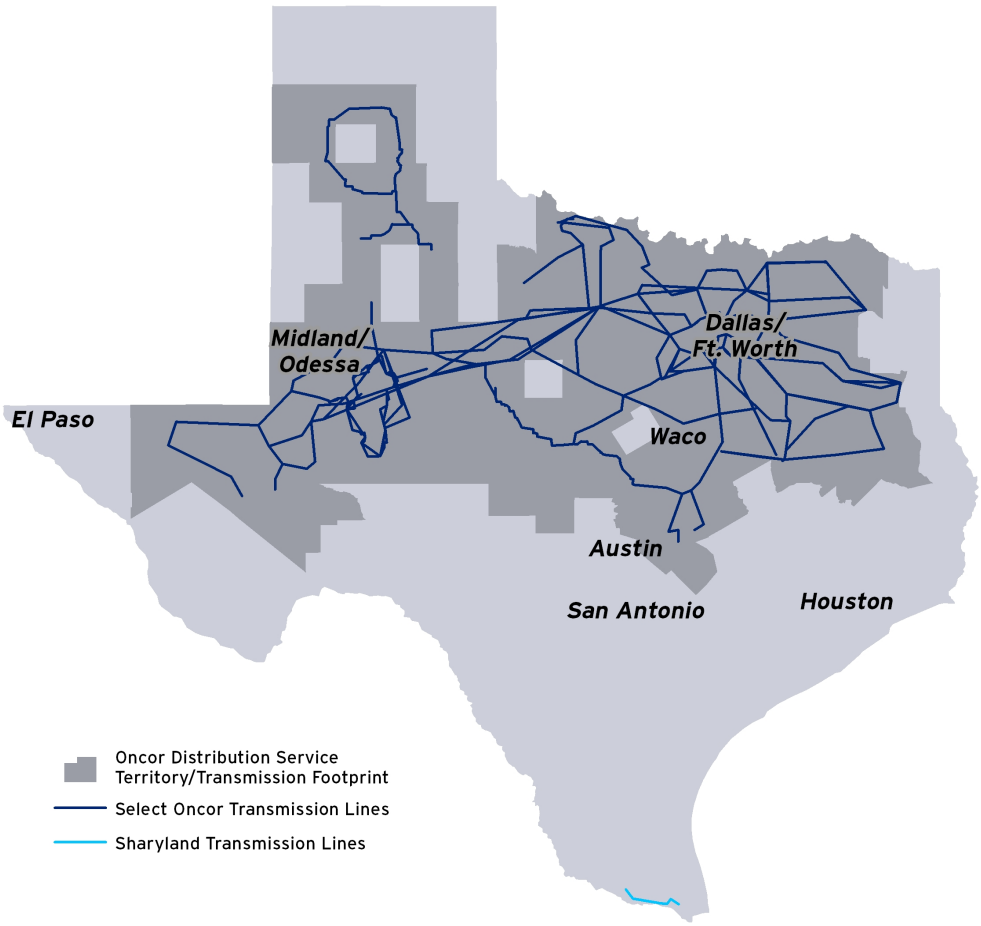
One of the larger sources for natural gas demand is electric generation. Natural gas-fired electric generation within Southern California (and demand for natural gas supplied to such plants) competes with electric power generated throughout the western U.S. Natural gas transported for electric generating plant customers may be affected by the overall demand for electricity, growth in self-generation from rooftop solar, the addition of more efficient gas technologies, new energy efficiency initiatives, and the degree to which regulatory changes in electric transmission infrastructure investment divert electric generation from the California Utilities' respective service areas. The demand for natural gas may also fluctuate due to volatility in the demand for electricity due to seasonality, weather conditions and other impacts, and the availability of competing supplies of electricity such as hydroelectric generation and other renewable energy sources. Given the significant quantity of natural gas-fired generation, we believe natural gas is a dispatchable fuel that can help provide electric reliability in our California service territories.

The natural gas distribution business is subject to seasonality, and cash provided by operating activities generally is greater during and immediately following the winter heating months. As is prevalent in the industry, but subject to current regulatory limitations, SoCalGas usually injects natural gas into storage during the summer months (April through October), which reduces cash provided by operating activities during this period, and usually withdraws natural gas from storage during the winter months (November through March). Cash provided by operating activities during the winter months generally increases, when customer demand is higher.

Sempra Texas Utilities

Sempra Texas Utilities is comprised of our equity method investments in Oncor Holdings, which we acquired in March 2018, and Sharyland Holdings, which we acquired in May 2019. We discuss these acquisitions in Note 5 of the Notes to Consolidated Financial Statements. Oncor Holdings, which is an indirect, wholly owned entity of Sempra Energy, owns an 80.25% interest in Oncor. TTI owns the remaining 19.75% interest in Oncor. Sempra Energy owns an indirect, 50% interest in Sharyland Holdings, which owns a 100% interest in Sharyland Utilities.

Sempra Texas Utilities' assets at December 31, 2020 covered the following territory:



Oncor

Oncor is a regulated electric transmission and distribution utility that operates in the north-central, eastern, western and panhandle regions of Texas. Oncor delivers electricity to end-use consumers through its transmission and distribution systems, and also provides transmission grid connections to merchant generation facilities and interconnections to other transmission grids in Texas.

At December 31, 2020, Oncor had 4,396 employees, including 767 employees under collective bargaining agreements.

Certain ring-fencing measures, governance mechanisms and commitments, which we describe in “Part I – Item 1A. Risk Factors,” are in effect and are intended to enhance Oncor Holdings’ and Oncor’s separateness from their owners and to mitigate the risk that these entities would be negatively impacted by the bankruptcy of, or other adverse financial developments affecting, their owners. Sempra Energy does not control Oncor Holdings or Oncor, and the ring-fencing measures, governance mechanisms and commitments limit our ability to direct the management, policies and operations of Oncor Holdings and Oncor, including the deployment or disposition of their assets, declarations of dividends, strategic planning and other important corporate issues and actions, including limited representation on the Oncor Holdings and Oncor boards of directors. Because Oncor Holdings and Oncor are managed independently (i.e., ring-fenced), we account for our 100% ownership interest in Oncor Holdings as an equity method investment. See Note 6 of the Notes to Consolidated Financial Statements for information about our equity method investment in Oncor Holdings.

Electricity Transmission. Oncor’s electricity transmission business is responsible for the safe and reliable operations of its transmission network and substations. These responsibilities consist of the construction and maintenance of transmission facilities and substations and the monitoring, controlling and dispatching of high-voltage electricity over its transmission facilities in coordination with ERCOT, which we discuss below in “Regulation – Utility Regulation – ERCOT Market.”

At December 31, 2020, Oncor's transmission system included approximately 18,127 circuit miles of transmission lines, 336 transmission stations and 806 distribution substations, which are interconnected to 115 generation facilities totaling 41,986 MW.

Transmission revenues are provided under tariffs approved by either the PUCT or, to a small degree related to limited interconnection to other markets, the FERC. Network transmission revenues compensate Oncor for delivery of electricity over transmission facilities operating at 60 kV and above. Other services offered by Oncor through its transmission business include system impact studies, facilities studies, transformation service and maintenance of transformer equipment, substations and transmission lines owned by other parties.

Electricity Distribution. Oncor's electricity distribution business is responsible for the overall safe and reliable operation of distribution facilities, including electricity delivery, power quality and system reliability. These responsibilities consist of the ownership, management, construction, maintenance and operation of the electricity distribution system within its certificated service area. Oncor's distribution system receives electricity from the transmission system through substations and distributes electricity to end-users and wholesale customers through 3,660 distribution feeders.

Oncor's distribution system included more than 3.7 million points of delivery at December 31, 2020 and consisted of 121,129 miles of overhead and underground lines.

Distribution revenues from residential and small business users are based on actual monthly consumption (kWh) and distribution revenues from large commercial and industrial users are based on, depending on size and annual load factor, either actual monthly demand (kW) or the greater of actual monthly demand (kW) or 80% of peak monthly demand during the prior eleven months.

Customers and Demand. Oncor operates the largest transmission and distribution system in Texas. Oncor delivers electricity to more than 3.7 million homes and businesses in a territory with an estimated population in excess of 10 million and operates more than 139,000 miles of transmission and distribution lines at December 31, 2020. The consumers of the electricity Oncor delivers are free to choose their electricity supplier from retail electric providers who compete for their business. Accordingly, Oncor is not a seller of electricity, nor does it purchase electricity for resale. Rather, Oncor provides transmission services to its electricity distribution business as well as non-affiliated electricity distribution companies, cooperatives and municipalities and distribution services to retail electric providers that sell electricity to retail customers. At December 31, 2020, Oncor's distribution customers consisted of approximately 95 retail electric providers and certain electric cooperatives in its certificated service area.

Oncor's transmission and distribution assets are located in over 120 counties and more than 400 incorporated municipalities, including Dallas/Fort Worth and surrounding suburbs, Waco, Wichita Falls, Odessa, Midland, Tyler, Temple, Killeen and Round Rock, among others. Most of Oncor's power lines have been constructed over lands of others pursuant to easements or along public highways, streets and rights-of-way as permitted by law.

Oncor's revenues and results of operations are subject to seasonality, weather conditions and other electricity usage drivers, with revenues being highest in the summer.

Competition. Oncor operates in certificated areas designated by the PUCT. The majority of Oncor's service territory is single certificated, with Oncor as the only certificated electric transmission and distribution provider. However, in multi-certificated areas of Texas, Oncor competes with certain other utilities and rural electric cooperatives for the right to serve end-use customers.

Sharyland Utilities

Sharyland Utilities is a regulated electric transmission utility that owns and operates, at December 31, 2020, approximately 63 miles of electric transmission lines in south Texas, including a direct current line connecting Mexico and assets in McAllen, Texas. Sharyland Utilities is responsible for providing safe, reliable and efficient transmission and substation services and investing to support infrastructure needs throughout the ERCOT grid, which we discuss below in "Regulation – Utility Regulation – ERCOT Market." Transmission revenues are provided under tariffs approved by the PUCT.

Sempra Mexico

Our Sempra Mexico segment includes the operating companies of our subsidiary, IEnova, as well as certain holding companies and risk management activities. IEnova develops, owns and operates, or holds interests in, energy infrastructure in Mexico in three key energy markets: gas, power and storage. IEnova's gas business includes pipeline services for natural gas and ethane and associated or stand-alone compression assets, as well as its natural gas marketing business and natural gas distribution business. In its power business, IEnova operates a natural-gas-fired combined-cycle power plant and wind and solar power generation facilities, and is constructing and developing additional wind and solar power generation facilities. IEnova's storage business includes refined products storage, its LPG storage and pipeline systems, and its ECA Regas Facility. Currently, IEnova is constructing and developing marine and land terminals for the receipt, storage and delivery of liquid fuels.

Sempra Energy beneficially owned 70.2% of IEnova at December 31, 2020, with the remaining shares held by NCI and traded on the Mexican Stock Exchange under the symbol IENOVA. The CNBV regulates the shares, which are registered with the Mexican National Securities Registry (Registro Nacional de Valores) maintained by the CNBV. On December 2, 2020, we announced a non-binding offer to acquire all outstanding publicly held shares of IEnova in exchange for shares of our common stock at a rate of 0.0313 shares of our common stock for each one IEnova ordinary share, which exchange ratio remains subject to approval by the Sempra Energy board of directors and, if successful, would increase Sempra Energy's ownership interest in IEnova to 100% assuming that all IEnova public shareholders tender their shares. On December 1, 2020, we filed an application with the CNBV and on January 12, 2021, we filed a registration statement with the SEC, in each case in connection with the exchange offer. As part of the exchange offer, Sempra Energy intends to list its common stock on the Mexican Stock Exchange. We expect to complete this transaction in the second quarter of 2021, subject to authorization by the SEC, CNBV and Mexican Stock Exchange and other closing conditions. The proposed exchange offer is subject to a number of risks that are discussed in "Part I – Item 1A. Risk Factors."

At December 31, 2020, Sempra Mexico's assets covered the following territory:

Gas Business

Pipelines and Related Assets. At December 31, 2020, IEnova's pipeline and related assets consisted of 1,850 miles of natural gas transmission pipelines, 15 natural gas compression stations (two of which are under construction) and 139 miles of ethane pipelines in Mexico. These pipeline assets had design capacity of over 16,400 MMcf per day of natural gas, 204 MMcf per day of ethane gas and 106,000 barrels per day of ethane liquid. IEnova's pipeline and related assets are contracted under long-term, U.S. dollar-based agreements with major industry participants such as the CFE, CENAGAS, PEMEX, Shell Mexico, Gazprom, Saavi Energía and other similar counterparties.

Natural Gas Distribution. IEnova's natural gas distribution regulated utility, Ecogas, operates in three separate distribution zones in Mexico with approximately 2,729 miles of pipeline, and had approximately 136,000 customer meters (serving more than 441,000 residential, commercial and industrial consumers) with sales volume of approximately eight MMcf per day in 2020.

Ecogas relies on supply and transportation services from Sempra LNG and SoCalGas for the natural gas it distributes to its customers. If these affiliates fail to perform and Ecogas is unable to obtain supplies of natural gas from alternate sources, Ecogas could lose customers and sales volume and could also be exposed to commodity price risk and volatility.

Natural Gas Marketing. IEnova's natural gas marketing business, IEnova Marketing, S. de R.L. de C.V. (IEnova Marketing), purchases LNG for storage and regasification at the ECA Regas Facility and sells natural gas to affiliates and third-party customers. This business also purchases natural gas from Sempra Energy affiliates in order to sell it to IEnova customers in Baja California, including the CFE, which purchases such natural gas to power its plants in Rosarito, Baja California, and IEnova's TdM combined-cycle power plant. IEnova Marketing also supplies natural gas purchased from Sempra Energy affiliates to third-party industrial customers in Mexicali, Chihuahua, Torreón and Durango. At December 31, 2020, IEnova Marketing served over 150 customers.

Power Business

Renewable Power Generation. IEnova develops, invests in and operates renewable energy generation facilities that have long-term PPAs to sell the electricity they generate to their customers, which are generally load serving entities, as well as industrial and other customers. Load serving entities sell electric service to their end-users and wholesale customers upon receipt of power delivery from these energy generation facilities, while industrial and other customers consume the electricity to run their facilities. At December 31, 2020, IEnova had a fully contracted, total nameplate capacity of 1,041 MW related to its wind and solar power generation facilities that were either fully operating or under construction. Some of these facilities are impacted by regulatory actions by the Mexican government and related litigation, which we discuss in Note 16 of the Notes to Consolidated Financial Statements.

OVA – RENEWABLE POWER GENERATION

	Location	Contract expiration date	Nameplate capacity (MW)
nd power generation facilities:			
:SJ – first phase[1]	Tecate, Baja California	2035	155
:SJ – second phase[1][2]	Tecate, Baja California	2041	108
'entika[3]	Nuevo León	2036	252
lar power generation facilities:			
order[4]	Chihuahua	2032 and 2037	150
on Diego	Sonora	2036 and 2037	125
ima	Sonora	2039	110
umorosa	Baja California	2034	41
epezalá	Aguascalientes	2034	100
tal			1,041

(1) *Includes 100% of the nameplate capacity, in which IEnova owns a 50% interest.*
(2) *We expect to start commercial operations in late 2021 or in the first quarter of 2022.*
(3) *Two adjacent wind power generation facilities.*
(4) *We expect to start commercial operations in the first half of 2021.*

Natural Gas-Fired Generation. TdM is a 625-MW natural gas-fired power plant located in Mexicali, Baja California, Mexico that generates revenue from selling electricity and/or resource adequacy to the California ISO and to governmental, public utility and wholesale power marketing entities. It also has an EMA with Sempra LNG for energy marketing, scheduling and other related services to support its sales of generated power into the California electricity market. Under the EMA, TdM pays fees to Sempra LNG for these revenue-generating services. TdM also purchases fuel from Sempra LNG. IEnova records revenue for the sale of power generated by TdM and records cost of sales for the purchases of natural gas and energy management services provided by Sempra LNG.

Storage Business

LNG Regasification. IEnova operates its ECA Regas Facility in Baja California, Mexico. The ECA Regas Facility is capable of processing one Bcf of natural gas per day and has a storage capacity of 320,000 cubic meters in two tanks of 160,000 cubic meters each. The facility generates revenues from reservation and usage fees under terminal capacity agreements and nitrogen injection service agreements with Shell Mexico and Gazprom, expiring in 2028, that permit them, together, to use one-half of the terminal's capacity. The land on which the ECA Regas Facility is situated is the subject of litigation, and Shell Mexico and Gazprom have commenced binding arbitration to terminate these agreements and seek other relief, both of which we discuss in Note 16 of the

Notes to Consolidated Financial Statements, in “Part I – Item 1A. Risk Factors” and in “Part II – Item 7. MD&A – Capital Resources and Liquidity.”

Sempra LNG has an agreement with IEnova to supply LNG to the ECA Regas Facility. In connection with Sempra LNG’s purchase agreement with Tangguh PSC, IEnova purchases from Sempra LNG the LNG delivered by Tangguh PSC to the ECA Regas Facility. IEnova uses the natural gas produced from this LNG and natural gas purchased in the market or through Sempra LNG’s marketing operations to supply a contract for the sale of natural gas to the CFE at prices that are based on the SoCal Border index. If LNG volumes received from Tangguh PSC are not sufficient to satisfy the commitment to the CFE, IEnova may purchase natural gas from Sempra LNG’s marketing operations.

Although the LNG purchase agreement with Tangguh PSC specifies a number of cargoes to be delivered annually, actual cargoes delivered have been significantly lower than the maximum specified under the agreement. As a result, Sempra LNG is contractually required to make monthly indemnity payments to IEnova for failure to deliver the contracted LNG.

IEnova entered into an agreement to assign its contracted capacity at the ECA Regas Facility to ECA LNG Phase 1. Both parties will make use of the capacity through the expiration of the LNG purchase agreement with Tangguh PSC in 2029, and ECA LNG Phase 1 will be the sole user of this capacity thereafter.

LPG Storage and Associated Systems. IEnova owns and operates the TDF, S. de R. L. de C. V. (TDF) pipeline system and the Guadalajara LPG terminal. At December 31, 2020, the TDF pipeline system consisted of approximately 118 miles of a 12-inch diameter LPG pipeline with a design capacity of 34,000 barrels per day and associated storage and dispatch facilities. The TDF pipeline system runs from PEMEX’s Burgos facility in the state of Tamaulipas to IEnova’s delivery facility near the city of Monterrey, Nuevo León. IEnova’s Guadalajara LPG terminal is an 80,000-barrel LPG storage facility near Guadalajara, Jalisco, with associated loading and dispatch facilities, and serves the LPG needs of Guadalajara, Mexico.

Refined Products Storage. IEnova’s refined products storage business develops systems for the receipt, storage and delivery of refined products, principally gasoline, diesel and jet fuel, throughout the states of Baja California, Colima, Puebla, Sinaloa, Veracruz, Valle de México and Jalisco for private companies. At December 31, 2020, IEnova had marine and inland terminals under development and construction, with a projected storage capacity of approximately 8,000,000 barrels, which may be expanded. We expect the inland terminals in the vicinity of Mexico City and Puebla and the Veracruz and Topolobampo marine terminals to reach commercial operations in various dates in 2021.

Demand and Competition

IEnova competes with Mexican and foreign companies for certain new energy infrastructure projects in Mexico. Some of its competitors (including public or state-operated companies and their affiliates) may have better access to capital and greater financial and other resources, which could give them a competitive advantage in bidding for such projects.

Ecogas faces competition from other distributors of natural gas in each of its three distribution zones in Mexicali, Chihuahua and La Laguna-Durango as other distributors of natural gas build or consider building natural gas distribution systems. IEnova’s pipeline and storage facilities businesses compete with other regulated and unregulated pipeline and storage facilities. They compete primarily on the basis of price (in terms of storage and transportation fees), available capacity and interconnections to downstream markets.

The overall demand for natural gas distribution services increases during the winter months, while the overall demand for power increases during the summer months.

Generation from IEnova’s renewable energy assets is susceptible to fluctuations in naturally occurring conditions such as wind, inclement weather and hours of sunlight. Because IEnova sells power that it generates at its ESJ wind power generation facility into California, IEnova’s future performance and the demand for renewable energy may be impacted by U.S. state mandated requirements to deliver a portion of total energy load from renewable energy sources. The rules governing these requirements in California are generally known as the RPS Program. In California, certification of a generation project by the CEC as an ERR allows the purchase of output from such generation facility to be counted towards fulfillment of the RPS Program requirements, if such purchase meets the provisions of SB X1-2, the California Renewable Energy Resources Act. The RPS Program may affect the demand for output from renewables projects developed by IEnova, particularly the demand from California’s utilities. We expect to pursue ERR certification for all our IEnova renewable facilities providing power to California as they become operational.

TdM competes daily with other generating plants that supply power into the California electricity market. Several of the wholesale markets supplied by merchant power plants have experienced significant pricing declines due to the imbalance between

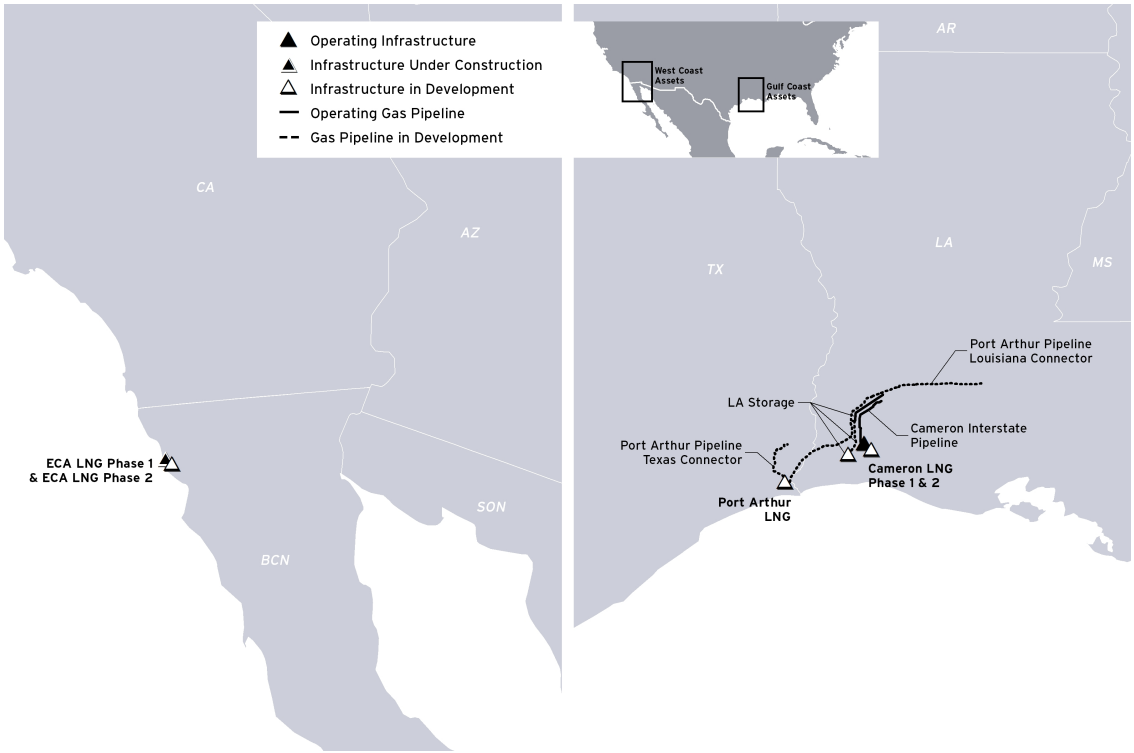
supply and demand. IEnova manages commodity price risk at TdM by using a mix of day ahead sales of energy, energy spreads hedging, ancillary services, and short-term to medium-term capacity sales.

The LNG regasification business is impacted by worldwide LNG market prices. High LNG prices in markets outside the market in which IEnova's ECA Regas Facility operates have resulted and could continue to result in lower than expected deliveries of LNG cargoes to the ECA Regas Facility, which could increase costs if IEnova is instead required to obtain LNG in the open market at prevailing prices. Any inability to obtain expected LNG cargoes could also impact IEnova's ability to maintain the minimum level of LNG required to keep the ECA Regas Facility in operation at the proper temperature. Prices in international LNG markets through which IEnova must purchase natural gas to meet its contractual obligations to deliver natural gas to customers may also affect IEnova Marketing's operations, which could have an adverse impact on its earnings, but may be mitigated in part by the indemnity payments from Sempra LNG.

Sempra LNG

Sempra LNG develops, builds, operates and invests in natural gas liquefaction export facilities, including natural gas pipelines and infrastructure, and buys, sells and transports natural gas through its marketing operations, all within North America.

At December 31, 2020, Sempra LNG owned or held interests in the following assets:



Natural Gas Liquefaction

Cameron LNG JV. Sempra LNG and three project co-owners (TOTAL SE, Mitsui & Co., Ltd., and Japan LNG Investment, LLC, a company jointly owned by Mitsubishi Corporation and Nippon Yusen Kabushiki Kaisha) hold interests in Cameron LNG JV, which owns and operates a three-train natural gas liquefaction export facility (Phase 1) in Hackberry, Louisiana. Sempra LNG accounts for its 50.2% equity interest in Cameron LNG JV under the equity method.

Cameron LNG JV achieved commercial operations of Train 1, Train 2 and Train 3 in Phase 1 under its tolling agreements in August 2019, February 2020 and August 2020, respectively. The three liquefaction trains have a combined nameplate capacity of 13.9 Mtpa of LNG with an export capacity of 12 Mtpa of LNG, or approximately 1.7 Bcf per day. Cameron LNG JV has 20-year liquefaction and regasification tolling capacity agreements in place with affiliates of TOTAL SE, Mitsubishi Corporation and Mitsui & Co., Ltd., which subscribe for the full nameplate capacity of the three trains at the facility. We discuss Cameron LNG JV in Note 6 of the Notes to Consolidated Financial Statements.

ECA LNG Phase 1. Sempra LNG, IEnova and an affiliate of TOTAL SE hold interests in ECA LNG Phase 1, which is constructing a one-train natural gas liquefaction facility at the site of IEnova's existing ECA Regas Facility in Baja California, Mexico with a nameplate capacity of 3.25 Mtpa. We reached a final investment decision in November 2020. ECA LNG Phase 1 has a definitive 20-year LNG sale and purchase agreement with Mitsui & Co., Ltd. and an affiliate of TOTAL SE for approximately 0.8 Mtpa of LNG and 1.7 Mtpa of LNG, respectively.

Additional Potential LNG Export Projects. Sempra LNG is evaluating the following additional potential LNG export development opportunities:

- an expansion of Cameron LNG JV's liquefaction export facility (Phase 2)
- a natural gas liquefaction export project by ECA LNG Phase 2, also located at the site of IEnova's existing ECA Regas Facility in Baja California, Mexico
- a natural gas liquefaction export project (Port Arthur LNG) and associated infrastructure on a greenfield site in the vicinity of Port Arthur, Texas located along the Sabine-Neches waterway

We have not reached a final investment decision for any of these potential projects. The development of these projects is subject to numerous other risks and uncertainties. For a discussion of these proposed projects and their risks, see "Part I – Item 1A. Risk Factors" and "Part II – Item 7. MD&A – Capital Resources and Liquidity – Sempra LNG."

Midstream

Sempra LNG has a 40-mile natural gas pipeline in south Louisiana. The Cameron Interstate Pipeline links the Cameron LNG JV facility in Cameron Parish in Louisiana, to five interstate pipelines that offer access to major feed gas supply basins in Texas and the northeast, midcontinent and southeast regions of the U.S.

Marketing Operations

Sempra LNG provides natural gas marketing, trading and risk management services through the utilization and optimization of natural gas supply and transportation, including natural gas transport capacity in support of liquefaction projects in development. Additionally, it sells electricity under short-term and long-term contracts and into the spot market and other competitive markets.

Sempra LNG's marketing operations have an LNG sale and purchase agreement with Tangguh PSC for the supply of the equivalent of 500 MMcf of natural gas per day from Tangguh PSC's Indonesian liquefaction facility with delivery to IEnova's ECA Regas Facility at a price based on the SoCal Border index for natural gas. The LNG purchase agreement allows Tangguh PSC to divert certain LNG volumes to other global markets in exchange for cash differential payments to Sempra LNG. Sempra LNG may also enter into short-term supply agreements to purchase LNG to be received, stored and regasified at the ECA Regas Facility for sale to other parties.

Sempra LNG is contracted to sell LNG or, if deliveries of LNG cargoes are not sufficient, natural gas, to Sempra Mexico that allows Sempra Mexico to satisfy its obligation under supply agreements with the CFE, TdM and other customers. These revenues are adjusted for indemnity payments and profit sharing, as discussed in "Sempra Mexico – Storage Business – LNG Regasification" above.

Sempra LNG also has an EMA with Sempra Mexico's TdM to provide energy marketing, scheduling and other related services to TdM power plant to support TdM's sales of generated power into the California electricity market. We discuss the EMA in "Sempra Mexico – Power Business – Natural Gas-Fired Generation" above.

Demand and Competition

North America is one of the most competitive locations for potential LNG supply in the world, resulting from many factors, including:

- high levels of developed and undeveloped North American unconventional natural gas and tight oil resources relative to domestic consumption levels
- increasing gas and oil drilling productivity and decreasing unit costs of gas production
- low breakeven prices of marginal North American unconventional gas production
- proximity to ample existing gas transmission pipeline and underground gas storage capacity

Brownfield liquefaction is particularly competitive due to existing LNG tankage and berths.

Global LNG competition may limit North American LNG exports, as international liquefaction projects attempt to match North American LNG production costs and customer contractual rights such as volume and destination flexibility. It is expected that North American LNG exports will increase competition for current and future global natural gas demand, and thereby facilitate development of a global commodity market for natural gas and LNG.

Additionally, our Cameron LNG JV co-owners and customers compete globally to market and sell LNG to end users, including gas and electric utilities located in LNG-importing countries around the world. By providing liquefaction services, Cameron LNG JV competes indirectly with liquefaction projects currently operating and those under development in the global LNG market. In addition to the U.S., these competitors are located in the Middle East, Southeast Asia, Africa, South America, Australia and Europe.

Sempra LNG's pipeline business competes with other regulated and unregulated pipelines, primarily on the basis of price (in terms of transportation fees), available capacity and interconnections to downstream markets.

Discontinued Operations

In January 2019, our board of directors approved a plan to sell our South American businesses. These businesses included our former 100% interest in Chilquinta Energía (an electric distribution utility in Chile), our former 83.6% interest in Luz del Sur (an electric distribution utility in Peru) and our former interests in two energy-services companies, Tecnored and Tecsur, which provide electric construction and infrastructure services to Chilquinta Energía and Luz del Sur, respectively, as well as third parties. These businesses and certain activities associated with these businesses are presented as discontinued operations in this report. We completed the sales of our equity interests in our Peruvian businesses in April 2020 and our Chilean businesses in June 2020.

We provide further information about discontinued operations in Note 5 of the Notes to Consolidated Financial Statements.

REGULATION

We discuss the material effects of compliance with all government regulations, including environmental regulations, on our capital expenditures, earnings and competitive position in "Part II – Item 7. MD&A" and Note 16 of the Notes to Consolidated Financial Statements.

Utility Regulation

California

The California Utilities are principally regulated at the state level by the CPUC, CEC and CARB.

The CPUC:

- consists of five commissioners appointed by the Governor of California for staggered, six-year terms;
- regulates, among other things, SDG&E's and SoCalGas' customer rates and conditions of service, sales of securities, rates of return, capital structure, rates of depreciation, and long-term resource procurement, except as described below in "U.S. Federal;"
- has jurisdiction over the proposed construction of major new electric generation, transmission and distribution, and natural gas storage, transmission and distribution facilities in California;
- conducts reviews and audits of utility performance and compliance with regulatory guidelines and conducts investigations related to various matters, such as safety, reliability and planning, deregulation, competition and the environment; and
- regulates the interactions and transactions of the California Utilities with Sempra Energy and its other affiliates.

The CPUC also oversees and regulates other energy-related products and services, including solar and wind energy, bioenergy, alternative energy storage and other forms of renewable energy. In addition, the CPUC's safety and enforcement role includes inspections, investigations and penalty and citation processes for safety and other violations.

The CEC publishes electric demand forecasts for the state and for specific service territories. Based on these forecasts, the CEC:

- determines the need for additional energy sources and conservation programs;
- sponsors alternative-energy research and development projects;
- promotes energy conservation programs to reduce demand for natural gas and electricity within California;
- maintains a statewide plan of action in case of energy shortages; and
- certifies power-plant sites and related facilities within California.

The CEC conducts a 20-year forecast of available supplies and prices for every market sector that consumes natural gas in California. This forecast includes resource evaluation, pipeline capacity needs, natural gas demand and wellhead prices, and costs of transportation and distribution. This analysis is one of many resource materials used to support the California Utilities' long-term investment decisions.

California requires certain of its electric retail sellers, including SDG&E, to deliver a significant percentage of their retail energy sales from renewable energy sources. The rules governing this requirement, administered by both the CPUC and the CEC, are generally known as the RPS Program.

AB 32, the California Global Warming Solutions Act of 2006, assigns responsibility to CARB for monitoring and establishing policies for reducing GHG emissions. The law requires CARB to develop and adopt a comprehensive plan for achieving real, quantifiable and cost-effective GHG emissions reductions, including a statewide GHG emissions cap, mandatory reporting rules, and regulatory and market mechanisms to achieve reductions of GHG emissions. CARB is a department within the California Environmental Protection Agency, an organization that reports directly to the Governor's Office. Sempra LNG and Sempra Mexico are also subject to the rules and regulations of CARB.

The operation and maintenance of SoCalGas' natural gas storage facilities are regulated by CalGEM, as well as various other state and local agencies.

Texas

Oncor's and Sharyland Utilities' rates are regulated at the state level by the PUCT and, in the case of Oncor, at the city level by certain cities. The PUCT has original jurisdiction over electric transmission and distribution rates and services in unincorporated areas and in those municipalities that have ceded original jurisdiction to the PUCT, and has exclusive appellate jurisdiction to review the rate and service orders and ordinances of municipalities. Generally, the Texas PURA prohibits the collection of any rates or charges by a public utility (as defined by PURA) that do not have the prior approval of the appropriate regulatory authority (i.e., the PUCT or the municipality with original jurisdiction).

At the state level, PURA requires owners or operators of electric transmission facilities to provide open-access wholesale transmission services to third parties at rates and terms that are nondiscriminatory and comparable to the rates and terms of the utility's own use of its system. The PUCT has adopted rules implementing the state open-access requirements for all utilities that are subject to the PUCT's jurisdiction over electric transmission services, including Oncor.

U.S. Federal

The California Utilities are also regulated at the federal level by the FERC, the NRC, the EPA, the DOE and the DOT.

The FERC regulates the California Utilities' interstate sale and transportation of natural gas. In the case of SDG&E, the FERC also regulates the transmission and wholesale sales of electricity in interstate commerce, transmission access, rates of return on transmission investment, rates of depreciation, electric rates involving sales for resale and the application of the uniform system of accounts. The U.S. Energy Policy Act governs procedures for requests for electric transmission service. The California IOUs' electric transmission facilities are under the operational control of the California ISO. Oncor and Sharyland Utilities operate within the ERCOT market, which we discuss below. To a small degree related to limited interconnections to other markets, Oncor's electric transmission revenues are provided under tariffs approved by the FERC.

The NRC oversees the licensing, construction, operation and decommissioning of nuclear facilities in the U.S., including SONGS, in which SDG&E owns a 20% interest and which was permanently retired in 2013. NRC and various state regulations require extensive review of the safety, radiological and environmental aspects of these facilities. We provide further discussion of SONGS matters, including the closure and decommissioning of the facility, in Note 15 of the Notes to Consolidated Financial Statements.

The EPA implements federal laws to protect human health and the environment, including federal laws on air quality, water quality, wastewater discharge, solid waste management, and hazardous waste disposal and remediation. The EPA also sets national environmental standards that state and tribal governments implement through their own regulations. The California Utilities, Oncor and Sharyland Utilities are therefore subject to an interrelated framework of environmental laws and regulations.

The DOT, through PHMSA, has established regulations regarding engineering standards and operating procedures applicable to the California Utilities' natural gas transmission and distribution pipelines, as well as natural gas storage facilities. The DOT has certified the CPUC to administer oversight and compliance with these regulations for the entities they regulate in California.

ERCOT Market

Oncor and Sharyland Utilities operate within the ERCOT market, which represents approximately 90% of the electricity consumption in Texas. ERCOT is the regional reliability coordinating organization for member electricity systems in Texas and the ISO of the interconnected transmission grid for those systems. ERCOT is subject to oversight by the PUCT and the Texas Legislature. ERCOT is responsible for ensuring reliability, adequacy and security of the electric systems, as well as nondiscriminatory access to transmission service by all wholesale market participants, in the ERCOT region. ERCOT's membership consists of corporate and associate members, including electric cooperatives, municipal power agencies, independent generators, independent power marketers, transmission service providers, distribution services providers, independent retail electric providers and consumers.

The PUCT has primary jurisdiction over the ERCOT market to ensure the adequacy and reliability of power supply across Texas' main interconnected electric transmission grid. Oncor and Sharyland Utilities, along with other owners of electric transmission and distribution facilities in Texas, assist the ERCOT ISO in its operations. Each of these Texas utilities has planning, design, construction, operation and maintenance responsibility for the portion of the transmission grid and for the load-serving substations it owns, primarily within its certificated distribution service area. Each participates with the ERCOT ISO and other ERCOT utilities in obtaining regulatory approvals and planning, designing, constructing and upgrading transmission lines in order to remove any existing constraints and interconnect energy generation on the ERCOT transmission grid. These transmission line projects are necessary to meet reliability needs, support energy production and increase bulk power transfer capability.

Oncor and Sharyland Utilities are subject to reliability standards adopted and enforced by the Texas Reliability Entity, Inc., an independent organization that develops reliability standards for the ERCOT region and monitors and enforces compliance with the standards of the North American Electric Reliability Corporation, including critical infrastructure protection, and ERCOT protocols.

Other U.S. State and Local Territories Regulation

The SCAQMD is the air pollution control agency responsible for regulating stationary sources of air pollution in the South Coast Air Basin in Southern California. The district's territory covers all of Orange County and the urban portions of Los Angeles, San Bernardino and Riverside counties.

SDG&E has electric franchises with the two counties and the 27 cities in or adjoining its electric service territory, and natural gas franchises with the one county and the 18 cities in its natural gas service territory. These franchises allow SDG&E to locate, operate and maintain facilities for the transmission and distribution of natural gas and/or electricity. Most of the franchises have indefinite lives with no expiration dates. Some of SDG&E's natural gas and electric franchises have fixed expiration dates that range from 2021 to 2035, including its franchise agreements with the City of San Diego, which was scheduled to expire in January 2021. SDG&E participated in the City's competitive bid process for the franchises, which the City subsequently canceled. In December 2020, the City of San Diego and SDG&E agreed to extend the natural gas and electric franchises until June 1, 2021. The extension is intended to provide newly elected City officials time to seek public input and additional information. The City has announced its plans to start a new competitive bid process in the first quarter of 2021.

SoCalGas has natural gas franchises with the 12 counties and the 223 cities in its service territory. These franchises allow SoCalGas to locate, operate and maintain facilities for the transmission and distribution of natural gas. Most of the franchises have indefinite lives with no expiration date. Some franchises have fixed expiration dates, ranging from 2021 to 2069, including its franchise agreements with the City of Los Angeles and Los Angeles County, which are scheduled to expire in December 2021 and June 2023, respectively.

Other U.S. Regulation

The FERC regulates certain Sempra LNG assets pursuant to the U.S. Federal Power Act and Natural Gas Act, which provide for FERC jurisdiction over, among other things, sales of wholesale power in interstate commerce, transportation of natural gas in interstate commerce, and siting and permitting of LNG facilities.

The FERC may regulate rates and terms of service based on a cost-of-service approach or, in geographic and product markets determined by the FERC to be sufficiently competitive, rates may be market-based. FERC-regulated rates at Sempra LNG are:

- market-based for wholesale electricity sales;
- cost-based for the transportation of natural gas; and
- market-based for the purchase and sale of LNG and natural gas.

Sempra LNG's investment in Cameron LNG JV is subject to regulations of the DOE regarding the export of LNG. Sempra LNG's other potential natural gas liquefaction export projects would, if completed, be subject to similar regulation.

The California Utilities, Sempra LNG and businesses that Sempra LNG invests in are subject to the DOT rules and regulations regarding pipeline safety. PHMSA, acting through the Office of Pipeline Safety, is responsible for administering the DOT's national regulatory program to help ensure the safe transportation of natural gas, petroleum and other hazardous materials by pipelines, including pipelines associated with natural gas storage, and develops regulations and other approaches to risk management to help ensure safety in design, construction, testing, operation, maintenance and emergency response of pipeline facilities. The California Utilities, Sempra LNG and Sempra Mexico are also subject to regulation by the U.S. Commodity Futures Trading Commission.

Foreign Regulation

Operations and projects in our Sempra Mexico segment are subject to regulation by the CRE, the Mexican Safety, Energy and Environment Agency (Agencia de Seguridad, Energía y Ambiente), SENER, the Mexican Ministry of Environment and Natural Resources of Mexico (Secretaría del Medio Ambiente y Recursos Naturales), and other labor and environmental agencies of city, state and federal governments in Mexico. New energy infrastructure projects may also require a favorable opinion from COFECE in order to be constructed and operated.

Licenses and Permits

Our utilities in California and Texas obtain numerous permits, authorizations and licenses for, as applicable, the transmission and distribution of natural gas and electricity and the operation and construction of related assets, including electric generation and natural gas storage facilities, some of which may require periodic renewal.

Sempra Mexico obtains numerous permits, authorizations and licenses for its electric and natural gas distribution, generation and transmission systems from the local governments where these services are provided. The permits for generation, transportation, storage and distribution operations at Sempra Mexico are generally for 30-year terms, with options for renewal under certain regulatory conditions.

Sempra Mexico and Sempra LNG obtain licenses and permits for the construction, operation and expansion of LNG facilities and for the import and export of LNG and natural gas. Sempra Mexico also obtains licenses and permits for the construction and operation of facilities for the receipt, storage and delivery of liquid fuels.

Sempra LNG obtains permits, authorizations and licenses for the construction and operation of natural gas storage facilities and pipelines, and in connection with participation in the wholesale electricity market.

Most of the permits and licenses associated with Sempra LNG's construction and operations are for periods generally in alignment with the construction cycle or expected useful life of the asset and in many cases are greater than 20 years.

RATEMAKING MECHANISMS

California Utilities

General Rate Case Proceedings

A CPUC GRC proceeding is designed to set sufficient base rates to allow the California Utilities to recover their reasonable forecasted operating costs and to provide the opportunity to realize their authorized rates of return on their investment. The proceeding generally establishes the test year revenue requirements, which authorizes how much the California Utilities can collect from their customers, and provides for attrition, or annual increases in revenue requirements, for each year following the test year.

We discuss the GRC in Note 4 of the Notes to Consolidated Financial Statements.

Cost of Capital Proceedings

A CPUC cost of capital proceeding determines a utility's authorized capital structure and authorized return on rate base, which is a weighted-average of the authorized returns on debt, preferred stock and common equity (referred to as return on equity or ROE), weighted on a basis consistent with the authorized capital structure. The authorized return on rate base approved by the CPUC is the rate that the California Utilities use to establish customer rates to finance investments in CPUC-regulated electric distribution and generation, natural gas distribution, transmission and storage assets, as well as general plant and information technology systems investments to support operations.

A cost of capital proceeding also addresses the CCM, which considers changes in interest rates based on the applicable 12-month average Moody's utility bond index. The index applicable to each utility is based on each utility's credit rating. The CCM was reauthorized in the 2020 cost of capital proceeding and will continue through 2022, after which the CCM is subject to reauthorization in the next cost of capital proceeding. The CCM benchmark rates for SDG&E and SoCalGas are the basis of comparison to determine if future measurement periods "trigger" the CCM. The trigger occurs if the change in the applicable average Moody's utility bond index relative to the CCM benchmark is larger than plus or minus 100 bps. The CCM, if triggered, would automatically update the authorized cost of debt based on actual costs and update the authorized ROE upward or downward by one-half of the difference between the CCM benchmark and the applicable 12-month average Moody's utility bond index. In the event of a CCM trigger in 2021, the CCM benchmark is also reestablished, and these adjustments would become effective in authorized rates on January 1, 2022.

We discuss the cost of capital and CCM in Note 4 of the Notes to Consolidated Financial Statements and in "Part I – Item 1A. Risk Factors."

Transmission Rate Cases

SDG&E files separately with the FERC for its authorized ROE on FERC-regulated electric transmission operations and assets. The proceeding establishes a ROE and a formulaic rate whereby rates are determined using (1) a base period of historical costs and a forecast of capital investments, and (2) a true-up period, similar to balancing account treatment, that is designed to provide earnings equal to SDG&E's actual cost of service including its authorized return on investment. SDG&E makes annual information filings with the FERC in December to update rates for the following calendar year. SDG&E may also file for ROE incentives that might apply under FERC rules. SDG&E's debt-to-equity ratio is set annually based on the actual ratio at the end of each year.

We discuss SDG&E's TO5 filing with the FERC in Note 4 of the Notes to Consolidated Financial Statements.

Incentive Mechanisms

The CPUC applies certain performance-based measures and incentive mechanisms to all California IOUs, under which the California Utilities have earnings potential above authorized CPUC base operating margin if they achieve or exceed specific performance and operating goals. Generally, for performance-based awards, if performance is above or below specific benchmarks, the utility is eligible for financial awards or subject to financial penalties.

Other Cost-Based Recovery

The CPUC, and the FERC as it relates to SDG&E, authorize the California Utilities to collect revenue requirements from customers for operating costs and capital related costs (such as depreciation, taxes and return on rate base), including:

- costs to purchase natural gas and electricity;
- costs associated with administering public purpose, demand response, and customer energy efficiency programs;
- other programmatic activities, such as gas distribution, gas transmission, gas storage integrity management and wildfire mitigation; and
- costs associated with third-party liability insurance premiums.

Authorized costs are recovered as the commodity or service is delivered. To the extent authorized amounts collected vary from actual costs, the differences are generally recovered or refunded within a subsequent period based on the nature of the balancing account mechanism. In general, the revenue recognition criteria for balanced costs billed to customers are met at the time the costs are incurred. Because these costs are substantially recovered in rates through a balancing account mechanism, changes in these costs are reflected as changes in revenues. The CPUC and the FERC may impose various review procedures before authorizing recovery or refund for programs authorized, including limitations on the total cost of the program, revenue requirement limits or reviews of costs for reasonableness. These procedures could result in disallowances of recovery from ratepayers.

Sempra Texas Utilities

Rates and Cost Recovery

Oncor's and Sharyland Utilities' rates are each regulated at the state level by the PUCT and, in the case of Oncor, at the city level by certain cities, and are subject to regulatory rate-setting processes and annual earnings oversight. This regulatory treatment does not provide any assurance as to achievement of earnings levels. Instead, their rates are regulated based on an analysis of each utility's costs and capital structure, as reviewed and approved in regulatory proceedings. Rate regulation is premised on the full recovery of prudently incurred costs and a reasonable rate of return on invested capital. However, there is no assurance that the PUCT will judge all of the Texas utilities' costs to have been prudently incurred, that the PUCT will not reduce the amount of invested capital included in the capital structure upon which the Texas utilities' rates are based, that the regulatory process in which rates are determined will necessarily result in rates that produce full recovery of the Texas utilities' costs or that their authorized ROE will not be reduced.

The PURA allows Texas electric utilities providing wholesale or retail distribution service to file, under certain circumstances, once per year and up to four rate adjustments between comprehensive base rate proceedings to recover distribution-related investments on an interim basis. The PUCT's substantive rules also allow the Texas utilities to update their transmission rates periodically on an interim basis to reflect changes in invested capital. These "capital tracker" provisions are intended to encourage investment in the electric system to help ensure reliability and efficiency by allowing for timely recovery of and return on new investments.

Capital Structure and Return on Equity

Oncor has a PUCT-authorized ROE of 9.8% and an authorized regulatory capital structure of 57.5% debt to 42.5% equity. Sharyland Utilities' PUCT-authorized ROE is 9.7% and its authorized regulatory capital structure is 55% debt to 45% equity. Sharyland Utilities filed its 2020 rate case with the PUCT in December 2020. Oncor is required to file a base rate review on or before October 1, 2021.

Sempra Mexico

Ecogas' revenues are derived from service and distribution fees charged to its customers in Mexican pesos. The price Ecogas pays to purchase natural gas, which is based on international price indices, is passed through directly to its customers. The service and distribution fees charged by Ecogas are regulated by the CRE, which performs a review of rates every five years and monitors prices charged to end-users. In the fourth quarter of 2020, Ecogas filed its rate case for the period 2021 through 2025. Ecogas expects to receive a decision in 2021. The tariffs operate under a return-on-asset-base model. In the annual tariff adjustment, rates are adjusted to account for inflation or fluctuations in exchange rates, and inflation indexing includes separate U.S. and Mexican cost components so that U.S. costs can be included in the final distribution rates.

ENVIRONMENTAL MATTERS

We discuss environmental issues affecting us in Note 16 of the Notes to Consolidated Financial Statements and "Part I – Item 1A. Risk Factors." You should read the following additional information in conjunction with those discussions.

Hazardous Substances

The CPUC's Hazardous Waste Collaborative mechanism allows California's IOUs to recover hazardous waste cleanup costs for certain sites, including those related to certain Superfund sites. This mechanism permits the California Utilities to recover in rates 90% of hazardous waste cleanup costs and related third-party litigation costs, and 70% of related insurance-litigation expenses. In addition, the California Utilities have the opportunity to retain a percentage of any recoveries from insurance carriers and other third parties to offset the cleanup and associated litigation costs not recovered in rates.

We record estimated liabilities for environmental remediation when amounts are probable and estimable. In addition, we record amounts authorized to be recovered in rates under the Hazardous Waste Collaborative mechanism as regulatory assets.

Air and Water Quality

The natural gas and electric industries are subject to increasingly stringent air quality and GHG emissions standards, such as those established by CARB and SCAQMD. The California Utilities generally recover in rates the costs to comply with these standards. We discuss GHG emissions standards and credits further in Note 1 of the Notes to Consolidated Financial Statements.

We discuss environmental matters concerning the Leak in Note 16 of the Notes to Consolidated Financial Statements and in "Part I – Item 1A. Risk Factors."

OTHER MATTERS

Information About Our Executive Officers

INFORMATION ABOUT EXECUTIVE OFFICERS AT SEMPRA ENERGY

Name	Age[1]	Positions held over last five years	Time in position
Jeffrey W. Martin	59	Chairman	December 2018 to present
		Chief Executive Officer	May 2018 to present
		President	March 2020 to present
		Executive Vice President and Chief Financial Officer	January 2017 to April 2018
		Chairman, SDG&E	November 2015 to December 2016
		President, SDG&E	October 2015 to December 2016
		Chief Executive Officer, SDG&E	January 2014 to December 2016
Kevin C. Sagara	59	Executive Vice President and Group President	June 2020 to present
		Chief Executive Officer, SDG&E	September 2018 to June 2020
		President, Sempra Renewables	October 2013 to September 2018
Trevor I. Mihalik	54	Executive Vice President and Chief Financial Officer	May 2018 to present
		Senior Vice President	December 2013 to April 2018
		Controller and Chief Accounting Officer	July 2012 to April 2018
Peter R. Wall	49	Senior Vice President	April 2020 to present
		Controller and Chief Accounting Officer	May 2018 to present
		Vice President	May 2018 to April 2020
		Vice President and Chief Financial Officer, Sempra Infrastructure	January 2017 to April 2018
		Vice President and Chief Financial Officer, Sempra U.S. Gas & Power	March 2015 to December 2016

(1) Ages are as of February 25, 2021.

INFORMATION ABOUT EXECUTIVE OFFICERS AT SDG&E

Name	Age[1]	Positions held over last five years	Time in position
Caroline A. Winn	57	Chief Executive Officer	August 2020 to present
		Chief Operating Officer	January 2017 to July 2020
		Chief Energy Delivery Officer	June 2015 to December 2016
Bruce A. Folkmann	53	President	August 2020 to present
		Chief Financial Officer	March 2015 to present
		Senior Vice President	August 2019 to July 2020
		Controller, Chief Accounting Officer and Treasurer	March 2015 to August 2020
		Vice President	March 2015 to August 2019
		Vice President, Controller, Chief Financial Officer, Chief Accounting Officer and Treasurer, SoCalGas	March 2015 to June 2019
Valerie A. Bille	42	Vice President, Controller, Chief Accounting Officer and Treasurer	August 2020 to present
		Assistant Controller, Sempra Energy	June 2019 to August 2020
		Assistant Controller	June 2018 to June 2019
		Director, Utility Financial Reporting	June 2017 to June 2018
		Director, Financial Systems and Business Controls	August 2015 to June 2017
Diana L. Day	56	Senior Vice President and General Counsel	August 2020 to present
		Chief Risk Officer	August 2019 to present
		Vice President and General Counsel	January 2019 to August 2020
		Acting General Counsel	September 2017 to January 2019
		Vice President of Enterprise Risk Management and Compliance, SDG&E and SoCalGas	June 2014 to January 2019

(1) Ages are as of February 25, 2021.

INFORMATION ABOUT EXECUTIVE OFFICERS AT SOCALGAS

Name	Age[1]	Positions held over last five years	Time in position
Scott D. Drury	55	Chief Executive Officer	August 2020 to present
		President, SDG&E	January 2017 to July 2020
		Chief Energy Supply Officer, SDG&E	June 2015 to December 2016
Maryam S. Brown	45	President	March 2019 to present
		Vice President of Federal Government Affairs, Sempra Energy	September 2016 to March 2019
		Senior Energy and Environment Counsel, Office of the Speaker of the U.S. House of Representatives	December 2012 to September 2016
Jimmie I. Cho	56	Chief Operating Officer	January 2019 to present
		Senior Vice President of Customer Services and Gas Distribution Operations	April 2018 to January 2019
		Senior Vice President of Gas Distribution Operations, SDG&E	April 2018 to January 2019
		Senior Vice President of Gas Engineering and Distribution Operations, SoCalGas and SDG&E	October 2017 to April 2018
		Senior Vice President of Gas Operations and System Integrity, SoCalGas and SDG&E	June 2014 to October 2017
Mia L. DeMontigny	48	Vice President and Chief Financial Officer, Controller, Chief Accounting Officer and Treasurer	June 2019 to present
		Assistant Controller, Sempra Energy	August 2015 to June 2019
David J. Barrett	56	Vice President and General Counsel	January 2019 to present
		Associate General Counsel of Gas Infrastructure, Sempra Energy	June 2018 to January 2019
		Assistant General Counsel of Gas Infrastructure, Sempra Energy	February 2017 to June 2018
		Assistant General Counsel of Real Estate and Environmental, SDG&E	October 2010 to February 2017
Jeffery L. Walker	60	Senior Vice President, Chief Administrative and Diversity Officer	November 2020 to present
		Vice President, Customer Solutions	March 2019 to November 2020
		Director of Special Projects	January 2019 to March 2019
		Director, SoCalGas Advanced Meter	January 2014 to January 2019

(1) *Ages are as of February 25, 2021.*

Human Capital

Our ability to advance our mission to be North America's premier energy infrastructure company largely depends on the safety, engagement, and responsible actions of our employees.

Safety is foundational at Sempra Energy and its subsidiaries. We strive to foster a strong safety culture and reinforce this culture through training programs, benchmarking, review and analysis of safety trends, and sharing lessons learned from safety incidents across our businesses. Our businesses also engage in safety-related scenario planning and simulation, develop and implement operational contingency plans, and review safety plans and procedures with work crews regularly. We also participate in emergency planning and preparedness in the communities we serve and train critical employees in emergency management and response each year. The Safety, Sustainability and Technology committee of the Sempra Energy board of directors assists the board in overseeing the corporation's oversight programs and performance related to safety.

Our culture is another important aspect of our ability to advance our mission. We embrace diversity in our workforce and strive to create a high-performing, inclusive and supportive workplace where employees of all backgrounds and experiences can feel valued and respected. We invest in recruiting, developing and retaining high-potential employees who represent the communities we serve, and we provide a range of programs to advance those objectives, including internal and external mentoring and leadership training, workshops and a tuition reimbursement program. We also invest in internal communications programs, including in-person and virtual learning and networking opportunities as well as regular executive communications. In addition, we offer a variety of in-person and virtual employee community service opportunities and, at our U.S. operations, we support employees' personal volunteering and charitable giving through Sempra Energy's charitable matching program. Employees participate in annual ethics and compliance training each year, which includes a review of Sempra Energy's Code of Conduct as well as resources such as the Sempra Energy's ethics and compliance hotline. We measure culture and employee engagement

through a variety of channels including pulse surveys, suggestion boxes and a biannual engagement survey administered by a third party. Sempra Energy's board of directors is chartered with overseeing our culture.

The table below shows the number of employees for each of our registrants at December 31, 2020, as well as the percentage of those employees represented by labor unions under various collective bargaining agreements that generally cover wages, benefits, working conditions and other terms and conditions of employment. We did not experience any major work stoppages in 2020 and we maintain constructive relations with our labor unions.

NUMBER OF EMPLOYEES

	Number of employees	% of employees covered under collective bargaining agreements	% of employees covered under collective bargaining agreements expiring within one year
Sempra Energy Consolidated[(1)]	14,706	41 %	32 %
SDG&E	4,595	29 %	— %
SoCalGas	7,851	59 %	59 %

(1) Excludes employees of equity method investees.

COMPANY WEBSITES

Company website addresses are:

- Sempra Energy – www.sempra.com
- SDG&E – www.sdge.com
- SoCalGas – www.socalgas.com

We make available free of charge on the Sempra Energy website, and for SDG&E and SoCalGas, via a hyperlink on their websites, annual reports on Form 10-K, quarterly reports on Form 10-Q, current reports on Form 8-K, and any amendments to those reports as soon as reasonably practicable after such material is electronically filed with or furnished to the SEC.

The references to our websites are not active hyperlinks and the information contained on, or that can be accessed through, the websites of Sempra Energy, SDG&E and SoCalGas is not part of this report or any other report that we file with or furnish to the SEC and is not incorporated herein by reference.

ITEM 1A. RISK FACTORS

When evaluating our company and its subsidiaries and any investment in our or their securities, you should consider carefully the following risk factors and all other information contained in this report and in the other documents we file with the SEC, including in documents we file subsequent to this report. These risk factors could materially adversely affect our actual results and cause such results to differ materially from those expressed in any forward-looking statements made by us or on our behalf. We may also be materially harmed by risks and uncertainties not currently known to us or that we currently deem to be immaterial. If any of these risks occurs, our businesses, cash flows, results of operations, financial condition and/or prospects could be materially adversely affected, and the trading prices of our securities and those of our subsidiaries could substantially decline. These risk factors should be read in conjunction with the other information concerning our company set forth in or attached as an exhibit to this report, including, among other things, the information set forth in the Consolidated Financial Statements and in "Part II – Item 7. MD&A."

Risks Related to Sempra Energy

Operational and Structural Risks

Sempra Energy's cash flows, ability to pay dividends and ability to meet its debt obligations largely depend on the performance of its subsidiaries and entities that are accounted for as equity method investments, such as Oncor Holdings and Cameron LNG JV.

We are a holding company and substantially all our assets are owned by our subsidiaries or entities we do not control, which include equity method investments such as Oncor Holdings and Cameron LNG JV. Our ability to pay dividends and to meet our debt and other obligations largely depends on cash flows from our subsidiaries and equity method investments. Cash flows from our subsidiaries and equity method investments depend on their ability to successfully execute their business strategies and generate cash flows in excess of their own expenditures, common and preferred dividends (if any), and debt and other obligations. In addition, the entities accounted for as equity method investments, which we do not control, and our subsidiaries are all separate and distinct legal entities that are not obligated to pay dividends or make loans or distributions to us and could be precluded from paying any such dividends or making any such loans or distributions under certain circumstances, including, among other things, as a result of legislation, regulation, court order or contractual restrictions or in times of financial distress. The inability to access capital from our subsidiaries and entities accounted for as equity method investments could have a material adverse effect on our cash flows, financial condition and/or prospects.

Sempra Energy's rights to the assets of its subsidiaries and equity method investments are structurally subordinated to the claims of that entity's creditors, including trade creditors. In addition, to the extent Sempra Energy is a creditor of any such entity, its rights as a creditor would be effectively subordinated to any security interest in the assets of that entity and any indebtedness of the entity senior to that held by Sempra Energy.

Sempra Energy has substantial investments in and obligations arising from businesses that it does not control or manage or in which it shares control.

We have and make investments in entities that we do not control or manage or in which we share control, which include Sempra Energy's direct or indirect interest in Oncor, Cameron LNG JV and RBS Sempra Commodities; SDG&E's interest in SONGS; and IEnova's indirect interest in the Sur de Texas-Tuxpan natural gas marine pipeline in Mexico, among others. In some cases, we engage in other arrangements with or for these entities that could expose us to risks in addition to our investment. For example, Sempra Energy has provided guarantees in support of financing agreements related to Cameron LNG JV, Sempra Energy is subject to certain indemnities with respect to RBS Sempra Commodities, and Sempra Mexico has provided loans to JVs in which it has investments. We discuss the guarantees in Note 6, indemnities in Note 16, and affiliate loans in Note 1 of the Notes to Consolidated Financial Statements.

Where we share control with other equity owners, any disagreements among the owners of these businesses with respect to material issues, including strategy, financial, operational or transactional matters, could have a material adverse effect on the ability of that business to move forward with key initiatives or projects or take other actions, and could also negatively affect the long-term relationships among the business owners and the ability of the entity to function efficiently and effectively. Any such circumstance could materially adversely affect our business, financial condition, cash flows, result of operations and/or prospects.

With respect to ventures and other businesses over which we do not exercise control, we could be responsible for significant liabilities or losses related to these businesses, such as our investment in RBS Sempra Commodities where we recorded $100 million in equity losses representing our estimated obligations to settle outstanding tax matters and related legal costs, and where we could be subject to further losses upon final resolution of these matters. In addition to other risks inherent in these businesses, if their management were to fail to perform adequately, the other investors in the businesses were unable or otherwise failed to perform their obligations to provide capital and credit support for these businesses, business decisions were made with which we do not agree or other factors were to result in liabilities or losses at these entities, it could have a material adverse effect on our results of operations, financial condition, cash flows and/or prospects. We discuss our investments further in Notes 5, 6 and 16 of the Notes to Consolidated Financial Statements.

Our business could be negatively affected as a result of actions of activist shareholders.

Activist shareholders may, from time to time, engage in proxy solicitations, advance shareholder proposals, or otherwise attempt to effect changes and assert influence on our board of directors and management. In taking these steps, activist shareholders could seek to acquire significant amounts of our capital stock, which could threaten our ability to use some or all our NOL carryforwards if any such attempt were to result in our corporation undergoing an "ownership change" under applicable tax rules. Responding to activist shareholders would require us to incur significant legal and advisory fees, proxy solicitation expenses (in

the case of a proxy contest) and administrative and associated costs and require significant time and attention by our board of directors and management, diverting their attention from the pursuit of our business strategy.

Any perceived uncertainties as to our future direction and control, our ability to execute on our strategy, or the composition of our board of directors or senior management team arising from a proxy contest or increased ownership or other interest in our company from activist shareholders could lead to the perception of a change in the direction of our business or instability, which could be exploited by our competitors and/or other activist shareholders, result in the loss of business opportunities, and make it more difficult to pursue our strategic initiatives or attract and retain qualified personnel and business partners, any of which could have a material adverse effect on our business, operating results and/or prospects. Further, any such actions could cause significant fluctuations in the trading prices of our common stock, preferred stock and debt securities based on temporary or speculative market perceptions or other factors that may not reflect the underlying fundamentals and prospects of our business.

Financial and Capital Stock-Related Risks

Any impairment of our assets could negatively impact our consolidated results of operations and net worth.

We could experience a reduction in the fair value of our assets, including our long-lived assets, intangible assets or goodwill, upon the occurrence of many of the risks discussed in these risk factors. Any such reduction in the fair value of our assets could result in an impairment loss that could materially adversely affect our results of operations for the period in which such charge is recorded. We discuss our impairment testing of long-lived assets and goodwill and the factors considered in such testing in “Part II – Item 7. MD&A – Critical Accounting Policies and Estimates” and in Note 1 of the Notes to Consolidated Financial Statements.

The economic interest, voting rights and market value of our outstanding common and preferred stock may be adversely affected by any additional equity securities we may issue and, with respect to our common stock, by our outstanding preferred stock.

At February 25, 2021, we have 6,650,000 shares of preferred stock outstanding, 5,750,000 of which constitute our series B preferred stock and are scheduled to convert into shares of our common stock on July 15, 2021, and the remaining 900,000 of which constitute our series C preferred stock and are not convertible. We also issued 13,781,025 shares of our common stock on January 15, 2021 upon the mandatory conversion of our former series A preferred stock in accordance with the terms of those securities. We may seek to raise capital by issuing additional shares of common or preferred stock, which, together with the conversion of the series B preferred stock into our common stock, may materially dilute the voting rights and economic interests of holders of our outstanding common and preferred stock and materially adversely affect the trading price of our common and preferred stock.

Dividend requirements associated with our preferred stock subject us to certain risks.

Any future cash dividends we pay on our series B preferred stock and series C preferred stock will depend on, among other things, our financial condition, capital requirements and results of operations, the ability of our subsidiaries and equity method investees to distribute cash to us, and other factors that our board of directors may consider relevant. Any failure to pay scheduled dividends on our preferred stock when due would have a material adverse impact on the market price of our preferred stock, our common stock and our debt securities and would prohibit us, under the terms of our preferred stock, from paying cash dividends on or repurchasing shares of our common stock (subject to limited exceptions) until such time as we have paid all accumulated and unpaid dividends on the preferred stock.

The terms of the series B preferred stock and series C preferred stock generally provide that if dividends on any shares of the preferred stock have not been declared and paid or have been declared but not paid for six or more quarterly dividend periods for the series B preferred stock and three or more semi-annual dividend periods for the series C preferred stock, whether or not for consecutive dividend periods, the holders of the preferred stock, voting together as a single class, will be entitled to elect a total of two additional members to our board of directors, subject to certain terms and limitations.

Risks Related to All Sempra Energy Businesses

Operational Risks

Our businesses face risks related to the COVID-19 pandemic.

The COVID-19 pandemic is materially impacting communities, supply chains and markets around the world. The U.S. economy is experiencing a significant slowdown and claims for unemployment have substantially increased. To date, the COVID-19 pandemic has not had a material impact on our results of operations. However, we are conducting business with substantial modifications to employee travel, employee work locations, and virtualization or cancellation of certain business activities, among other modifications. If these or other similar measures were to increase or continue for an extended period, we could experience employee absenteeism, decreased efficiency and productivity by our workforce and other similar impacts that could jeopardize our ability to sustain operations and satisfy compliance requirements and could result in higher operating costs. We also have observed other companies, including our current and prospective counterparties, customers and partners, as well as many governments, including our regulators and other governing bodies that affect our businesses, taking precautionary, preemptive and responsive actions to address the effects of the COVID-19 pandemic, and they may take further actions that alter their normal operations. These actions by third parties could materially impact our operations, results, liquidity and ability to pursue capital projects and strategic initiatives. For example, the CPUC has required that all energy companies under its jurisdiction take action to implement several emergency customer protection measures to support California customers. The measures currently apply to all residential and small business customers affected by the COVID-19 pandemic and include suspending service disconnections due to nonpayment, waiving late payment fees, and offering flexible payment plans to customers experiencing difficulty paying their electric or gas bills. These actions have resulted in a reduction in payments received from our customers and an increase in uncollectible accounts, which could become material, and any inability or delay in recovering all or a substantial portion of these costs could have a material adverse effect on the cash flows, financial condition and results of operations for Sempra Energy, SDG&E and SoCalGas. As an additional example, we reached a final investment decision with respect to ECA LNG Phase 1 in November 2020, the timing of which was delayed in part by the COVID-19 pandemic. If this or other projects under development are further delayed due to continuing or worsening conditions caused by the COVID-19 pandemic or other related factors, the performance and prospects of our LNG export business could be materially adversely affected.

Although Sempra Energy, SDG&E and SoCalGas are not currently constrained in their ability to borrow money at reasonable rates, these circumstances could change if the COVID-19 pandemic worsens or continues for an extended period and adversely affects conditions in the capital markets, which could have a material negative effect on our liquidity, results of operations, strategic initiatives and prospects. The COVID-19 pandemic could result in an increased slowdown of certain of our capital spending if conditions deteriorate or fail to improve in the near term, which could have a material adverse effect on Sempra Energy's, SDG&E's and SoCalGas' results of operations and prospects.

We will continue to actively monitor the effects of the COVID-19 pandemic and may take further actions that alter our business operations as may be required by federal, state or local authorities, or that we determine are in the best interests of our employees, customers, partners and suppliers. However, we cannot at this time predict the extent to which the COVID-19 pandemic will further impact our liquidity, financial condition, results of operations and prospects.

Severe weather conditions, natural disasters, pandemics, accidents, equipment failures, explosions or acts of terrorism could materially adversely affect our businesses, financial condition, results of operations, cash flows and/or prospects.

Like other capital intensive businesses, our facilities and infrastructure may be damaged by severe weather conditions and natural disasters such as fires, earthquakes, tornadoes, hurricanes, other storms, tsunamis, heat waves, rising sea levels, floods, mudslides, drought, solar events and electromagnetic events; pandemics; accidents; equipment failures; explosions; or acts of terrorism, vandalism, war or criminality. Because we are in the business of using, storing, transporting and disposing of highly flammable and explosive materials, as well as radioactive materials, and operating highly energized equipment, the risks such incidents may pose to our facilities and infrastructure, as well as the risks to the surrounding communities for which we could be held responsible, are substantially greater than the risks such incidents may pose to a typical business. The facilities and infrastructure that we own or in which we have interests that may be subject to such incidents include, among others:

- natural gas, propane and ethane pipelines, storage and compressor facilities
- electric transmission, distribution and battery storage equipment
- power generation plants, including renewable energy and natural gas-fired generation
- marine and inland ethane and liquid fuels, LNG and LPG facilities, terminals and storage
- nuclear power facilities and nuclear fuel and nuclear waste storage facilities (through SDG&E's minority interest in SONGS, which is currently being decommissioned)

Such incidents could result in severe business disruptions; prolonged power outages; property damage, injuries or loss of life for which our businesses could be liable; significant decreases in revenues and earnings; and/or other significant additional costs to us, including as a result of higher maintenance costs or restoration expenses, amounts to compensate third parties, and regulatory

fines, penalties and disallowances. For our regulated utilities, these liabilities or increased costs may not be recoverable in rates. Such incidents that do not directly affect our facilities may impact our business partners, supply chains and transportation, which could negatively impact construction projects and our ability to provide natural gas and electricity to our customers. Moreover, weather-related incidents have become more prevalent, unpredictable and severe as a result of climate change or other factors, and we are currently in the midst of a severe global pandemic, any of which could have a greater impact on our businesses than is currently anticipated and, for our regulated utilities, rates may not be adequately or timely adjusted to reflect any such increased impact. Any such incident could have a material adverse effect on our businesses, financial condition, results of operations, cash flows and/or prospects.

Depending on the nature and location of the facilities and infrastructure affected, any such incident also could cause catastrophic fires; natural gas, natural gas odorant, propane or ethane leaks; releases of other GHG emissions; radioactive releases; explosions, spills or other significant damage to natural resources or property belonging to third parties; or personal injuries, health impacts or fatalities, or could present a nuisance to impacted communities. Any of these consequences could lead to significant claims against us. In some cases, we may be liable for damages even though we are not at fault, such as in cases in which the doctrine of inverse condemnation applies. We discuss how the application of this doctrine in California imposes strict liability on an electric utility whose equipment is determined to be a cause of a fire (meaning the utility may be found liable regardless of fault) below under “Risks Related to the California Utilities – Operational Risks.” Insurance coverage may significantly increase in cost or become prohibitively expensive, may be disputed by the insurers, or may become unavailable for certain of these risks or at sufficient levels, and any insurance proceeds we receive may be insufficient to cover our losses or liabilities due to the existence of limitations, exclusions, high deductibles, failure to comply with procedural requirements, and other factors, which could materially adversely affect our businesses, financial condition, results of operations, cash flows and/or prospects, as well as the trading prices of our common stock, preferred stock and debt securities.

The operation of our facilities depends on good labor relations with our employees.

Several of our businesses have entered into and have in place collective bargaining agreements with different labor unions. Our collective bargaining agreements are generally negotiated on a company-by-company basis. Any failure to reach an agreement on new labor contracts or to negotiate these labor contracts might result in strikes, boycotts or other labor disruptions. Labor disruptions, strikes or significant negotiated wage and benefit increases, whether due to union activities, employee turnover or otherwise, could have a material adverse effect on our businesses, results of operations and/or cash flows.

In addition to general information risks and cyber risks that all large corporations face (e.g. malware, general cyber- or phishing-attacks by outsiders, malicious intent by insiders and inadvertent disclosure of sensitive information), we face evolving cybersecurity risks associated with protecting sensitive and confidential customer and employee information, smart grid infrastructure, and natural gas pipeline and storage infrastructure.

In the ordinary course of business, Sempra Energy and its subsidiaries collect and retain sensitive information, including personal identification information about customers and employees, customer energy usage and other information, and our operations rely on complex, interconnected networks of generation, transmission, distribution, storage, control, and communication technologies and systems. Existing business technologies and the deployment of new business technologies represent a large-scale opportunity for attacks on or other failures to protect our information systems and confidential information, as well as on the integrity of the energy grid and our natural gas infrastructure. In particular, various private and public entities have noted that cyber- and other attacks targeting utility systems and other energy infrastructures are increasing in sophistication, magnitude, and frequency. Additionally, the California Utilities are increasingly required to disclose large amounts of data (including customer energy usage and personal information regarding customers) to support changes to California’s electricity market related to grid modernization and customer choice, increasing the risks of inadvertent disclosure or other unauthorized access of sensitive information. Further, the virtualization of many business activities as a result of the COVID-19 pandemic increases cyber risk, and there generally has been an associated increase in targeted cyber-attacks. Moreover, all of our businesses operating in California are subject to enhanced state privacy laws that have recently taken effect, which require companies that collect information on California residents to, among other things, make new disclosures to consumers about their data collection, use and sharing practices, allow consumers to opt out of certain data sharing with third parties and provide a new cause of action for breaches of certain highly sensitive categories of personal information resulting from a failure to reasonably secure them, and other states in which we do business could adopt similar laws in the future.

Addressing cyber risks is the subject of significant ongoing activities across Sempra Energy’s businesses, including investing in risk management and information security measures for the protection of our systems and information. The cost and operational consequences of implementing, maintaining and enhancing system protection measures are significant, and they could materially increase to address increasingly intense, complex and sophisticated cyber risks. Despite our efforts, our businesses are not fully insulated from cyber-attacks or system disruptions. In addition, we often rely on third-party vendors to deploy new business

technologies and maintain, modify and update our systems, including systems that manage sensitive information, and these third parties could fail to establish adequate risk management and information security measures with respect to these systems. Any attack on our information systems, the integrity of the energy grid, our pipelines and distribution and storage infrastructure or one of our facilities, or unauthorized access, damage or improper disclosure of confidential customer or employee information or other sensitive data, could result in energy delivery service failures, financial and reputational loss, violations of privacy laws, fines or penalties, customer dissatisfaction and litigation, any of which could in turn have a material adverse effect on our businesses, cash flows, financial condition, results of operations and/or prospects. Although Sempra Energy currently maintains cyber liability insurance, this insurance is limited in scope and subject to exceptions, conditions and coverage limitations and may not cover any or even a substantial portion of the costs associated with the consequences of any compromise of our information systems or confidential information, and there is no guarantee that the insurance we currently maintain will continue to be available at rates that we believe are commercially reasonable.

Further, as seen with recent cyber-attacks around the world, the goal of a cyber-attack may be primarily to inflict large-scale harm on a company and the places where it operates. Any such cyber-attack could cause widespread destruction of or disruption to our operating, financial and administrative systems that could materially adversely affect our business operations and the integrity of the power grid, our pipelines and distribution and storage infrastructure or one of our related facilities, negatively impact our ability to produce accurate and timely financial statements or comply with ongoing disclosure obligations or other regulatory requirements, and/or release confidential information about our company and our customers, employees and other constituents, any of which could lead to sanctions or negatively affect the general perception of our business in the financial markets and which could have a material adverse effect on our businesses, cash flows, financial condition, results of operations and/or prospects.

Financial Risks

The substantial debt service obligations of Sempra Energy, SDG&E and SoCalGas could have a material adverse effect on our results of operations, cash flows, financial condition and/or prospects, and with respect to Sempra Energy, could require additional equity securities issuances.

The substantial debt service obligations of Sempra Energy, SDG&E and SoCalGas could have a material adverse effect on our results of operations, cash flows, financial condition and/or prospects by, among other things:

- making it more difficult and costly for each of these companies to service, pay or refinance its debts as they become due, particularly during adverse economic or industry conditions
- limiting flexibility to pursue other strategic opportunities or react to changes in each of our businesses and the industry sectors in which they operate
- requiring a substantial portion of available cash to be used for debt service payments, including interest and potential redemptions, thereby reducing the availability of cash to fund working capital, capital expenditures, development projects, acquisitions, dividend payments and other general corporate purposes
- causing lenders to require additional materially adverse terms, conditions or covenants in the debt instruments for new debt, which might include restrictions on uses of proceeds or other assets or limitations on the ability to incur additional debt, create liens, pay dividends, redeem or repurchase stock, make investments or receive distributions from subsidiaries or equity method investments

Sempra Energy is committed to maintaining or improving its current credit ratings. To maintain these credit ratings, we may reduce the amount of our outstanding indebtedness with the proceeds from the issuance of additional shares of common or preferred stock. Additional equity issuances may dilute the voting rights and economic interests of existing holders of Sempra Energy's common and preferred stock. There is no assurance that, should we elect to do so, we would be able to issue additional shares of Sempra Energy's common or preferred stock with terms that we consider acceptable or at all or reduce the amount of our outstanding indebtedness to a level that allows us to maintain our investment grade credit ratings, which may have a material adverse effect on Sempra Energy's cash flows, financial condition, results of operations and/or prospects.

The availability and cost of debt or equity financing could be adversely affected by conditions in the financial markets and economic conditions generally, as well as other factors, and any such negative effects could materially adversely affect us.

Our businesses are capital intensive and we rely on long-term debt to fund a significant portion of our capital expenditures and repay outstanding debt, and on short-term borrowings to fund a significant portion of day-to-day business operations. Sempra Energy may also seek to raise capital by issuing additional equity.

Limitations on the availability of credit, increases in interest rates or credit spreads or other negative effects on the terms of any debt or equity financing we may pursue could materially adversely affect our businesses, cash flows, results of operations, financial condition and/or prospects, as well as our ability to meet contractual and other commitments. In difficult market environments, we may find it necessary to fund our operations and capital expenditures at a higher cost or we may be unable to raise as much funding as we need to support new or ongoing business activities. This could cause us to reduce non-safety related capital expenditures and could increase our cost of servicing debt, both of which could significantly reduce our short-term and long-term profitability.

Other factors can affect the availability and cost of capital for our businesses in addition to the terms of debt and equity financing, including, among others:

- adverse changes to economic and financial market conditions and laws and regulations in the jurisdictions in which we operate or do business
- the overall health of the energy industry
- volatility in natural gas or electricity prices
- for Sempra Energy and SDG&E, risks related to California wildfires and any failure by the State of California to adequately address the financial and operational wildfire-related risks facing California electric IOUs
- the deterioration of or uncertainty in the political or regulatory environment for local natural gas distribution companies operating in California
- credit ratings downgrades

We are subject to additional risks due to uncertainty relating to the calculation of LIBOR and its scheduled discontinuance.

Certain of our financial and commercial agreements, including variable rate indebtedness and credit facilities, as well as interest rate derivatives, incorporate LIBOR as a benchmark for establishing certain rates. The Financial Conduct Authority (FCA) in the United Kingdom, which regulates LIBOR, has emphasized the need for market participants to transition away from LIBOR. ICE Benchmark Administration, LIBOR's administrator, with the support of the FCA, has indicated it will cease publication of certain key U.S. dollar LIBOR tenors in mid-2023 for existing loans. Additionally, the U.S. Federal Reserve has issued a statement advising banks to stop making new LIBOR-based issuances by the end of 2021. These could cause LIBOR to perform differently than it has performed historically pending any discontinuance or modification and after any modification. The adoption of the Secured Overnight Financing Rate (SOFR), which has been identified as the replacement benchmark rate for LIBOR, may result in interest payments that are higher than expected or that do not otherwise correlate over time with the payments that would have been made on such indebtedness if the applicable LIBOR rate was available in its current form. Changes to or the discontinuance of LIBOR, any further uncertainty regarding the implementation of such changes or discontinuance, and uncertainties regarding the performance and characteristics of alternative benchmark rates, could have a material adverse effect on our existing and future variable rate indebtedness and/or borrowings, our existing and future interest rate hedges and the cost of doing business under our commercial agreements that incorporate LIBOR, and could require us to seek to amend the terms of the relevant indebtedness or agreements, which may be on terms materially worse than existing terms. The occurrence of any of these risks could have a material adverse effect on our financial condition, cash flows and/or results of operations.

Certain credit rating agencies may downgrade our credit ratings or place those ratings on negative outlook.

Credit rating agencies routinely evaluate Sempra Energy and the California Utilities, and their ratings are based on a number of factors, including the increased risk of wildfires in California; perceived supportiveness of the regulatory environment affecting utility operations, including delays and difficulties in obtaining recovery, or the denial of recovery, for wildfire-related or other costs; the deterioration of, or uncertainty in, the political or regulatory environment for local natural gas distribution companies operating in California; ability to generate cash flows; level of indebtedness; overall financial strength, including credit metrics; specific transactions or events, such as share repurchases; diversification beyond the regulated utility business (in the case of Sempra Energy); and the status of certain capital projects, as well as other factors beyond our control, such as the state of the economy and our industry generally. Downgrades and factors causing downgrades of one or both of the California Utilities can have a material impact on Sempra Energy's credit ratings. Downgrades, as well as the factors causing such downgrades, of Sempra Energy's credit ratings can also have a material impact on the credit ratings of the California Utilities.

While the current Moody's, S&P and Fitch (collectively, the Rating Agencies) issuer credit ratings for Sempra Energy, SDG&E and SoCalGas are investment grade, some of these ratings have experienced downgrades or have been moved to negative outlook in 2020 and there is no assurance that these credit ratings will not be further downgraded. In that regard, S&P has Sempra Energy, SDG&E and SoCalGas on negative outlook, and these negative outlooks could result in downgrades, or other negative credit

rating actions could occur, at any time. We discuss these credit ratings further in “Part II – Item 7. MD&A – Capital Resources and Liquidity.”

For Sempra Energy, the Rating Agencies have noted that the following events, among other things, could lead to negative ratings actions:

- Sempra Energy’s failure to meet certain financial credit metrics
- investing disproportionally in unregulated or uncontracted business and the impact on business mix and financial credit metrics over time
- catastrophic wildfires caused by SDG&E, or catastrophic wildfires caused by any California electric IOUs that participate in the Wildfire Fund, which could exhaust the fund considerably earlier than expected
- a ratings downgrade at SDG&E and/or SoCalGas
- continuing to acquire shares under a share repurchase program

For SDG&E, the Rating Agencies have noted that the following events, among other things, could lead to negative ratings actions:

- SDG&E’s failure to meet certain financial credit metrics
- the CPUC does not effectively implement the more supportive prudency standard for determining wildfire liability associated with the Wildfire Legislation
- catastrophic wildfires caused by SDG&E, or catastrophic wildfires caused by any California electric IOUs that participate in the Wildfire Fund, which could exhaust the fund considerably earlier than expected

For SoCalGas, the Rating Agencies have noted that the following events, among other things, could lead to negative ratings actions:

- SoCalGas’ failure to meet certain financial credit metrics
- the conclusion of the CPUC’s pending regulatory proceedings where key elements of SoCalGas’ credit profile are negatively impacted
- deterioration of, or uncertainty in, the political or regulatory environment for local natural gas distribution companies operating in California
- a ratings downgrade at Sempra Energy

A downgrade of Sempra Energy’s or either of the California Utilities’ credit ratings or ratings outlooks, as well as the reasons for such downgrades, may materially and adversely affect the market prices of our equity and debt securities, the interest rates at which borrowings are made and debt securities and commercial paper are issued, and the various fees on credit facilities. This could make it significantly more costly for Sempra Energy, SDG&E, SoCalGas and Sempra Energy’s other subsidiaries to borrow money, to issue equity or debt securities and commercial paper and to raise other types of capital and/or complete additional financings, any of which could materially and adversely affect our ability to pay the principal of and interest on our debt securities and meet our other debt obligations and contractual commitments, and our cash flows, results of operations and/or financial condition.

We cannot and do not attempt to fully hedge our assets or contract positions against changes in commodity prices, and for those contract positions that are hedged, our hedging procedures may not mitigate our risk as planned.

To reduce financial exposure related to commodity price fluctuations, we may enter into contracts to hedge our known or anticipated purchase and sale commitments, inventories of natural gas and LNG, natural gas storage and pipeline capacity and electric generation capacity. As part of this strategy, we may use forward contracts, physical purchase and sales contracts, futures, financial swaps and options. We do not hedge the entire exposure to market price volatility of our assets or our contract positions, and the extent of the coverage to these exposures varies over time. To the extent we have unhedged positions, or if our hedging strategies do not work as planned, fluctuating commodity prices could have a material adverse effect on our results of operations, cash flows and/or financial condition. Certain of the contracts we may use for hedging purposes are subject to fair value accounting, which may result in gains or losses in earnings for those contracts. In certain cases, these gains or losses may not reflect the associated losses or gains of the underlying position being hedged.

Risk management procedures may not prevent or mitigate losses.

Although we have in place risk management and control systems to quantify and manage risk, these systems may not prevent material losses. Risk management procedures may not always be followed as intended or may not work as planned. In addition, daily value-at-risk and loss limits are primarily based on historic price movements. If prices significantly or persistently deviate

from historic prices, the limits may not protect us from significant losses. As a result of these and other factors, there is no assurance that our risk management procedures and systems will prevent or mitigate losses that could materially adversely affect our results of operations, cash flows and/or financial condition.

Market performance or changes in other assumptions could require significant unplanned contributions to pension and other postretirement benefit plans.

Sempra Energy, SDG&E and SoCalGas provide defined benefit pension plans and other postretirement benefits to eligible employees and retirees. A decline in the market value of plan assets may increase the funding requirements for these plans. In addition, the cost of providing pension and other postretirement benefits is affected by other factors, including the assumed rate of return on plan assets, mortality tables, employee demographics, discount rates used in determining future benefit obligations, rates of increase in health care costs, levels of assumed interest rates and future governmental regulation. An adverse change in any of these factors could cause a material increase in our funding obligations which could have a material adverse effect on our results of operations, financial condition, cash flows and/or prospects.

Legal and Regulatory Risks

Our businesses are subject to governmental regulations and tax and accounting requirements and may be materially adversely affected by these regulations or requirements or any changes to them.

The electric power and natural gas industries are subject to governmental regulations, and our businesses are also subject to complex accounting and tax requirements. The regulations and requirements that affect us may, from time to time, undergo significant changes on the federal, state, local and foreign levels, including in response to economic or political conditions. Compliance with these regulations and requirements, including in the event of changes to these regulations and requirements or how they are implemented or interpreted, could materially and adversely affect how we conduct our business and increase our operating costs. New tax legislation, regulations or interpretations in the U.S. and other countries in which we operate or do business could materially adversely affect our tax expense and/or tax balances, and changes in tax policies could materially adversely impact our businesses. Any failure to comply with these regulations and requirements could subject us to significant fines and penalties, including criminal penalties in some cases, and result in the temporary or permanent shutdown of certain facilities and operations. The occurrence of any of these risks could have a material adverse effect on our businesses, cash flows, financial condition, results of operations and/or prospects.

Our operations are subject to rules relating to transactions among the California Utilities and other Sempra Energy businesses. These rules are commonly referred to as “affiliate rules,” which primarily impact commodity and commodity-related transactions. These businesses could be materially adversely affected by changes in these rules or to their interpretations, or by additional CPUC or FERC rules that further restrict our ability to sell natural gas or electricity to, or to trade with, the California Utilities and with each other. Affiliate rules also restrict these businesses from entering into any such transactions with the California Utilities. Any such restrictions on or approval requirements for transactions among affiliates could materially adversely affect the LNG facilities, natural gas pipelines, electric generation facilities, or other operations of our subsidiaries, which could have a material adverse effect on our businesses, cash flows, financial condition, results of operations and/or prospects.

Our businesses require numerous permits, licenses, franchises, and other approvals and agreements from various federal, state, local and foreign governmental agencies, and the failure to obtain or maintain any of them could materially adversely affect our businesses, cash flows, financial condition, results of operations and/or prospects.

Our businesses and operations require numerous permits, licenses, rights-of-way, franchise agreements, certificates and other approvals and agreements from federal, state, local and foreign governmental agencies. These approvals may not be granted in a timely manner or at all or may be modified, rescinded or fail to be extended by one or more of the governmental agencies and authorities that oversee our businesses or as a result of litigation. For example, SoCalGas’ franchise agreements with the City of Los Angeles and Los Angeles County are due to expire in December 2021 and June 2023, respectively, and SDG&E’s franchise agreement with the City of San Diego was scheduled to expire in January 2021. SDG&E participated in the City’s competitive bid process for the franchises, which the City subsequently canceled. In December 2020, the City of San Diego and SDG&E agreed to extend the natural gas and electric franchises to June 1, 2021. The extension is intended to provide newly elected City officials time to seek public input and additional information. The City has announced its plan to start a new competitive bid process in the first quarter of 2021. Successfully obtaining, maintaining or renewing any or all of these approvals could result in higher costs or the imposition of conditions or restrictions on the manner in which we operate our businesses. Furthermore, our permits require compliance by us and may require compliance by our underlying customers. Failure by us or our customers to comply with permit, license, right-of-way or franchise requirements could result in these approvals and agreements being modified, suspended

or rescinded and could subject us to significant fines and penalties. If one or more of these approvals or agreements were to be suspended, rescinded or otherwise terminated, including due to expiration, or be modified in a manner that makes our continued operation of the applicable business prohibitively expensive or otherwise undesirable or impossible, we may be required to temporarily or permanently cease certain of our operations, sell the associated assets or remove them from service, construct new assets intended to bypass the impacted area, or any combination of the foregoing, in which case we may lose a significant portion of our rate base or other revenue generating assets, our prospects may be materially adversely affected and we may incur significant impairment charges or other costs that may not be recoverable. The occurrence of any of these events could materially adversely affect our businesses financial condition, results of operations, cash flows and/or prospects.

We may invest significant amounts of money in major capital projects prior to receiving regulatory approval. If there is a delay in obtaining required regulatory approvals; if any regulatory approval is conditioned on major changes or other requirements that increase costs or impose restrictions on our existing or planned operations; if we fail to obtain or maintain required approvals or to comply with them or other applicable laws or regulations; if we are involved in litigation that adversely impacts any required approvals or rights to the applicable property; or if management decides not to proceed with a project, we may be unable to recover any or all amounts invested in that project. Any such occurrence could cause our operations and prospects to materially decline and our costs to materially increase, result in material impairments, and otherwise materially adversely affect our businesses, financial condition, results of operations, cash flows and/or prospects.

Our businesses have significant environmental compliance costs, and future environmental compliance costs could have a material adverse effect on our cash flows and/or results of operations.

Our businesses are subject to extensive federal, state, local and foreign statutes, rules and regulations relating to environmental protection, including air quality, water quality and usage, wastewater discharge, solid waste management, hazardous waste disposal and remediation, conservation of natural resources, wetlands and wildlife, renewable energy resources, climate change and GHG emissions, among others. To comply with these legal requirements, we must spend significant amounts on environmental monitoring, pollution control equipment, mitigation costs and emissions fees, and these amounts could increase as a result of various factors that we may not control, including if these legal requirements change, permits are not issued, renewed or amended as anticipated, energy demands increase or our mix of energy supplies changes. Our regulated utilities may be materially adversely affected if these additional costs are not recoverable in rates. In addition, we may be ultimately responsible for all on-site liabilities associated with the environmental condition of our projects and properties, in each case regardless of when the liabilities arose and whether they are known or unknown, which exposes us to risks arising from contamination at our former or existing facilities or with respect to off-site waste disposal sites that have been used in our operations. In the case of our regulated utilities, some of these costs may not be recoverable in rates. Our facilities, including those of our JVs, are subject to laws and regulations that have been the subject of increased enforcement activity with respect to power generation facilities. Failure to comply with applicable environmental laws and regulations may subject our businesses to substantial penalties and fines, including criminal penalties in some cases, and/or significant curtailments of our operations, which could materially adversely affect our cash flows and/or results of operations.

Increasing international, national, regional and state-level environmental concerns as well as related new or proposed legislation and regulation may have material negative effects on our operations, operating costs and the scope and economics of proposed expansions or other capital expenditures, which could have a material adverse effect on our results of operations, cash flows and/or prospects. In particular, existing and potential state, national and international legislation and regulation relating to the control and reduction of GHG emissions may materially limit operations or otherwise materially adversely affect us. For example, SB 100 requires each California electric utility, including SDG&E, to procure 50% of its annual electric energy requirements from renewable energy sources by 2026, and 60% by 2030. SB 100 also creates the policy of meeting all of California’s retail electricity supply with a mix of RPS Program-eligible and zero-carbon resources by 2045. The law also includes stipulations that this policy not increase carbon emissions elsewhere in the western grid and not allow resource shuffling, and requires that the CPUC, CEC, CARB and other state agencies incorporate this policy into all relevant planning. In addition to signing SB 100 into law, the then-Governor of California also signed an executive order establishing a new statewide goal to achieve carbon neutrality as soon as possible, and no later than 2045, and achieve and maintain net negative emissions thereafter. The executive order calls on CARB to address this goal in future scoping plans, which affect several major sectors of California’s economy, including transportation, agriculture, development, industrial and others. California recently issued new climate initiatives in line with this statewide goal, including two executive orders requiring sales of all passenger vehicles to be zero-emission by 2035. Our California Utilities and any of our other businesses impacted by similar future laws and regulations may be materially adversely affected if these additional costs are not recoverable in rates or, with respect to our non-regulated utility businesses, if such costs are not able to be passed through to customers. Even if such costs are recoverable, the effects of existing and proposed GHG emission reduction standards may cause rates or other costs to customers to increase to levels that substantially reduce customer demand and growth, which may have a material adverse effect on the cash flows, performance, businesses and/or prospects of the

California Utilities and any of our other affected businesses. SDG&E, as well as any of our other businesses affected by similar mandates in the future, may also be subject to significant penalties and fines if certain mandated renewable energy goals are not met.

In addition, existing and future laws, orders and regulations regarding mercury, nitrogen and sulfur oxides, particulates, methane or other emissions, or interpretations or revisions to these laws, orders and regulations, could result in requirements for additional monitoring, pollution monitoring and control equipment, safety practices, other operational changes to satisfy new mandates or emission fees, taxes or penalties, any of which could materially adversely affect our results of operations, financial condition and/or cash flows.

Our businesses, results of operations, financial condition and/or cash flows may be materially adversely affected by the outcome of litigation or other proceedings in which we are involved.

Sempra Energy and its subsidiaries are defendants in a number of lawsuits, binding arbitrations and regulatory proceedings, including in connection with the Aliso Canyon natural gas storage facility natural gas leak that we discuss in further detail below under "Risks Related to the California Utilities – Legal and Regulatory Risks." We discuss material pending proceedings in Note 16 of the Notes to Consolidated Financial Statements. We have spent, and continue to spend, substantial amounts of money, time and employee and management focus defending these lawsuits and proceedings and on related investigations and regulatory proceedings. The uncertainties inherent in lawsuits, arbitrations and other legal proceedings make it difficult to estimate with any degree of certainty the timing, costs and effects of resolving these matters. In addition, juries have demonstrated a willingness to grant large awards, including punitive damages, in personal injury, product liability, property damage and other claims. Accordingly, actual costs incurred may differ materially from insured or reserved amounts and may not be recoverable, in whole or in part, by insurance or in rates from our customers. Any of the foregoing could cause significant reputational damage and materially adversely affect our businesses, results of operations, financial condition and/or cash flows.

Risks Related to the California Utilities

Operational Risks

The California Utilities are subject to risks arising from the operation, maintenance and upgrade of their natural gas and electricity infrastructure and information technology systems, which, if they materialize, could materially and adversely affect Sempra Energy's and the California Utilities' financial results.

The California Utilities own and operate electric transmission and distribution facilities and natural gas transmission, distribution and storage facilities, which are, in many cases, interconnected and/or managed by information technology systems. Even though the California Utilities undertake substantial capital investment projects to construct, replace, maintain, improve and upgrade these facilities and systems, there is a risk of, among other things, potential breakdown or failure of equipment or processes due to aging infrastructure and information technology systems, human error in operations or maintenance, shortages of or delays in obtaining equipment, material and labor, operational restrictions resulting from environmental requirements and governmental interventions, and performance below expected levels, and these risks could be amplified while capital investment projects are in process. Because our transmission facilities are interconnected with those of third parties, the operation of our facilities could also be adversely affected by events occurring on the systems of such third parties, some of which may be unanticipated or uncontrollable by us.

Additional risks associated with the ability of the California Utilities to safely and reliably operate, maintain, improve and upgrade their facilities and systems, many of which are beyond the California Utilities' control, include, among others:

- failure to meet customer demand for natural gas and/or electricity, curtailments, controlled or uncontrolled gas outages, or gas surges back into homes that could cause serious personal injury or loss of life
- a prolonged widespread electrical black-out that results in damage to the California Utilities' equipment or damage to property owned by customers or other third parties
- the release of hazardous or toxic substances into the air, water or soil, including gas leaks
- severe weather events or natural disasters, pandemics, or attacks by third parties such as cyber-attacks, acts of terrorism, vandalism or war, the effects of which we discuss above under "Risks Related to All Sempra Energy Businesses – Operational Risks"
- inadequate emergency preparedness plans and the failure to respond effectively to catastrophic events that could lead to public or employee harm or extended outages

The occurrence of any of these events could affect demand for natural gas or electricity, cause unplanned outages, damage the California Utilities' assets and/or operations, damage the assets and/or operations of third parties on which the California Utilities rely, damage property owned by customers or others, and cause personal injury or death. Any such events could materially adversely affect Sempra Energy's and one or both of the California Utilities' financial condition, cash flows and/or results of operations.

Wildfires in California pose a significant risk to the California Utilities' (particularly SDG&E's) and Sempra Energy's business, financial condition, results of operations and/or cash flows.

Potential for Increased and More Severe Wildfires

In 2020, California experienced some of the largest wildfires (measured by acres burned) in its history. Frequent and more severe drought conditions, inconsistent and extreme swings in precipitation, changes in vegetation caused by these precipitation swings or other factors, unseasonably warm temperatures, very low humidity and stronger winds have increased the duration of the wildfire season and the intensity and prevalence of wildfires in California, including in SDG&E's and SoCalGas' service territories, and have made these wildfires increasingly difficult to predict and contain. Changing weather patterns, including as a result of climate change, could cause these conditions to become even more extreme and unpredictable. These wildfires could place third-party property and the California Utilities' electric and natural gas infrastructure in jeopardy and reduce the availability of hydroelectric generators, and these wildfires and the associated weather conditions could result in temporary power shortages in SDG&E's and SoCalGas' service territories. In addition, certain of California's local land use policies and forestry management practices have been relaxed to allow for the construction and development of residential and commercial projects in high-risk fire areas that may not have the infrastructure or contingency plans necessary to address wildfire risks, which could lead to increased third-party claims and greater losses for which SDG&E or SoCalGas may be liable. We discuss the effects wildfires or other natural disasters could have on our businesses, including the ways in which they could materially adversely affect the California Utilities' and Sempra Energy's business, financial condition, results of operations and/or cash flows, in this risk factor below and above under "Risks Related to All Sempra Energy Businesses – Operational Risks."

The Wildfire Legislation

In July 2019, the Governor of California signed the Wildfire Legislation into law, which addresses certain important issues related to catastrophic wildfires in the State of California and their impact on electric IOUs (investor-owned gas distribution utilities such as SoCalGas are not covered by this legislation). The issues addressed include wildfire mitigation, cost recovery standards and requirements, a wildfire fund, a cap on liability, safety certifications, and the establishment of a wildfire safety board. The Wildfire Legislation did not change the doctrine of inverse condemnation, which imposes strict liability (meaning that liability is imposed regardless of fault) on a utility whose equipment, such as its electric distribution and transmission lines, is determined to be a cause of a fire. In such an event, the utility would be responsible for the costs of damages, including potential business interruption losses, as well as interest and attorneys' fees, even if the utility has not been found negligent. The doctrine of inverse condemnation also is not exclusive of other theories of liability, including if the utility were found negligent, in which case additional liabilities, such as fire suppression, clean-up and evacuation costs, medical expenses, and personal injury, punitive and other damages, could be imposed. The Wildfire Legislation established a revised legal standard for the recovery of wildfire costs (Revised Prudent Manager Standard) and established the Wildfire Fund designed to provide liquidity to participating California electric IOUs to pay wildfire-related claims against a participating IOU in the event that the governmental agency responsible for determining causation determines such IOU's equipment caused the ignition of a wildfire, primary insurance coverage is exceeded and certain other conditions are satisfied. However, the standards prescribed by the Wildfire Legislation may not be effectively implemented or applied consistently by the State of California or the Wildfire Fund could be completely exhausted due to fires in other California IOUs' service territories, by fires in SDG&E's service territory or by a combination thereof, which could impact our ability to timely access capital necessary to address, in whole or in part, inverse condemnation and other liabilities. Although SDG&E is not aware of any claims made against the Wildfire Fund by any participating IOU, there is no assurance that one or more participating IOUs will not submit claims against the Wildfire Fund in connection with any past or future wildfires. As a result, we are unable to predict whether the Wildfire Legislation will be effectively implemented or consistently applied or its impact on SDG&E's ability to recover certain costs and expenses in the event that SDG&E's equipment is determined to be a cause of a fire, and specifically in the context of the application of inverse condemnation. If a major fire is determined to be caused by SDG&E's equipment, or if a major fire is determined to be caused by another California electric IOU and the Wildfire Fund is depleted as a result, Sempra Energy's and SDG&E's business, financial condition, results of operations and/or cash flows could be materially adversely affected.

Cost Recovery Through Insurance or Rates

We have experienced increased costs and difficulties in obtaining insurance coverage for wildfires that could be caused by the California Utilities' operations, particularly SDG&E's operations, and these conditions could continue or worsen. As a result of the strict liability standard applied to electric IOU-caused wildfires in California, substantial recent losses recorded by insurance companies, and the risk of an increase in the number and size of wildfires, insurance for wildfire liabilities may not be available or may be available only at rates that are prohibitively expensive. In addition, the insurance that has been obtained for wildfire liabilities and the insurance for these liabilities that may be available in the future, if any, may not be sufficient to cover all losses that we may incur, or it may not be available in sufficient amounts to meet the $1 billion of primary insurance required by the Wildfire Legislation. Uninsured losses may not be recoverable in customer rates and increases in the cost of insurance may be challenged when we seek cost recovery through the regulatory process. We are unable to predict whether we would be allowed to recover in rates or from the Wildfire Fund the costs of any uninsured losses. A loss which is not fully insured, sufficiently covered by the Wildfire Fund and/or cannot be recovered in customer rates, such as the CPUC decision denying SDG&E's recovery of costs related to wildfires in its service territory in 2007, could materially adversely affect Sempra Energy's and one or both of the California Utilities' financial condition, cash flows and/or results of operations.

Wildfire Mitigation Efforts

Although we spend significant resources on measures designed to mitigate wildfire risks, there is no assurance that these measures will be successful or effective in reducing our wildfire-related losses or that their costs will be fully recoverable in rates. The California Utilities are required by applicable California law to submit annual wildfire mitigation plans for approval by the Wildfire Safety Division of the CPUC and could be subject to increased risks if these plans are not approved in a timely manner and fines or penalties for any failure to comply with the approved plans. One of our wildfire mitigation tools is to de-energize certain of our facilities when weather conditions become extreme and there is elevated wildfire ignition risk, in an effort to help mitigate this safety risk to the public. Such "public safety power shutoffs" have been subject to significant scrutiny by various stakeholders, including customers, regulators and law makers, that could lead to legislation or rulemaking that increases the risk of penalties and liability for damages associated with these events. Such costs may not be recoverable in rates. Unrecoverable costs, adverse legislation or rulemaking, scrutiny by key stakeholders or other negative effects associated with wildfire mitigation efforts could materially adversely affect Sempra Energy's and SDG&E's financial condition, cash flows and/or results of operations.

The electricity industry is undergoing significant change, including increased deployment of distributed energy resources, technological advancements, and political and regulatory developments.

Electric utilities in California are experiencing increasing deployment of distributed energy resources, such as solar generation, energy storage, energy efficiency and demand response technologies, and California's environmental policy objectives are accelerating the pace and scope of these industry changes. This growth of distributed energy resources will require modernization of the electric distribution grid to, among other things, accommodate increasing two-way flows of electricity and increase the grid's capacity to interconnect distributed energy resources. Moreover, enabling California's clean energy goals will require sustained investments in grid modernization, renewable integration projects, energy efficiency programs, energy storage options and electric vehicle infrastructure. The CPUC is conducting proceedings to: evaluate various projects and pilots; implement changes to the planning and operation of the electric distribution grid in order to prepare for higher penetration of distributed energy resources; consider future grid modernization and grid reinforcement investments; evaluate if traditional grid investments can be deferred by distributed energy resources; determine what, if any, compensation would be feasible and appropriate; and clarify the role of the electric distribution grid operator. These proceedings and the broader changes in California's electricity industry could result in new regulations, policies and/or operational changes that could materially adversely affect SDG&E's and Sempra Energy's businesses, cash flows, financial condition, results of operations and/or prospects.

SDG&E provides bundled electric procurement service through various resources that are typically procured on a long-term basis. While SDG&E currently provides such procurement service for most of its customer load, customers do have the ability to receive procurement service from a load serving entity other than SDG&E, through programs such as DA and CCA. DA is currently limited by a cap based on gigawatt hours and CCA is only available if a customer's local jurisdiction (city) offers such a program. Several local jurisdictions, including the City and County of San Diego and other municipalities, have implemented, are implementing or are considering implementing CCA, which could result in SDG&E providing procurement service for less than half of its current customer load as early as December 31, 2021. When customers are served by another load serving entity, SDG&E no longer procures electricity for this departing load and the associated costs of the utility's procured resources could then be borne by SDG&E's remaining bundled procurement customers. Existing state law requires that customers opting to have CCA procure their electricity must absorb the cost of above-market electricity procurement commitments already made by SDG&E on their behalf, which requirements are designed to equitably share costs among customers served by SDG&E and

customers served by DA and CCA. If adequate mechanisms are not implemented to help ensure compliance with state law or if state law changes, remaining bundled customers of SDG&E could potentially experience large increases in rates for commodity costs under commitments made on behalf of CCA customers prior to their departure or, if all such costs are not recoverable in rates, SDG&E could experience material increases in its unrecoverable commodity costs. If legislative, regulatory or legal action is taken that has the effect of preventing or delaying recovery of these procurement costs or if mechanisms are not in place to help ensure compliance with state law, the unrecovered costs could have a material adverse effect on SDG&E's and Sempra Energy's cash flows, financial condition and/or results of operations.

Natural gas and natural gas storage have increasingly been the subject of political and public scrutiny, including a desire by some to substantially reduce or eliminate reliance on natural gas as an energy source.

Certain California legislators and stakeholder, advocacy and activist groups have expressed a desire to further limit or eliminate reliance on natural gas as an energy source by advocating increased use of renewable electricity and electrification in lieu of the use of natural gas. Certain California state agencies have recently proposed public policies that would prohibit or restrict the use and consumption of natural gas, for example in new buildings and appliances, and certain local city governments have passed ordinances restricting use of natural gas connections in newly constructed buildings. These proposals and ordinances and any other similar regulatory action could have the effect of reducing natural gas use over time. In addition, CARB, California's primary regulator for GHG emission reduction programs, has published plans for reducing GHG emissions in line with California's climate goals that include proposals to reduce natural gas demand, including more aggressive energy efficiency programs to reduce natural gas end use, increased renewable generation in the electric sector reducing noncore gas load, and replacement of natural gas appliances with electric appliances. CARB's plans also propose that some conventional natural gas be displaced with above-market renewable natural gas, which could result in increased costs that may not be fully recoverable in rates, and CARB is currently considering updates to its GHG reduction plans, which are due to be finalized in 2022, that could further reduce natural gas demand. The CPUC has initiated an OIR to update gas reliability standards, determine the regulatory changes necessary to improve coordination between natural gas utilities and natural gas-fired electric generators, and implement a long-term planning strategy to manage the state's transition away from natural gas-fueled technologies to meet California's decarbonization goals. The OIR will be conducted in two phases, the first of which is addressing reliability standards and coordination between natural gas utilities and natural gas-fired electric generators, and the second of which will implement a long-term planning strategy. A substantial reduction or the elimination of natural gas as an energy source in California could lead to certain of SoCalGas' and SDG&E's gas assets no longer meeting CPUC standards to recover costs and earn an associated rate of return, thus potentially causing our substantial investment in the value of these gas assets to be depreciated on an accelerated basis or become stranded, and could otherwise have a material adverse effect on SoCalGas', SDG&E's and Sempra Energy's cash flows, financial condition and/or results of operations.

SDG&E may incur substantial costs and liabilities as a result of its partial ownership of a nuclear facility that is being decommissioned.

SDG&E has a 20% ownership interest in SONGS, formerly a 2,150-MW nuclear generating facility near San Clemente, California, that is in the process of being decommissioned by Edison, the majority owner of SONGS. SDG&E, and each of the other owners, is responsible for financing its share of expenses and capital expenditures, including decommissioning activities. Although the facility is being decommissioned, SDG&E's ownership interest in SONGS continues to subject it to the risks of owning a partial interest in a nuclear generation facility, which include, among other things:

- the potential release of a radioactive material, including from a natural disaster, that could cause catastrophic harm to human health and the environment
- the potential harmful effects on the environment and human health resulting from the prior operation of nuclear facilities and the storage, handling and disposal of radioactive materials
- limitations on the amounts and types of insurance commercially available to cover losses that might arise in connection with operations and the decommissioning of the facility
- uncertainties with respect to the technological and financial aspects of decommissioning the facility

In addition, SDG&E maintains NDTs for providing funds to decommission SONGS. Trust assets have been generally invested in equity and debt securities, which are subject to significant market fluctuations. A decline in the market value of trust assets, an adverse change in the law regarding funding requirements for decommissioning trusts, or changes in assumptions or forecasts related to decommissioning dates, technology and the cost of labor, materials and equipment could increase the funding requirements for these trusts, which costs in each case may not be fully recoverable in rates. Furthermore, CPUC approval is required in order to make withdrawals from these trusts. CPUC approval for certain expenditures may be denied altogether if the CPUC determines that the expenditures are unreasonable. In addition, decommissioning may be materially more expensive than

we currently anticipate and therefore decommissioning costs may exceed the amounts in the trust funds. Rate recovery for overruns would require CPUC approval, which may not occur.

The occurrence of any of these events could result in a substantial reduction in our expected recovery and have a material adverse effect on SDG&E's and Sempra Energy's businesses, cash flows, financial condition, results of operations and/or prospects.

We discuss SONGS further in Note 15 of the Notes to Consolidated Financial Statements.

Legal and Regulatory Risks

The California Utilities are subject to extensive regulation by state, federal and local legislative and regulatory authorities, which may materially adversely affect us.

Rates and Other Capital-Related Matters

The CPUC regulates the California Utilities' customer rates, except for SDG&E's electric transmission rates which are regulated by the FERC. The CPUC also regulates, among other matters, the California Utilities':

- conditions of service
- sales of securities
- rates of return
- capital structure
- rates of depreciation
- long-term resource procurement

The CPUC periodically approves the California Utilities' customer rates based on authorized capital expenditures, operating costs, including income taxes, and an authorized rate of return on investments, as well as settlements with third parties, while incorporating a risk-based decision-making framework. The outcome of ratemaking proceedings can be affected by various factors, many of which are not in our control, including, among others, the level of opposition by intervening parties; potential rate impacts; increasing levels of regulatory review; changes in the political, regulatory, or legislative environments; and the opinions of applicable regulators, consumer and other stakeholder organizations and customers about the California Utilities' ability to provide safe, reliable, and affordable electric and gas services. These ratemaking proceedings include decisions about major programs in which SoCalGas and SDG&E make significant investments under an approved CPUC framework, but which investments may remain subject to a CPUC reasonableness review or filing that could result in the disallowance of a portion of the incurred costs. The California Utilities also may be required to incur costs and make investments to comply with legislative and regulatory requirements and initiatives, such as those relating to the development of a state-wide electric vehicle charging infrastructure, the deployment of distributed energy resources, implementation of demand response and customer energy efficiency programs, energy storage and renewable energy targets, gas distribution and transmission safety and integrity, and underground gas storage, among others. The California Utilities' ability to recover these costs and investments depends in part on the final form of the legislative or regulatory requirements and the ratemaking mechanisms associated with them, and could also be impacted by the timing and process of the ratemaking mechanism, in which there is a potentially significant time lag between when costs are incurred and when those costs are recovered in customers' rates and there could be potentially material differences between the forecasted or authorized costs embedded in rates (which are set on a prospective basis) and the amount of actual costs incurred. The cash flows, results of operations, financial condition and/or prospects of Sempra Energy and each of the California Utilities may be materially adversely affected by their rates, which can be impacted by, among other things:

- delays by the CPUC on decisions regarding recovery
- the results of after-the-fact reasonableness reviews with unclear standards
- finalization of legislative and regulatory requirements and initiatives in an unexpected manner
- rejection of settlements with third parties
- decisions denying recovery or authorizing less than full recovery on the basis that costs were not reasonably or prudently incurred or for other reasons
- actual capital expenditures or operating costs exceeding the amounts approved by the CPUC

In addition, changes in key benchmark interest rates may trigger automatic adjustment mechanisms that determine the California Utilities' authorized rates of return. Specifically, the CCM considers changes in interest rates based on the applicable 12-month average Moody's utility bond index. If triggered, the CCM would automatically update the California Utilities' authorized cost of debt based on actual costs and authorized ROE upward or downward by one-half of the difference between the CCM benchmark

and the applicable 12-month average Moody's utility bond index. For the 12-months ended September 30, 2020, SDG&E and SoCalGas were close to their respective benchmark rates but did not trigger the CCM. Interest rates referenced in the applicable Moody's utility bond indices have been more than 100 bps below the benchmark since the beginning of the current measurement period. If these interest rates remain at current levels through the remainder of the current measurement period, a triggering event for SDG&E and SoCalGas could occur. A trigger of the CCM in 2021 that requires a downward adjustment could materially adversely affect the results of operations and cash flows of Sempra Energy and, depending on the CCM that is triggered, SDG&E and SoCalGas, beginning January 1, 2022. We discuss the CCM further in "Part I – Item 1. Business – Ratemaking Mechanisms – California Utilities – Cost of Capital Proceedings" and in Note 4 of the Notes to Consolidated Financial Statements.

The FERC regulates electric transmission rates, the transmission and wholesale sales of electricity in interstate commerce, transmission access, the rates of return on investments in electric transmission assets, and other similar matters involving SDG&E. These ratemaking mechanisms are subject to many risks similar to those described above regarding the CPUC.

CPUC Authority Over Operational Matters

The CPUC has regulatory authority related to utility operations, safety standards and practices, competitive conditions, reliability and planning, affiliate relationships and a wide range of other matters, including citation programs concerning matters such as safety activity, disconnection and billing practices, resource adequacy and environmental compliance. Many of these standards and programs are becoming more stringent and could impose severe penalties. For example, SDG&E and SoCalGas are subject to a safety enforcement program developed by the CPUC pursuant to SB 291 that includes procedures for monitoring, data tracking and analysis, and investigations, and delegates citation authority to CPUC staff under the direction of the CPUC Executive Director. The CPUC staff has authority to issue citations up to an administrative limit of $8 million per citation under this program, and penalties issued by the CPUC under the program can exceed this administrative limit, having exceeded $1.5 billion in one instance for an unrelated third party. The CPUC conducts various reviews and audits of the matters under its authority, including compliance with CPUC regulations, and could launch investigations or open proceedings at any time on any issue it deems appropriate, the results of which could lead to citations, disallowances, fines and penalties. Any such citations, disallowances, fines or penalties for noncompliance with any CPUC regulations, programs or standards, as well as any corrective or mitigation actions required to become in compliance if not sufficiently funded in customer rates, could have a material adverse effect on Sempra Energy's and the California Utilities' results of operations, financial condition, cash flows and/or prospects. We discuss various CPUC proceedings relating to the California Utilities' rates, costs, incentive mechanisms and performance-based regulation in Notes 4, 15 and 16 of the Notes to Consolidated Financial Statements.

Influence of Other Organizations and Potential Regulatory Changes

The California Utilities and Sempra Energy may be materially adversely affected by revisions or reinterpretations of existing or new legislation, regulations, decisions, orders or interpretations of the CPUC, the FERC or other regulatory bodies, any of which could change how the California Utilities operate, affect their ability to recover various costs through rates or adjustment mechanisms, or require them to incur substantial additional expenses.

The California Utilities are also affected by the activities of organizations such as Cal PA, TURN, Utility Consumers' Action Network, Sierra Club and other stakeholder, advocacy and activist groups. To the extent that any of these groups are successful in directly or indirectly influencing the California Utilities' operations, this could have a material adverse effect on the California Utilities' and Sempra Energy's businesses, cash flows, results of operations, financial condition and/or prospects.

SoCalGas has incurred and may continue to incur significant costs, expenses and other liabilities related to the Leak, a substantial portion of which may not be recoverable through insurance.

From October 23, 2015 through February 11, 2016, SoCalGas experienced a natural gas leak from one of the injection-and-withdrawal wells, SS25, at its Aliso Canyon natural gas storage facility in Los Angeles County. As described in Note 16 of the Notes to Consolidated Financial Statements, numerous lawsuits, investigations and regulatory proceedings have been initiated in response to the Leak, resulting in significant costs.

Civil and Criminal Litigation

As of February 22, 2021, 395 lawsuits, including approximately 36,000 plaintiffs, are pending against SoCalGas related to the Leak, some of which have also named Sempra Energy. All these cases, other than a matter brought by the Los Angeles County District Attorney and the federal securities class action discussed below, are coordinated before a single court in the LA Superior Court for pretrial management. The initial trial previously scheduled for June 2020 for a small number of randomly selected individual plaintiffs was postponed, with a new trial date yet to be determined by the court.

Four shareholder derivative actions were filed alleging breach of fiduciary duties against certain officers and certain directors of Sempra Energy and/or SoCalGas. Three of the actions were joined in an Amended Consolidated Shareholder Derivative Complaint, which was dismissed with prejudice in January 2021. The remaining action was also dismissed but plaintiffs were given leave to amend their complaint.

A misdemeanor criminal complaint was filed by the Los Angeles County District Attorney's office, as to which SoCalGas entered a settlement that was approved by the LA Superior Court; challenges by certain residents have been rejected by the California Supreme Court.

Additional litigation, including by public entities, and criminal complaints may be filed against us related to the Leak or our responses thereto.

The costs of defending against or settling or otherwise resolving the civil and criminal lawsuits, and any compensatory, statutory or punitive damages, restitution, and civil, administrative and criminal fines, penalties and other costs, if awarded or imposed, as well as the costs of mitigating the actual natural gas released, could be significant. We discuss these risks further above under "Risks Related to All Sempra Energy Businesses – Legal and Regulatory Risks" and in this risk factor below under "Insurance and Estimated Costs."

Governmental Investigations, Orders and Additional Regulation

In January 2016, CalGEM and the CPUC selected Blade to conduct, under their supervision, an independent analysis of the technical root cause of the Leak, to be funded by SoCalGas. The root cause analysis was released in May 2019 and did not identify any instances of non-compliance by SoCalGas and concluded that SoCalGas' compliance activities conducted prior to the Leak did not find indications of a casing integrity issue, but also opined that there were measures, though not required by gas storage regulations at the time, that could have been taken to aid in the early identification of corrosion and that, in Blade's opinion, would have prevented or mitigated the Leak.

In June 2019, the CPUC opened an OII to consider penalties against SoCalGas for the Leak. The first phase will consider whether SoCalGas violated applicable laws, CPUC orders or decisions, rules or requirements, whether SoCalGas engaged in unreasonable and/or imprudent practices with respect to its operation and maintenance of the Aliso Canyon natural gas storage facility or its related record-keeping practices, whether SoCalGas cooperated sufficiently with the SED and Blade during the pre-formal investigation, and whether any of the mitigation proposed by Blade should be implemented to the extent not already done. In November 2019, the SED, based largely on the Blade report, alleged a total of 330 violations, asserting that SoCalGas violated California Public Utilities Code Section 451 and failed to cooperate in the investigation and to keep proper records. Hearings on a subset of issues are scheduled to begin in March 2021. The second phase will consider whether SoCalGas should be sanctioned for the Leak and what damages, fines or other penalties or sanctions, if any, should be imposed for any violations unreasonable or imprudent practices, or failure to sufficiently cooperate with the SED as determined by the CPUC in the first phase. In addition, the second phase will determine the amounts of various costs incurred by SoCalGas and other parties in connection with the Leak and the ratemaking treatment or other disposition of such costs, which could result in little or no recovery of such costs by SoCalGas. SoCalGas has engaged in settlement discussions with the SED in connection with this proceeding.

Higher operating costs and additional capital expenditures incurred by SoCalGas as a result of these investigations or new laws, orders, rules and regulations arising out of this incident or our responses thereto could be significant and may not be recoverable through insurance or in customer rates. In addition, any of these investigations could result in findings of violations of laws, orders, rules or regulations as well as fines and penalties, any of which could cause significant reputational damage. The occurrence of any of these risks could materially adversely affect SoCalGas' and Sempra Energy's cash flows, financial condition and/or results of operations.

Natural Gas Storage Operations and Reliability

Natural gas withdrawn from storage is important for service reliability during peak demand periods, including peak electric generation needs in the summer and consumer heating needs in the winter. The Aliso Canyon natural gas storage facility is the largest SoCalGas storage facility and an important element of SoCalGas' delivery system. As a result of the Leak, SoCalGas suspended injection of natural gas into the Aliso Canyon natural gas storage facility beginning in October 2015 and, following a comprehensive safety review and authorization by CalGEM and the CPUC's Executive Director, resumed injection operations in July 2017 based on limited operating ranges for the field. In February 2017, the CPUC opened a proceeding pursuant to SB 380 OII to determine the feasibility of minimizing or eliminating the use of the Aliso Canyon natural gas storage facility while still maintaining energy and electric reliability for the region, including considering alternative means for meeting or avoiding the demand for the facility's services if it were eliminated.

If the Aliso Canyon natural gas storage facility were to be permanently closed, or if future cash flows from its operation were otherwise insufficient to recover its carrying value, it could result in an impairment of the facility and significantly higher than expected operating costs and/or additional capital expenditures, and natural gas reliability and electric generation could be jeopardized. At December 31, 2020, the Aliso Canyon natural gas storage facility had a net book value of $821 million. Any significant impairment of this asset, or higher operating costs and additional capital expenditures incurred by SoCalGas that may not be recoverable in customer rates, could have a material adverse effect on SoCalGas' and Sempra Energy's results of operations, financial condition and/or cash flows.

Insurance and Estimated Costs

At December 31, 2020, SoCalGas estimates certain costs related to the Leak are $1,627 million (the cost estimate), which includes the $1,279 million of costs recovered or probable of recovery from insurance. This cost estimate may increase significantly as more information becomes available. A substantial portion of the cost estimate has been paid, and $451 million is accrued as Reserve for Aliso Canyon Costs as of December 31, 2020 on SoCalGas' and Sempra Energy's Consolidated Balance Sheets.

The actions against us related to the Leak as described in this risk factor above under "Civil and Criminal Litigation" seek compensatory, statutory and punitive damages, restitution, and civil, administrative and criminal fines, penalties and other costs. In addition, we could be subject to damages, fines, or other penalties or sanctions as a result of the investigations and other matters described in this risk factor above under "Governmental Investigations, Orders and Additional Regulation." Except for the amounts paid or estimated to settle certain actions, as described in this risk factor above under "Civil and Criminal Litigation," the cost estimate does not include litigation, regulatory proceedings or regulatory costs to the extent it is not possible to predict at this time the outcome of these actions or reasonably estimate the costs to defend or resolve the actions or the amount of damages, restitution, or civil, administrative or criminal fines, sanctions, penalties or other costs or remedies that may be imposed or incurred. The cost estimate also does not include certain other costs incurred by Sempra Energy associated with defending against shareholder derivative lawsuits and other potential costs that we currently do not anticipate incurring or that we cannot reasonably estimate. These costs not included in the cost estimate could be significant and could have a material adverse effect on SoCalGas' and Sempra Energy's cash flows, financial condition and results of operations.

We have received insurance payments for many of the costs included in the cost estimate, and we intend to pursue the full extent of our insurance coverage for all other costs we have incurred. Other than insurance for certain future defense costs we may incur as well as directors' and officers' liability, we have exhausted all of our insurance in this matter. We continue to pursue other sources of insurance coverage for costs related to this matter, but we may not be successful in obtaining additional insurance recovery for any of these costs. If we are not able to secure additional insurance recovery, if any costs we have recorded as an insurance receivable are not collected, if there are delays in receiving insurance recoveries, or if the insurance recoveries are subject to income taxes while the associated costs are not tax deductible, such amounts, which could be significant, could have a material adverse effect on SoCalGas' and Sempra Energy's cash flows, financial condition and results of operations.

Additional Information

We discuss Aliso Canyon natural gas storage facility matters further in Note 16 of the Notes to Consolidated Financial Statements.

The failure by the CPUC to adequately reform SDG&E's rate structure, including the implementation of charges independent of consumption volume and measures to reduce NEM rate subsidies, could have a material adverse effect on SDG&E's and Sempra Energy's business, cash flows, financial condition, results of operations and/or prospects.

The NEM program is an electric billing tariff mechanism designed to promote the installation of on-site renewable generation (primarily solar installations) for residential and business customers. Under NEM, qualifying customer-generators receive a full retail rate for the energy they generate that is fed to the utility's power grid. This occurs during times when the customer's generation exceeds their own energy usage. Under this structure, NEM customers do not pay their proportionate share of the cost of maintaining and operating the electric transmission and distribution system, subject to certain exceptions, while they still receive electricity from the system when their self-generation is inadequate to meet their electricity needs. The unpaid NEM costs are subsidized by customers not participating in NEM. Accordingly, as more electric-use customers and higher electric-use residential customers switch to NEM and self-generate energy, the burden on the remaining customers increases, which in turn encourages more self-generation, further increasing rate pressure on existing non-NEM customers.

The current electric residential rate structure in California is primarily based on consumption volume, which places a higher rate burden on customers with higher electric use while subsidizing lower use customers. In July 2015, the CPUC adopted a decision that provided a framework for rates that could be more transparent, fair and sustainable. The framework provides for a minimum

monthly bill, fewer rate tiers and a gradual reduction in the differences between the tiered rates, and directs the utilities to pursue expanded time-of-use rates. Most elements of the framework were implemented in 2020 and should result in some relief for higher-use customers and a rate structure that better aligns rates with actual costs to serve customers. The decision also established a process for electric utilities to seek implementation of a fixed charge for residential customers, subject to certain conditions; however, in March 2020, the CPUC adopted a decision rejecting electric utilities' requests to establish a fixed residential charge. The decision allows the utilities to renew their requests for a fixed charge at a later date if such proposals include an adequate customer outreach and communications plan. In August 2020, the CPUC initiated a rulemaking to further develop a successor to the existing NEM tariff. We expect a decision establishing a successor tariff to be issued in the fourth quarter of 2021, with implementation of the successor tariff by January 2022. Depending on the structure and functionality of such a successor tariff, which is uncertain, the current risks associated with the existing NEM tariff could continue or increase.

SDG&E believes the establishment of a charge independent of consumption volume for residential customers is critical to help ensure rates are distributed among all customers that rely on the electric transmission and distribution system, including those participating in the NEM program. In addition, distributed energy resources and energy efficiency initiatives could generally reduce delivered volumes, increasing the importance of a fixed charge. The absence of a charge independent of consumption volume coupled with the continuing increase of solar installation and other forms of self-generation could adversely impact electricity rates and the reliability of the electric transmission and distribution system, which could subject SDG&E to higher levels of customer dissatisfaction, increased likelihood of noncompliance with CPUC or other safety or operational standards, and increased risks attendant to any such noncompliance as we discuss above under "Risks Related to the California Utilities – Legal and Regulatory Risks," and also could increase SDG&E's costs, including power procurement, operating or capital costs, and increase the likelihood of disallowance of recovery for these costs.

If the CPUC fails to adequately reform SDG&E's rate structure to better achieve reasonable, cost-based electric rates that are competitive with alternative sources of power and adequate to maintain the reliability of the electric transmission and distribution system, such failure could have a material adverse effect on SDG&E's and Sempra Energy's business, cash flows, financial condition, results of operations and/or prospects.

Risks Related to Our Interest in Oncor

Certain ring-fencing measures, governance mechanisms and commitments limit our ability to influence the management and policies of Oncor.

Various "ring-fencing" measures are in place to enhance Oncor's separateness from its owners and to mitigate the risk that Oncor would be negatively impacted in the event of a bankruptcy or other adverse financial developments affecting its owners. This ring-fence creates both legal and financial separation between Oncor Holdings, Oncor and their subsidiaries, on the one hand, and Sempra Energy and its affiliates and subsidiaries, on the other hand.

In accordance with the ring-fencing measures, governance mechanisms and commitments we established in connection with our acquisition of an 80.25% indirect interest in Oncor in March 2018, we and Oncor are subject to various restrictions, including, among others:

- seven members of Oncor's 13-person board of directors will be independent directors in all material respects under the rules of the NYSE in relation to Sempra Energy and its subsidiaries and affiliated entities and any other direct or indirect owners of Oncor, and also will have no material relationship with Sempra Energy and its subsidiaries and affiliated entities or any other direct or indirect owners of Oncor currently or within the previous 10 years. With respect to the six remaining directors, two will be designated by Sempra Energy, two will be designated by Oncor's minority owner, TTI, and two will be current or former Oncor officers
- Oncor will not pay any dividends or other distributions (except for contractual tax payments) if a majority of its independent directors or any of the directors appointed by TTI determines that it is in the best interests of Oncor to retain such amounts to meet expected future requirements
- Oncor will not pay dividends or other distributions (except for contractual tax payments) if that payment would cause its debt-to-equity ratio to exceed the debt-to-equity ratio approved by the PUCT
- if Oncor's senior secured debt credit rating by any of the three major rating agencies falls below BBB (or Baa2 for Moody's), Oncor will suspend dividends and other distributions (except for contractual tax payments), unless otherwise allowed by the PUCT
- there must be maintained certain "separateness measures" that reinforce the legal and financial separation of Oncor from Sempra Energy, including a requirement that dealings between Oncor and Sempra Energy or Sempra Energy's affiliates (other than Oncor Holdings and its subsidiaries) must be on an arm's-length basis, limitations on affiliate transactions and a prohibition on pledging Oncor assets or stock for any entity other than Oncor

- a majority of Oncor's independent directors and the directors designated by TTI that are present and voting (of which at least one must be present and voting) must approve any annual or multi-year budget if the aggregate amount of capital expenditures or O&M in such budget is more than a 10% increase or decrease from the corresponding amounts of such expenditures in the budget for the preceding fiscal year or multi-year period, as applicable
- Sempra Energy will continue to hold indirectly at least 51% of the ownership interests in Oncor Holdings and Oncor until at least March 9, 2023, unless otherwise specifically authorized by the PUCT

As a result, we do not control Oncor Holdings or Oncor, and we have limited ability to direct the management, policies and operations of Oncor Holdings and Oncor, including the deployment or disposition of their assets, declarations of dividends, strategic planning and other important corporate issues and actions. We have limited representation on the Oncor Holdings and Oncor boards of directors, which are each controlled by independent directors. Moreover, all directors of Oncor, including those directors we have appointed, have considerable autonomy and, as described in our commitments, have a duty to act in the best interest of Oncor consistent with the approved ring-fence and Delaware law, which may in certain cases be contrary to our best interests or be in opposition to our preferred strategic direction for Oncor. To the extent that the directors approve or Oncor otherwise pursues actions that are not in our interests, the financial condition, results of operations, cash flows and/or prospects of Sempra Energy may be materially adversely affected.

Changes in the electric utility industry, including changes in regulation of ERCOT, could materially adversely affect Oncor's results of operations, cash flows, financial condition and/or prospects, which could materially adversely affect us.

Oncor operates in the electric utility sector and is subject to various legislative requirements and regulations by U.S., Texas and regional and local authorities. As a result, it is subject to many of the same or similar risks as our California Utilities as we describe above under "Risks Related to the California Utilities." The costs and burdens associated with complying with these requirements and adjusting Oncor's business and operations in response to legislative and regulatory developments, including changes in ERCOT, and any fines or penalties that could result from any noncompliance, may have a material adverse effect on Oncor. Moreover, potential legislative, regulatory or market or industry changes may jeopardize the predictability of utility earnings generally. In February 2021, following extreme winter weather, the PUCT issued a moratorium on customer disconnections due to nonpayment and could take other similar measures to address financial challenges experienced by other ERCOT market participants, which could adversely impact Oncor's collections and cash flows and, in turn, could adversely impact us. Also in February 2021, ERCOT required transmission companies, including Oncor, to significantly reduce demand on the grid due to insufficient electricity generation caused by extreme winter weather, resulting in power outages throughout ERCOT. The Governor of Texas has declared reform of ERCOT as an emergency item for the current Texas Legislative session. Various regulatory and governmental entities have indicated an intent to investigate the operation of the ERCOT grid during this extreme winter weather event and additional inquiries could also arise. Any significant changes relating to the ERCOT market that impact transmission and distribution utilities as a result of such proceedings or otherwise could materially adversely impact Oncor. If Oncor does not successfully respond to these changes and any other legislative, regulatory, or market or industry changes applicable to it, Oncor could suffer a deterioration in its results of operations, financial condition, cash flows and/or prospects, which could materially adversely affect our results of operations, financial condition, cash flows and/or prospects.

Oncor's operations are capital intensive and it could have liquidity needs that necessitate additional investments in Oncor.

Oncor's business is capital intensive, and it relies on external financing as a significant source of liquidity for its capital requirements. In the past, Oncor has financed a substantial portion of its cash needs from operations and with proceeds from indebtedness, but these sources of capital may not be adequate in the future. Our commitments to the PUCT prohibit us from making loans to Oncor. As a result, if Oncor fails to meet its capital requirements or if Oncor is unable to access sufficient capital to finance its ongoing needs, we may elect to make additional capital contributions to Oncor. Any such investments could be substantial and would reduce the cash available to us for other purposes, could increase our indebtedness and could ultimately materially adversely affect our results of operations, cash flows, financial condition and/or prospects.

Sempra Energy could incur substantial tax liabilities if EFH's 2016 spin-off of Vistra from EFH is deemed to be taxable.

As part of its ongoing bankruptcy proceedings, in 2016, EFH distributed all the outstanding shares of common stock of its subsidiary Vistra Energy Corp. (formerly TCEH Corp. and referred to herein as Vistra) to certain creditors of TCEH LLC (the spin-off), and Vistra became an independent, publicly traded company. Vistra's spin-off from EFH was intended to qualify for partially tax-free treatment to EFH and its shareholders under Sections 368(a)(1)(G), 355 and 356 of the IRC (collectively referred to as the Intended Tax Treatment). In connection with and as a condition to the spin-off, EFH received a private letter ruling from

the IRS regarding certain issues relating to the Intended Tax Treatment of the spin-off, as well as tax opinions from counsel to EFH and Vistra regarding certain aspects of the spin-off not covered by the private letter ruling.

In connection with the signing and closing of the merger of EFH with an indirect subsidiary of Sempra Energy, with EFH continuing as the surviving company and as an indirect, wholly owned subsidiary of Sempra Energy (the Merger), EFH sought and received a supplemental private letter ruling from the IRS and Sempra Energy and EFH received tax opinions from their respective counsels that generally provide that the Merger will not affect the conclusions reached in, respectively, the IRS private letter ruling and tax opinions issued with respect to the spin-off described above. Similar to the IRS private letter ruling and opinions issued with respect to the spin-off, the supplemental private letter ruling is generally binding on the IRS and any opinions issued with respect to the Merger are based on factual representations and assumptions, as well as certain undertakings, made by Sempra Energy and EFH, now Sempra Texas Holdings Corp. and a subsidiary of Sempra Energy. If such representations and assumptions are untrue or incomplete, any such undertakings are not complied with, or the facts upon which the IRS supplemental private letter ruling or tax opinions (which will not impact the IRS position on the transactions) are based are different from the actual facts relating to the Merger, the tax opinions and/or supplemental private letter ruling may not be valid and as a result, could be challenged by the IRS. Even though Sempra Texas Holdings Corp. would have administrative appeal rights if the IRS were to invalidate its private letter ruling and/or supplemental private letter ruling, including the right to challenge any adverse IRS position in court, any such appeal would be subject to significant uncertainties and could fail. If it is ultimately determined that the Merger caused the spin-off not to qualify for the Intended Tax Treatment, Sempra Energy, through its ownership of Sempra Texas Holdings Corp., could incur substantial tax liabilities, which would materially reduce and potentially eliminate the value associated with our indirect investment in Oncor and could have a material adverse effect on the results of operations, financial condition and/or prospects of Sempra Energy and on the market value of our common stock, preferred stock and debt securities.

Risks Related to Our Businesses Other Than the California Utilities and Our Interest in Oncor

Operational Risks

Project development activities may not be successful and projects under construction may not commence operation as scheduled, be completed within budget or operate at expected levels, which could have a material adverse effect on our businesses, financial condition, cash flows, results of operations and/or prospects.

All Energy Infrastructure Projects

We are involved in a number of energy infrastructure projects, including natural gas liquefaction facilities; marine and inland ethane and liquid fuels and LPG terminals and storage; natural gas, propane and ethane pipelines and distribution and storage facilities; electric generation, transmission and distribution infrastructure; and other projects. The acquisition, development, construction and expansion of these projects involve numerous risks.

We may be required to spend significant sums for preliminary engineering, permitting, fuel supply, infrastructure development, legal and other expenses before we can determine whether a project is feasible, economically attractive, or capable of being built. If the project is not completed, we may have to impair or write off amounts that we have invested in project development and never receive any return on these preliminary investments.

Success in developing a project is contingent upon, among other things:

- our ability to reach a final investment decision or otherwise make progress with respect to any project, which may be dependent on our financial condition and cash flows and may be influenced by a number of external factors outside our control, including the global economy and global energy and financial markets
- negotiation of satisfactory EPC agreements, including any renegotiation of total contract price and other terms that may be required in the event of delays in final investment decisions or other failures to meet specified deadlines with respect to a project
- if we intend to have equity partners in the project, identification of suitable partners and negotiation of satisfactory equity agreements
- identification of suitable customers and negotiation of satisfactory LNG offtake or other customer agreements
- negotiation of satisfactory supply, natural gas and LNG sales agreements or firm capacity service agreements and PPAs
- timely receipt of required governmental permits, licenses and other authorizations that do not impose material conditions and are otherwise granted under terms we find reasonable, as well as maintenance of these authorizations

- our project partners' willingness and financial or other ability to make their required investments on a timely basis
- our contractors and other counterparties' willingness and financial or other ability to fulfill their contractual commitments
- timely, satisfactory and on-budget completion of construction, which could be negatively affected by engineering problems, adverse weather conditions or other natural disasters, pandemics, cyber- or other attacks by third parties, work stoppages, equipment unavailability, contractor performance shortfalls and a variety of other factors, many of which we discuss above under "Risks Related to All Sempra Energy Businesses – Operational Risks" and in this risk factor below
- obtaining adequate and reasonably priced financing for the project
- the absence of hidden defects or inherited environmental liabilities for any brownfield project construction
- fast and cost-effective resolution of any litigation or unsettled property rights affecting a project

Any failures with respect to the above factors or other factors material to any particular project could involve significant additional costs to us and otherwise materially adversely affect the successful completion of a project. If we are unable to complete a development project, if we experience substantial delays, or if construction, financing or other project costs exceed our estimated budgets and we are required to make additional capital contributions, our businesses, financial condition, cash flows, results of operations and/or prospects could be materially adversely affected.

The operation of existing facilities, such as Cameron LNG JV's Phase 1 facility, and any future projects we are able to complete involves many risks, including, among others, the potential for unforeseen design flaws, engineering challenges, equipment failures or the breakdown for other reasons of liquefaction, regasification and storage facilities, electric generation, transmission and distribution infrastructure or other equipment or processes; labor disputes; fuel interruption; environmental contamination; and operating performance below expected levels. In addition, weather-related incidents and other natural disasters, pandemics, cyber- or other attacks by third parties and other similar events can disrupt liquefaction, generation, regasification, storage, transmission and distribution systems and have other impacts that we discuss above under "Risks Related to All Sempra Energy Businesses – Operational Risks." The occurrence of any of these events could lead to our facilities being idle for an extended period of time or our facilities operating below expected capacity levels, which may result in lost revenues or increased expenses, including higher maintenance costs and penalties. Any such occurrence could materially adversely affect our businesses, financial condition, cash flows, results of operations and/or prospects.

LNG Export Projects

In addition to the risks described above that are applicable to all our energy infrastructure projects, we are exposed to additional risks in connection with our LNG export projects, including Cameron LNG JV's Phase 1 project and our potential development of additional LNG export facilities. Sempra LNG is in discussions with the co-owners of Cameron LNG JV regarding the potential expansion of the facility in Phase 2 to include up to two additional liquefaction trains, is developing a proposed natural gas liquefaction export project near Port Arthur, Texas, and, through a JV agreement with IEnova, is developing a proposed natural gas liquefaction export project at IEnova's existing ECA Regas Facility in Baja California, Mexico to be developed in two phases (a mid-scale project referred to as ECA LNG Phase 1 and a large-scale project referred to as ECA LNG Phase 2). These projects are at various stages of development, and we have only reached a final investment decision with respect to ECA LNG Phase 1, which occurred in the fourth quarter of 2020. We discuss each of our LNG export projects further in "Part II – Item 7. MD&A – Capital Resources and Liquidity – Sempra LNG."

Each of these projects faces numerous risks and must overcome significant hurdles. Our ability to reach a final investment decision for each project and, if such a decision is reached and a project is completed, the overall success of such project are dependent on global energy markets, including natural gas and oil supply, demand and pricing. In general, a shift in the supply of natural gas could depress LNG prices and the cost advantages of exporting LNG from the U.S. In addition, global oil prices and their associated current and forward projections could reduce the demand for natural gas in some sectors and cause a corresponding reduction in projected global demand for LNG. Such a reduction in natural gas demand could also occur from higher penetration of alternative fuels in new power generation, or as a result of calls by some to limit or eliminate reliance on natural gas as an energy source globally. Any of these developments could result in increased or decreased competition and impact prospects for developing projects in an environment of declining LNG demand, and could negatively affect the performance and prospects of any of our projects that are or become operational. Moreover, if and as our development projects become operational, such projects could become competitive against each other, which would harm the overall success of our LNG export strategy. At certain moderate levels, oil prices could also make LNG projects in other parts of the world more feasible and competitive with LNG projects in North America, thus increasing supply and competition for the available LNG demand. A decline in natural gas prices outside the U.S. (which in many foreign countries are based on the price of crude oil) may also materially adversely affect the relative pricing advantage that has existed in recent years in favor of domestic natural gas (based on Henry Hub pricing), which could further decrease demand for domestic LNG and increase competition among LNG project developers.

There are a number of potential new LNG projects in addition to ours that are under construction or in the process of development by various project developers in North America, and given the projected global demand for LNG and the inherent risks of these projects, the vast majority of these projects likely will not be completed. Our proposed projects may face distinct disadvantages relative to some of the other projects under construction or in development. For example:

- Our Port Arthur, Texas project is a greenfield site, and therefore it does not have some of the advantages often associated with brownfield sites. Some of these disadvantages include increased costs and time to construct, which could materially adversely affect the development of this project.
- The proposed expansion of the Cameron LNG JV facility (Phase 2) is subject to certain restrictions and conditions under the project financing agreements for Phase 1 of the project, including, among others, timing restrictions unless appropriate prior consent is obtained from the project lenders, and requires unanimous consent of all JV partners, including with respect to the equity investment obligations of each partner. There is no assurance that these conditions and requirements can be satisfied, in which case our ability to develop the Phase 2 project would be jeopardized.
- The ECA Regas Facility, the ECA LNG Phase 1 liquefaction export project under construction and the potential ECA LNG Phase 2 liquefaction export project in Mexico are subject to ongoing land and permit disputes that could make finding or maintaining suitable partners and customers, difficult, and could also hinder or halt construction and, if the project is completed, operations. We discuss these risks further below under "Risks Related to Our Businesses Other Than the California Utilities and Our Interest in Oncor – Legal and Regulatory Risks." In addition, while we have completed the regulatory process for this LNG export facility in the U.S., the regulatory process in Mexico and the overlay of U.S. regulations for natural gas exports to an LNG export facility in Mexico are not well developed. We experienced significant delays obtaining a necessary export permit from the Mexican government for the ECA LNG Phase 1 liquefaction export project, due in part to government closures as a result of the COVID-19 pandemic, which resulted in material delays in our ability to reach a final investment decision for this project, and we could experience similar delays or face other hurdles in obtaining, renewing or maintaining all necessary permits and other approvals from the Mexican government for projects in the future. As a result, there is no assurance that the proposed ECA LNG Phase 2 project will be constructed and operated without facing significant regulatory challenges and uncertainties, or at all, which in turn could make project financing, as well as finding or maintaining suitable partners and customers for the ECA LNG Phase 2 project difficult. Finally, we have planned measures to not disrupt operations at the ECA Regas Facility with the construction of the ECA LNG Phase 1 project. However, this is not the case with respect to the construction of the ECA LNG Phase 2 project, which we expect may conflict with the current operations at the ECA Regas Facility. The ECA Regas Facility currently has long-term regasification contracts for 100% of the regasification facility's capacity through 2028, making the decision on whether and how to pursue the ECA LNG Phase 2 project dependent in part on whether the investment in a large-scale liquefaction export facility would, over the long term, be more beneficial than continuing to supply regasification services under our existing contracts.

In connection with certain of these LNG export development opportunities, we have entered into or may enter into Heads of Agreements, Interim Project Participation Agreements, MOUs and/or similar arrangements, all of which are or will be nonbinding and do not or will not obligate any of the parties to execute any definitive agreements or participate in any such opportunities. Any decisions by Sempra Energy or our potential counterparties to proceed with a final investment decision (except with respect to the ECA LNG Phase 1 project, for which a final investment decision has been reached) or binding agreements with respect to our proposed liquefaction export projects will require, among other things, obtaining or maintaining binding customer commitments to purchase LNG, completion of project assessments and achieving other necessary internal and external approvals of each party. In addition, all our proposed LNG export projects are subject to a number of risks and uncertainties, including, among others, the receipt and maintenance of a number of permits and approvals; finding or maintaining suitable partners and customers; obtaining or maintaining financing and incentives; negotiating and completing or maintaining suitable commercial agreements, including equity acquisition and governance agreements, natural gas supply and transportation agreements, LNG sale and purchase agreements and construction contracts (including new EPC contracts for certain projects); and, except for ECA LNG Phase 1, reaching a final investment decision.

There is no assurance that our proposed LNG export facilities will be completed in accordance with estimated timelines and budgets or at all, and our inability to complete one or more of these facilities or significant delays or cost overruns could have a material adverse effect on our future cash flows, results of operations, financial condition and/or prospects, including the recoverability of all or a substantial portion of the capital costs invested in these projects to date.

Financing Arrangements

We may become involved in various financing arrangements with respect to any of our energy infrastructure projects, some of which could expose us to additional risks. For example, Sempra Energy has provided guarantees for its share of Cameron LNG JV's financing obligations related to its Phase 1 facility for a maximum amount of up to $4.0 billion, which terminate upon Cameron LNG JV achieving "financial completion" of the initial three-train liquefaction project, including all three trains achieving commercial operation and meeting certain operational performance tests. Although these performance tests are

currently underway and we anticipate financial completion will be achieved and the guarantees will be terminated in the first half of 2021, this timing could be delayed, perhaps substantially, if these operational performance tests are not completed due to weather-related events, or other events or factors beyond our control. Any failure to achieve financial completion by September 30, 2021 (unless such date is extended in the event of force majeure) would result in an event of default under Cameron LNG JV's financing agreements and a potential demand on Sempra Energy's guarantees. Further, pursuant to the financing agreements, Cameron LNG JV is restricted from making distributions to its project owners, including Sempra LNG, from January 1, 2021 until the earlier of September 30, 2021 and the achievement of financial completion. A delay could materially adversely impact our results of operations and cash flows until financial completion is achieved.

Sempra Energy also has provided a separate guarantee with a maximum exposure to loss of $979 million under the Support Agreement for the benefit of CFIN in connection with a separate financing arrangement intended to return equity to the Cameron LNG JV project owners. This guarantee terminates upon full repayment of the guaranteed debt by 2039, and the holders of the guarantee are permitted to put the $753 million of guaranteed debt to Sempra Energy on an annual basis and upon the occurrence of certain specified events, including if the guaranteed debt is not paid in accordance with its terms, and may determine to transfer some or all of the guaranteed debt to Sempra Energy at certain specified times.

The loan and other financing agreements related to all of these guarantees contain events of default customary for such financings, and the occurrence of any such default could result in a demand on these guarantees. If we are required to pay some or all of the amounts under these guarantees (or, with respect to the guarantee under the Support Agreement, the guaranteed debt becomes a direct financial obligation as a result of any put or call), any such payments could have a material adverse effect on our business, results of operations, cash flows, financial condition and/or prospects.

Domestic and international hydraulic fracturing operations are subject to political, economic and other uncertainties that could increase the costs of doing business, impose additional operating restrictions or delays, and adversely affect production of LNG and reduce or eliminate LNG export opportunities and demand.

Domestic and international hydraulic fracturing operations face political and economic risks and other uncertainties. Several states have adopted or are considering adopting regulations to impose more stringent permitting, public disclosure and well construction requirements on hydraulic fracturing operations. In addition to state laws, some local municipalities have adopted or are considering adopting land use restrictions, such as city ordinances, that may restrict the performance of or prohibit well drilling in general and/or hydraulic fracturing in particular. We cannot predict whether additional federal, state, local or international laws or regulations applicable to hydraulic fracturing will be enacted in the future and, if so, what actions any such laws or regulations would require or prohibit. The current U.S. Administration may have a negative view of hydraulic fracturing practices, which could increase the risk of regulation negatively affecting these operations. If additional levels of regulation or permitting requirements were imposed on hydraulic fracturing operations, natural gas prices in North America could rise, which in turn could materially adversely affect the relative pricing advantage that has existed in recent years in favor of domestic natural gas (based on Henry Hub pricing) and impact the supply of natural gas to Cameron LNG JV's Phase 1 project and our other LNG export projects currently in development. Increased regulation or difficulty in permitting of hydraulic fracturing, and any corresponding increase in domestic natural gas prices, could materially adversely affect demand for LNG exports and our ability to develop commercially viable LNG export facilities beyond Cameron LNG JV's Phase 1 facility currently in operation and ECA LNG Phase 1 currently in construction.

When our businesses enter into fixed-price long-term contracts to provide services or commodities, they are exposed to inflationary pressures such as rising commodity prices and interest rate risks.

Sempra Mexico and Sempra LNG generally endeavor to secure long-term contracts with customers for services and commodities in an effort to optimize the use of their facilities, reduce volatility in earnings and support the construction of new infrastructure. However, if these contracts are at fixed prices, the profitability of the contract may be materially adversely affected by inflationary pressures, including rising operational costs, costs of labor, materials, equipment and commodities, rising interest rates that affect financing costs and changes in applicable exchange rates. We may try to mitigate these risks by, among other things, using variable pricing tied to market indices, anticipating an escalation in costs when bidding on projects, providing for cost escalation, providing for direct pass-through of operating costs or entering into hedges. However, these measures, if implemented, may not fully offset any increases in operating expenses and/or financing costs caused by inflationary pressures, and using these measures could introduce additional risks. The failure to fully or substantially offset these increases could have a material adverse effect on our financial condition, cash flows and/or results of operations.

Increased competition could materially adversely affect us.

The markets in which we operate are characterized by numerous strong and capable competitors, many of whom have extensive and diversified development and/or operating experience (including both domestically and internationally) and financial resources

similar to or greater than ours. Further, in recent years, the natural gas pipeline, storage and LNG market segments have been characterized by strong and increasing competition both with respect to winning new development projects and acquiring existing assets. In Mexico, despite the commissioning of many new energy infrastructure projects by the CFE and other governmental agencies, competition for recent pipeline projects has been intense with numerous bidders competing aggressively for these projects. In addition, Sempra Mexico's natural gas distribution business faces increased competition now that its former exclusivity period with respect to its distribution zones has expired and other distributors are legally permitted to build and operate natural gas distribution systems and compete to attract customers in the locations where it operates. There is no assurance that we will be successful in bidding for new development opportunities in the U.S. or Mexico. These competitive factors could have a material adverse effect on our business, results of operations, cash flows and/or prospects.

We may not be able to enter into, maintain, extend or replace expiring long-term supply and sales agreements or long-term firm capacity agreements for our projects.

The ECA Regas Facility has long-term capacity agreements with a limited number of counterparties. Under these agreements, customers pay capacity reservation and usage fees to receive, store and regasify the customers' LNG. We also may enter into short-term and/or long-term supply agreements to purchase LNG to be received, stored and regasified for sale to other parties. The long-term supply agreements are intended to reduce our exposure to changes in natural gas prices through corresponding natural gas sales agreements or by tying LNG supply prices to prevailing natural gas market price indices. However, the long-term nature of these agreements also exposes us to risks, including increased credit risks that we discuss below under "Risks Related to Our Businesses Other Than the California Utilities and Our Interest in Oncor – Operational Risks." In addition, in 2020, the two third-party capacity customers at the ECA Regas Facility, Shell Mexico and Gazprom, asserted a breach of contract by IEnova and a force majeure event, seeking to terminate these capacity agreements and recover damages. One of these two customers has stopped making payments under its long-term capacity agreement (and IEnova has drawn on the customer's letter of credit provided as payment security), has submitted a request for arbitration of the dispute and has filed a constitutional challenge related to the dispute, and although the other customer is presently making regular payments under its agreement, it has joined the arbitration proceedings related to the dispute. In addition, one of these customers has commenced legal proceedings in Mexican court seeking modification or rescission of certain material permits for the ECA Regas Facility and ECA LNG. An unfavorable decision with respect to all or any part of these challenges and proceedings, or the potential for an extended dispute, could lead to significant legal and other costs and could materially adversely affect our relationships with these long-term customers and the reliability of revenues from the ECA Regas Facility. Any such event could have a material adverse effect on our financial condition, results of operations, cash flows and/or prospects.

For certain of our potential liquefaction export projects, definitive sale and purchase agreements have been secured for some of the anticipated nameplate capacity of the applicable facility. These agreements contain conditions of effectiveness, including, for example, our final investment decision for the applicable project within agreed timelines. If these conditions are not satisfied or if these agreements cease to be effective for other reasons, we could be subject to significant competition in securing replacement customers for these projects and we may not be able to do so under favorable terms, in a timely manner or at all. Moreover, some of the anticipated capacity for these potential projects is not currently subject to definitive customer agreements, and we may not be able to identify suitable customers or negotiate satisfactory sale and purchase agreements for all or a portion of this anticipated capacity in a timely manner or at all. Any such outcome could jeopardize our ability to develop these potential projects and receive an acceptable return on our investments in the projects, which could materially adversely affect our financial condition, results of operations, cash flows and/or prospects.

Sempra Mexico's and Sempra LNG's ability to enter into or replace existing long-term firm capacity agreements for their natural gas pipeline operations are dependent on demand for and supply of LNG and/or natural gas from their transportation customers, which may include our LNG export facilities. A significant sustained decrease in demand for and supply of LNG and/or natural gas from such customers could have a material adverse effect on our businesses, results of operations, cash flows and/or prospects.

The electric generation and wholesale power sales industries are highly competitive. As more plants are built, supplies of energy and related products exceed demand and competitive pressures increase, wholesale electricity prices may decline or become more volatile. Without the benefit of long-term power sales agreements, our revenues may be subject to increased price volatility, and we may be unable to sell the power that Sempra Mexico's facilities are capable of producing or to sell it at favorable prices, which could materially adversely affect our results of operations, cash flows and/or prospects.

Our businesses depend on the performance of counterparties, including with respect to long-term supply, sales and capacity agreements, and any failure by these parties to perform could result in substantial expenses and business

disruptions and exposure to commodity price risk and volatility, any of which could materially adversely affect our businesses, financial condition, cash flows, results of operations and/or prospects.

Our businesses and the businesses we invest in depend on business partners, customers, suppliers and other counterparties who owe money or commodities as a result of market transactions or other long-term agreements or arrangements to perform their obligations in accordance with such agreements or arrangements. Should they fail to perform, we may be required to enter into alternative arrangements or to honor the underlying commitment at then-current market prices. In such an event, we may incur additional losses to the extent of amounts already paid to such counterparties. Any efforts to enforce the terms of these agreements or arrangements through legal or other available means could involve significant time and costs and would be unpredictable and susceptible to failure. In addition, many such agreements and arrangements, including the relationships with the applicable counterparties, are important for the conduct and growth of our businesses. Further, we often extend credit to counterparties and customers and, although we perform significant credit analyses prior to extending credit, we may not be able to collect amounts owed to us. The failure of any of our counterparties to perform in accordance with their agreements or arrangements with us could materially adversely affect our businesses, results of operations, cash flows, financial condition and/or prospects.

Our long-term supply, sales and firm capacity contracts increase our credit risk if our counterparties fail to perform or become unable to meet their contractual obligations. For example, if the counterparties, customers or suppliers to one or more of the key agreements for the ECA Regas Facility or Sempra Mexico's other long-term capacity agreements for the transportation of natural gas and LPG were to fail to perform or become unable to meet their contractual obligations on a timely basis, it could have a material adverse effect on our results of operations, cash flows and/or prospects. In addition, for Cameron LNG JV's Phase 1 project, Cameron LNG JV has 20-year liquefaction and regasification tolling capacity agreements in place with affiliates of TOTAL SE, Mitsubishi Corporation and Mitsui & Co., Ltd. that collectively subscribe for the full nameplate capacity of the facility. If the counterparties to these tolling agreements were to fail to perform or become unable to meet their contractual obligations to Cameron LNG JV on a timely basis, it could have a material adverse effect on our results of operations, cash flows and/or prospects.

Certain past assertions made by the CFE and Mexican government, coupled with past arbitration requests and other statements and actions by the CFE, raise serious concerns over whether the terms of Sempra Mexico's gas pipeline contracts will be honored or disputed in arbitration. The failure by the CFE or other customers to honor the terms of Sempra Mexico's gas pipeline contracts and the inability to enter into gas pipeline contracts in the future could have a material adverse effect on Sempra Energy's cash flows, financial condition, results of operations and/or prospects.

Sempra Mexico's and Sempra LNG's obligations and those of their suppliers for LNG are contractually subject to suspension or termination for "force majeure" events, which generally are beyond the control of the parties, and substantial limitations of remedies for other failures to perform, including limitations on damages to amounts that could be substantially less than those necessary to provide full recovery of costs for any breach of the agreements, which in each case could have a material adverse effect on our results of operations, cash flows, financial condition and/or prospects.

Sempra Mexico and Sempra LNG engage in JVs or invest in companies in which other equity partners may have or share with us control over the applicable project or investment. We discuss the risks related to these arrangements above under "Risks Related to Our Businesses Other Than the California Utilities and Our Interest in Oncor – Operational Risks."

We rely on transportation assets and services, much of which we do not own or control, to deliver natural gas and electricity.

We depend on electric transmission lines, natural gas pipelines and other transportation facilities and services owned and operated by third parties to, among other things:

- deliver the natural gas and electricity and LPG we sell to wholesale markets or that we use for our natural gas liquefaction export facilities
- supply natural gas to our gas storage and electric generation facilities
- provide retail energy services to customers

Sempra Mexico and Sempra LNG also depend on natural gas pipelines to interconnect with the ultimate source or customers of the commodities they are transporting, and also on specialized ships to transport LNG. Sempra Mexico's subsidiaries also rely on transmission lines to sell electricity to their customers. If transportation is disrupted, or if capacity is inadequate, we may be unable to sell and deliver our commodities, electricity and other services to some or all of our customers. As a result, we may be responsible for damages incurred by our customers, such as the additional cost of acquiring alternative electricity, natural gas, LNG or LPG supplies at then-current spot market rates, or we could lose customers that may be difficult to replace in competitive market conditions, any of which could have a material adverse effect on our businesses, financial condition, cash flows, results of operations and/or prospects.

Foreign Operations Risks

Our international businesses and operations expose us to legal, tax, economic, geopolitical, management oversight, foreign currency and inflation risks and challenges.

Overview

In Mexico, we own or have interests in natural gas distribution and transportation assets, LPG storage and transportation facilities, ethane transportation assets, electricity generation facilities, LNG facilities and ethane and liquid fuels marine and inland terminals. We also do business with companies based in foreign markets, including particularly our LNG export operations. Developing infrastructure projects, owning energy assets, operating businesses and contracting with companies in foreign jurisdictions subjects us to significant and complex management, security, political, legal, economic and financial risks that vary by country, many of which may differ from and potentially be greater than those associated with our wholly domestic businesses, including, among others:

- changes in foreign laws and regulations, including tax, trade and environmental laws and regulations, and U.S. laws and regulations that are related to foreign operations or doing business internationally, including U.S. trade and related policies as we discuss below
- actions by local regulatory bodies, including setting of rates and tariffs that may be earned by our businesses
- adverse changes in economic or market conditions, limitations on ownership in foreign countries and inadequate enforcement of regulations
- risks related to currency exchange and convertibility, including vulnerability to appreciation and depreciation of foreign currencies against the U.S. dollar, as we discuss below
- permitting and regulatory compliance
- adverse rulings by foreign courts or tribunals, challenges to or difficulty obtaining permits or approvals, difficulty enforcing contractual and property rights, differing legal standards for lawsuits or other proceedings, and unsettled property rights and titles in Mexico
- energy policy reform, including that which may result in adverse changes to and/or difficulty enforcing existing contracts or challenges completing and operating our renewable energy facilities in Mexico, as we discuss below
- expropriation or theft of assets
- adverse changes in the stability of the governments or the economies in the countries in which we operate or do business
- violence, criminality, or social or political instability
- compliance with the U.S. Foreign Corrupt Practices Act and similar laws
- with respect to our non-utility international business activities, changes in the priorities and budgets of international customers, which may be driven by many of the factors listed above, among others

Mexican Government Influence on Economic and Energy Matters

The Mexican government has exercised, and continues to exercise, significant influence over the Mexican economy and energy landscape. Mexican governmental actions concerning the economy, energy laws and policies and certain governmental agencies, including the CFE, could have a significant impact on Mexican private sector entities in general and on IEnova's operations in particular. For example, the CFE and the Mexican government took certain actions in 2019 that raised serious concerns over whether the terms of Sempra Mexico's gas pipeline contracts would be honored or disputed in arbitration. IEnova and other affected natural gas pipeline developers joined the CFE and the President of Mexico's representatives in negotiations and were able to resolve the dispute, but we cannot predict whether similar disputes may arise and/or whether such disputes will be resolved on favorable terms to us, if at all. In addition, in 2020, certain Mexican governmental agencies issued orders and regulations that would reduce or limit the renewable energy sector's participation in the country's energy market. Although many of these measures have been stayed temporarily as a result of legal complaints filed with applicable Mexican courts, an unfavorable final decision on these complaints, or the potential for an extended dispute, could impact our ability to successfully complete construction of our facilities in Mexico, or to complete them in a timely manner and within expected budgets, may impact our ability to operate our facilities already in service in Mexico and may adversely affect our ability to develop new renewable energy projects in Mexico. Moreover, electricity prices in Mexico are currently subsidized by the Mexican federal government, which could place certain of IEnova's renewable energy projects at a competitive disadvantage. Additionally, the President of Mexico presented on February 1, 2021 an initiative of amendment of the electrical industry law to include some public policies that are being challenged in court (such as establishing priority of dispatch for CFE plants over privately owned plants) and other threats to renewable energy. On February 3, 2021, Mexico's Supreme Court invalidated sections of the Policy for Reliability, Safety, Continuity and Quality of the National Electric System. We cannot predict the impact that the political, social, and judicial

landscape, including multiparty rule and trial resolutions, will have on the Mexican economy and our business in Mexico. Such circumstances may materially adversely affect our cash flows, financial condition, results of operations and/or prospects in Mexico, which could have a material adverse effect on Sempra Energy's consolidated financial statements. We discuss these matters further in Note 16 of the Notes to Consolidated Financial Statements.

Foreign Currency and Inflation

We have significant foreign operations in Mexico, which pose material foreign currency and inflation risks. Exchange and inflation rates with respect to the Mexican peso and fluctuations in those rates may have an impact on our revenue, costs or cash flows from our international operations, which could materially adversely affect our financial condition, results of operations and/or cash flows. Our Mexican subsidiary, IEnova, has U.S. dollar-denominated monetary assets and liabilities that give rise to Mexican currency exchange rate movements for Mexican income tax purposes. It also has significant deferred income tax assets and liabilities, which are denominated in the Mexican peso and must be translated to U.S. dollars for financial reporting purposes. In addition, monetary assets and liabilities and certain nonmonetary assets and liabilities are adjusted for Mexican inflation for Mexican income tax purposes. We may attempt to hedge material cross-currency transactions and earnings exposure through various means, including financial instruments and short-term investments, but these hedges may not successfully achieve our objectives of mitigating earnings volatility that would otherwise occur due to exchange rate fluctuations. Because we do not hedge our net investments in foreign countries, we are susceptible to volatility in OCI caused by exchange rate fluctuations for entities whose functional currencies are not the U.S. dollar. Moreover, Mexico has experienced periods of high inflation and exchange rate instability in the past, and severe devaluation of the Mexican peso could result in governmental intervention to institute restrictive exchange control policies, as has occurred before in Mexico and other Latin American countries. We discuss our foreign currency exposure at our Mexican subsidiaries in "Part II – Item 7. MD&A" and "Part II – Item 7A. Quantitative and Qualitative Disclosures About Market Risk."

U.S. Foreign Policy, including Trade and Related Matters

All our international business activities are sensitive to geo-political uncertainties and related factors, including U.S. foreign policy and the current U.S. position with respect to trade relations and related matters. The last U.S. Administration made substantial changes to or withdrew from trade agreements that affect our operations. For example, the USMCA, which replaced the North American Free Trade Agreement as the principal trade agreement between the U.S., Mexico and Canada, went into force in July 2020, and its long-term impact on our operations remains uncertain. With the current U.S. Administration having taken power in January 2021, the status of U.S. trade policy and U.S. involvement in international trade agreements going forward remains to be determined and could drastically shift in a manner that increases or mitigates adverse effects on our businesses. The last U.S. Administration also implemented changes to U.S. immigration policy and other policies that impact trade, including increasing tariffs, and the current U.S. Administration has taken steps to reverse some of these changes and could take other material action with respect to these matters. Such policy changes or other actions could adversely affect imports and exports between Mexico and the U.S. and negatively impact the U.S., Mexican and other economies and the companies with whom we conduct business, which could materially adversely affect our business, financial condition, results of operations, cash flows and/or prospects.

Financial Risks

Our businesses are exposed to market risks, including fluctuations in commodity prices, and our businesses, financial condition, results of operations, cash flows and/or prospects may be materially adversely affected by these risks.

We buy energy-related commodities from time to time for LNG facilities or power plants to satisfy contractual obligations with customers. The regional and other markets in which we purchase these commodities are competitive and can be subject to significant pricing volatility. Our revenues, results of operations and/or cash flows could be materially adversely affected if the prevailing market prices for natural gas, LNG, electricity or other commodities that we buy change in a direction or manner not anticipated and for which we have not provided adequately through purchase or sale commitments or other hedging transactions. Unanticipated changes in market prices for energy-related commodities can result from multiple factors, such as adverse weather conditions, change in supply and demand, availability of competitively priced alternative energy sources, commodity production levels and storage capacity, energy and environmental regulations and legislation, and economic and financial market conditions, among other things.

Legal and Regulatory Risks

Our businesses are subject to various legal actions challenging our property rights and permits, and our properties in Mexico could be subject to expropriation by the Mexican government.

We are engaged in disputes regarding our title to the property in Mexico where our ECA Regas Facility is situated and our proposed ECA LNG liquefaction export projects are expected to be situated, as we discuss in Note 16 of the Notes to Consolidated Financial Statements. In addition, we may have or seek to obtain long-term leases or rights-of-way from governmental agencies or other third parties to operate our energy infrastructure located on land we do not own for a specific period of time. If we are unable to defend and retain title to the properties we own on which our current and proposed facilities are located, or if we are unable to obtain or retain rights to construct and operate our existing or proposed facilities on the properties we do not own on reasonable financial and other terms, we could lose our rights to occupy and use these properties and the related facilities, which could delay or derail proposed projects, increase our development costs, and result in breaches of one or more permits or contracts related to the affected facilities that could lead to legal costs, fines or penalties. In addition, disputes regarding any of these properties could make project financing and finding or maintaining suitable partners and customers difficult and could hinder or halt our ability to construct and, if completed, operate the affected facilities or proposed projects. If we are unable to occupy and use the properties and related facilities on which our existing or proposed infrastructure projects are located, it could have a material adverse effect on our businesses, financial condition, results of operations, cash flows and/or prospects.

In addition, IEnova's business and assets in energy generation, storage, transportation and distribution may be considered by the Mexican government to be a public service or essential for the provision of a public service, in which case these assets and the related business could be subject to expropriation or nationalization, loss of concessions, renegotiation or annulment of existing contracts, and other similar risks. Any such occurrence could materially adversely affect our businesses, financial condition, results of operations, cash flows and/or prospects.

Risks Related to Our Proposed IEnova Exchange Offer and Our Proposed Transaction Related to Sempra Infrastructure Partners

Our ability to complete our proposed IEnova exchange offer is subject to various conditions and other risks and uncertainties that could cause the transaction to be abandoned, delayed or restructured, which could materially adversely affect us.

In December 2020, we announced our intention to launch a stock-for-stock exchange offer to acquire all outstanding publicly held shares of IEnova. The completion of this transaction is subject to governmental and regulatory consents, approvals and rulings, including from the SEC, CNBV and Mexican Stock Exchange, and other closing conditions. These and other governmental and regulatory authorities may not provide the consents, approvals and rulings that are needed to complete this transaction or could seek to block or challenge the transaction. In addition, other closing conditions to consummate the proposed transaction may not be satisfied. For example, the completion of the exchange offer is subject to the condition that the IEnova shares validly tendered and not withdrawn, together with all IEnova shares that we directly or indirectly own, represent no less than 95% of all of IEnova's outstanding ordinary shares, determined on the basis of all outstanding ordinary shares and on a fully diluted basis. Although we have the right to waive this condition, there is no assurance that we would do so, and we have no control over the level of participation in the exchange offer by IEnova's public shareholders. As a result, we may decide not to complete the exchange offer if this condition is not satisfied. If the required consents, approvals and rulings are not received or the other closing conditions are not satisfied or waived, or if any of the foregoing is not achieved in a timely manner or on satisfactory terms, then the proposed exchange offer may be abandoned and our results of operations, cash flows, financial condition and/or prospects could be materially adversely affected.

Our ability to complete the proposed exchange offer is subject to a number of other risks and uncertainties, many of which are not in our control, including, among others, if another party were to offer to acquire the publicly held shares of IEnova on terms that are more favorable than the terms we offer, as well as industry and market conditions. These risks and uncertainties could alter the proposed structure of the transaction or negatively affect our ability to complete the transaction in a timely manner or at all.

The occurrence of any of the foregoing risks individually or in combination could lead to the abandonment, delay or restructuring of the proposed exchange offer, in which case we would not be able to realize the potential benefits of the transaction but would still be required to pay the substantial costs incurred in connection with pursuing it, which could materially adversely affect our results of operations, cash flows, financial condition and/or prospects and the market value of our common stock, preferred stock and debt securities.

The proposed exchange offer, if completed, may not have the positive effects we anticipate, which may negatively affect the market price of our common stock, preferred stock and debt securities.

We anticipate that the proposed exchange offer, if completed on the currently contemplated terms, will, over the long-term, have a positive impact on our cash flows, results of operations and financial condition. This expectation is based on current market conditions and is subject to a number of assumptions, estimates, projections and other uncertainties, including assumptions about the results of operations of IEnova after the proposed transaction and the costs to us to complete the transaction. If the transaction is completed, we may find that IEnova does not perform in accordance with our expectations for a number of reasons, including those we discuss above under "Risks Related to Our Businesses Other Than the California Utilities and Our Interest in Oncor." In addition, we may fail to realize some or any of the benefits we expect from the transaction, we may incur material additional transaction costs, and we may be subject to other factors that cause our preliminary estimates to be incorrect. As a result, there is no assurance that the proposed exchange offer will positively impact our cash flows, results of operations, financial condition or other aspects of our performance, and it is possible that the transaction may have an adverse effect, which could be material, on our results of operations, cash flows, financial condition and/or prospects, any of which could materially adversely affect the market price of our common stock, preferred stock and debt securities.

We expect to issue shares of our common stock in the proposed exchange offer, which would dilute the voting interests and could dilute the economic interests of our current shareholders and may adversely affect the market value of our common stock and preferred stock.

In the proposed transaction, we intend to offer to acquire up to 100% of the publicly held shares of IEnova in exchange for shares of our common stock at an exchange ratio of 0.0313 shares of our common stock for each one IEnova ordinary share, which exchange ratio remains subject to approval by the Sempra Energy board of directors. If all publicly held shares of IEnova are validly tendered into and not withdrawn from this exchange offer, and no IEnova shares are issued after February 22, 2021, then up to 13,560,497 shares of our common stock would be issued in the exchange offer. Although the exact number of shares of our common stock we may issue is uncertain and subject to a number of factors, many of which are beyond our control, and we may in fact issue fewer shares than anticipated, the issuance of a substantial number of additional shares of our common stock in this exchange offer would dilute the voting interests of our shareholders. In addition, the issuance of additional shares of our common stock without a commensurate increase in our consolidated earnings would decrease our EPS. Any of the foregoing may have a material adverse effect on the market value of our common stock.

The proposed exchange offer, if completed, would subject us to additional regulation and liability in Mexico.

If we are able to complete the proposed exchange offer, we intend to list our common stock for trading on the Mexican Stock Exchange and register our common stock with the CNBV. Such listing and registration would subject us to additional filing and other requirements in Mexico that could involve significant costs and materially distract our personnel from their other responsibilities. In addition, if we become an issuer with stock registered in Mexico, the CNBV, as the Mexican securities market regulator, would have surveillance authority over Sempra Energy. This means that the CNBV would have the authority to make inspections of Sempra Energy's business, primarily in the form of requests for information and documents; impose fines or other penalties or sanctions for violations of Mexican securities laws and regulations; and seek criminal liability for actions conducted or with effects in Mexico. In addition, Sempra Energy's directors and officers would be subject to additional liability and trading restrictions with respect to their shares of Sempra Energy common stock under the securities laws and regulations in Mexico, which could make it more difficult to attract, recruit and retain qualified people for these positions. The occurrence of any of these risks could materially adversely affect our business, results of operations, cash flows, financial condition and/or prospects.

In addition, although we intend to delist IEnova's shares from the Mexican Stock Exchange and cancel the registration of these shares with the CNBV if the proposed exchange offer is completed, such delisting and deregistration are subject to a number of requirements under applicable Mexican law and regulations, including the affirmative vote of no less than 95% of IEnova's ordinary shares at a shareholders' meeting held for that purpose. If we are not able to acquire sufficient shares in the exchange offer to satisfy this threshold, then we likely would not be able to obtain the votes necessary to effect such delisting and deregistration. In that case, both Sempra Energy and IEnova would be subject to regulation and liability as listed companies under Mexican securities laws after the exchange offer is completed, which would involve significant burdens on both companies that could negatively affect our businesses, results of operations, cash flows and/or financial condition.

Our proposed transaction related to Sempra Infrastructure Partners is subject to a number of risks and uncertainties.

In December 2020, we announced our intention to sell NCI in Sempra Infrastructure Partners, which represents the combined businesses of Sempra LNG and IEnova. Our ability to complete this transaction is subject to a number of risks, including, among others, the ability to identify a suitable partner to purchase such NCI; negotiate the terms of equity sale, shareholder and other governance agreements with such partner; and obtain governmental, regulatory and third-party consents and approvals and satisfy any other closing conditions to complete this transaction. Although the structure and terms of this transaction remain to be

determined, the governmental and regulatory authorities with jurisdiction over the transaction could seek to block or challenge it or could impose requirements or obligations as conditions to its approval. If any of these circumstances were to occur, or if we are not able to achieve all of the foregoing in a timely manner or on satisfactory terms, then the proposed transaction may be abandoned and our prospects could be materially adversely affected.

Moreover, even if we are able to complete this transaction, it may not result in the benefits we presently anticipate. Although we expect that this transaction could, over the long-term, have a positive impact on our cash flows, results of operations and financial condition, this expectation is based on a number of assumptions, estimates, projections and other uncertainties about, among other things, the terms of the sale of NCI in Sempra Infrastructure Partners, the identity of the buyer of such NCI, the shareholder and other governance arrangements we make with such buyer, the costs to us to complete this transaction, the results of operations of Sempra LNG and IEnova after the proposed transaction, and other factors beyond our control. In light of the early stage of this proposed transaction, there are significant uncertainties regarding its ultimate impact on our businesses, and our current expectations about the potential benefits of this transaction could turn out to be wrong.

The proposed sale of NCI in Sempra Infrastructure Partners will reduce our ownership interest in Sempra Infrastructure Partners. Any decrease in our ownership of Sempra Infrastructure Partners would also decrease our share of the cash flows, profits and other benefits these businesses currently or may in the future produce, which could materially adversely affect our results of operations, cash flows, financial condition and/or prospects.

ITEM 1B. UNRESOLVED STAFF COMMENTS

None.

ITEM 2. PROPERTIES

We own or lease land, warehouses, offices, operating and maintenance centers, shops, service facilities and equipment necessary to conduct our businesses. Each of our operating segments currently has adequate space and, if we needed more space, we believe it is readily available. We discuss properties related to our electric, natural gas and energy infrastructure operations in “Part I – Item 1. Business” and Note 1 of the Notes to Consolidated Financial Statements.

ITEM 3. LEGAL PROCEEDINGS

We are not party to, and our property is not the subject of, any material pending legal proceedings (other than ordinary routine litigation incidental to our businesses) except for the matters described in Notes 15 and 16 of the Notes to Consolidated Financial Statements, “Part I – Item 1A. Risk Factors” and “Part II – Item 7. MD&A – Capital Resources and Liquidity.”

ITEM 4. MINE SAFETY DISCLOSURES

Not applicable.

PART II.

ITEM 5. MARKET FOR REGISTRANT'S COMMON EQUITY, RELATED STOCKHOLDER MATTERS AND ISSUER PURCHASES OF EQUITY SECURITIES

MARKET INFORMATION

Sempra Energy Common Stock

Our common stock is traded on the NYSE under the ticker symbol SRE. At February 22, 2021, there were approximately 23,345 record holders of our common stock.

SoCalGas and SDG&E Common Stock

Information concerning dividend declarations for SoCalGas and SDG&E is included in their Statements of Changes in Shareholders' Equity and Statements of Changes in Equity, respectively, set forth in the consolidated financial statements.

PURCHASES OF EQUITY SECURITIES BY THE ISSUER AND AFFILIATED PURCHASERS

On July 6, 2020, our board of directors authorized the repurchase of shares of our common stock at any time and from time to time in an aggregate amount not to exceed the lesser of $2 billion or amounts spent to purchase no more than 25 million shares. This repurchase authorization was publicly announced on August 5, 2020 and has no expiration date. No shares have been repurchased under this authorization.

We may also, from time to time, purchase shares of our common stock to which participants would otherwise be entitled from LTIP participants who elect to sell a sufficient number of shares in connection with the vesting of RSUs and stock options in order to satisfy minimum statutory tax withholding requirements.

ITEM 6. SELECTED FINANCIAL DATA

FIVE-YEAR SUMMARIES

The following tables present selected financial data of Sempra Energy, SDG&E and SoCalGas for the five years ended December 31, 2020. The data is derived from the audited consolidated financial statements of each company. You should read this information in conjunction with "Part II – Item 7. MD&A" and the consolidated financial statements and notes contained in this annual report on Form 10-K.

FIVE-YEAR SUMMARY OF SELECTED FINANCIAL DATA – SEMPRA ENERGY CONSOLIDATED

(In millions, except per share amounts)

	At December 31 or for the years then ended				
	2020	2019	2018	2017	2016
Revenues:					
Utilities					
Natural gas	$ 5,411	$ 5,185	$ 4,540	$ 4,361	$ 4,050
Electric	4,614	4,263	3,999	3,929	3,748
Energy-related businesses	1,345	1,381	1,563	1,350	829
Total revenues	$ 11,370	$ 10,829	$ 10,102	$ 9,640	$ 8,627
Income from continuing operations, net of income tax	$ 2,255	$ 1,999	$ 938	$ 382	$ 1,292
Income (loss) from discontinued operations, net of income tax	1,850	363	188	(31)	227
Net income	4,105	2,362	1,126	351	1,519
Earnings attributable to noncontrolling interests	(172)	(164)	(76)	(94)	(148)
Preferred dividends	(168)	(142)	(125)	—	—
Preferred dividends of subsidiary	(1)	(1)	(1)	(1)	(1)
Earnings attributable to common shares	$ 3,764	$ 2,055	$ 924	$ 256	$ 1,370
Basic EPS:					
Earnings from continuing operations	$ 6.61	$ 6.22	$ 2.86	$ 1.25	$ 4.66
Earnings (losses) from discontinued operations	$ 6.32	$ 1.18	$ 0.59	$ (0.23)	$ 0.82
Earnings	$ 12.93	$ 7.40	$ 3.45	$ 1.02	$ 5.48
Diluted EPS:					
Earnings from continuing operations	$ 6.58	$ 6.13	$ 2.84	$ 1.24	$ 4.65
Earnings (losses) from discontinued operations	$ 6.30	$ 1.16	$ 0.58	$ (0.23)	$ 0.81
Earnings	$ 12.88	$ 7.29	$ 3.42	$ 1.01	$ 5.46
Dividends declared per common share	$ 4.18	$ 3.87	$ 3.58	$ 3.29	$ 3.02
Effective income tax rate	14 %	18 %	(10)%	73 %	22 %
Weighted-average rate base:					
SDG&E	$ 11,109	$ 10,467	$ 9,619	$ 8,549	$ 8,019
SoCalGas	$ 8,228	$ 7,401	$ 6,413	$ 5,493	$ 4,775
AT DECEMBER 31					
Current assets	$ 4,511	$ 3,339	$ 3,645	$ 3,341	$ 3,110
Total assets	$ 66,623	$ 65,665	$ 60,638	$ 50,454	$ 47,786
Current liabilities	$ 6,839	$ 9,150	$ 7,523	$ 6,635	$ 5,927
Short-term debt[1]	$ 2,425	$ 5,031	$ 3,668	$ 2,790	$ 2,542
Long-term debt and finance leases (excludes current portion)[2]	$ 21,781	$ 20,785	$ 20,903	$ 15,829	$ 13,865
Sempra Energy shareholders' equity	$ 23,373	$ 19,929	$ 17,138	$ 12,670	$ 12,951
Common shares outstanding	288.5	291.7	273.8	251.4	250.2
Book value per common share	$ 70.11	$ 60.58	$ 54.35	$ 50.40	$ 51.77

(1) *Includes long-term debt due within one year and current portion of finance lease obligations. Excludes discontinued operations.*

(2) *Excludes discontinued operations.*

In 2020, SoCalGas recorded charges of $307 million ($233 million after tax) in Aliso Canyon Litigation and Regulatory Matters on the SoCalGas and Sempra Energy Consolidated Statements of Operations related to settlement discussions in connection with civil litigation and regulatory matters. We discuss these matters in Note 16 of the Notes to Consolidated Financial Statements.

In 2020, we completed the sale of our equity interests in our Peruvian businesses for cash proceeds of $3,549 million, net of transaction costs and as adjusted for post-closing adjustments, and recorded a pretax gain of $2,271 million ($1,499 million after tax) in discontinued operations. Also in 2020, we completed the sale of our equity interests in our Chilean businesses for cash proceeds of $2,216 million, net of transaction costs and as adjusted for post-closing adjustments, and recorded a pretax gain of $628 million ($248 million after tax) in discontinued operations. We discuss discontinued operations in Note 5 of the Notes to Consolidated Financial Statements.

In 2020, we recorded a charge of $100 million in Equity Earnings on Sempra Energy's Consolidated Statement of Operations for losses from our investment in RBS Sempra Commodities. We discuss the charge further in Note 16 of the Notes to Consolidated Financial Statements.

In 2020, Sempra Energy completed a registered public offering of our series C preferred stock. This offering provided net proceeds of $889 million. We used the net proceeds for working capital and other general corporate purposes, including the repayment of indebtedness.

In 2020, Sempra Energy entered into and completed an ASR program under which we paid $500 million to repurchase 4,089,375 shares of our common stock at an average price of $122.27 per share.

In 2019, Sempra Renewables completed the sale of its remaining U.S. wind assets and investments and recognized a pretax gain on sale of $61 million ($45 million after tax and NCI). In 2018, Sempra Renewables completed the sale of its U.S. operating solar assets, solar and battery storage development projects, as well as an interest in one wind facility, and recognized a pretax gain on sale of $513 million ($367 million after tax). We discuss the sales and related gains in Note 5 of the Notes to Consolidated Financial Statements.

In 2018, we recorded impairment charges of $1.1 billion ($629 million after tax and NCI) at Sempra LNG, $200 million ($145 million after tax) at Sempra Renewables and $65 million at Parent and other. We discuss the impairments in Notes 5, 6 and 12 of the Notes to Consolidated Financial Statements.

In 2018, Sempra Energy completed registered public offerings of our common stock (including shares offered pursuant to forward sale agreements), series A preferred stock, series B preferred stock and long-term debt. These offerings, including settlement of the forward sale agreements, provided total net proceeds of approximately $4.5 billion in equity and $4.9 billion in debt. A portion of these proceeds were used to partially fund the acquisition of an indirect, 100% interest in Oncor Holdings, which we account for as an equity method investment. We discuss the acquisition and equity method investment further in Notes 5 and 6 of the Notes to Consolidated Financial Statements.

In 2017, Sempra Energy's income tax expense included $870 million related to the impact of the TCJA.

In 2017, we recorded a charge of $208 million (after tax) for the write-off of SDG&E's wildfire regulatory asset.

In 2017 and 2016, Sempra Mexico recognized impairment charges of $47 million (after NCI) and $90 million (after tax and NCI), respectively, related to assets held for sale at TdM.

In 2016, we recorded a $350 million (after tax and NCI) noncash gain associated with the remeasurement of Sempra Mexico's equity interest in IEnova Pipelines.

In 2016, IEnova completed a private offering in the U.S. and outside of Mexico and a concurrent public offering in Mexico of common stock.

We discuss litigation and other contingencies in Note 16 of the Notes to Consolidated Financial Statements.

FIVE-YEAR SUMMARIES OF SELECTED FINANCIAL DATA – SDG&E AND SOCALGAS

(Dollars in millions)

	At December 31 or for the years then ended				
	2020	2019	2018	2017	2016
SDG&E:					
Statement of Operations Data:					
Operating revenues	$ 5,313	$ 4,925	$ 4,568	$ 4,476	$ 4,253
Operating income	1,373	1,313	1,010	709	976
Earnings attributable to common shares	824	767	669	407	570
Balance Sheet Data:					
Total assets	$ 22,311	$ 20,560	$ 19,225	$ 17,844	$ 17,719
Short-term debt[1]	611	136	372	473	191
Long-term debt and finance leases (excludes current portion)	6,866	6,306	6,138	5,335	4,658
SDG&E shareholder's equity	7,730	7,100	6,015	5,598	5,641
SoCalGas:					
Statement of Operations Data:					
Operating revenues	$ 4,748	$ 4,525	$ 3,962	$ 3,785	$ 3,471
Operating income	785	956	591	627	551
Dividends on preferred stock	1	1	1	1	1
Earnings attributable to common shares	504	641	400	396	349
Balance Sheet Data:					
Total assets	$ 18,460	$ 17,077	$ 15,389	$ 14,159	$ 13,424
Short-term debt[1]	123	636	259	617	62
Long-term debt and finance leases (excludes current portion)	4,763	3,788	3,427	2,485	2,982
SoCalGas shareholders' equity	5,144	4,748	4,258	3,907	3,510

(1) *Includes long-term debt due within one year and current portion of finance lease obligations.*

ITEM 7. MANAGEMENT'S DISCUSSION AND ANALYSIS OF FINANCIAL CONDITION AND RESULTS OF OPERATIONS

OVERVIEW

In 2018, we set out to simplify Sempra Energy's business model and sharpen our focus on our mission to be North America's premier energy infrastructure company. Our 2020 operational and financial results reflect our focus on executing this strategy:

- We completed the sales of our South American businesses
- We achieved full commercial operations at Cameron LNG JV Phase 1
- We reached a final investment decision for ECA LNG Phase 1
- We executed well on our planned capital expenditures

Our South American businesses and certain activities associated with those businesses are presented as discontinued operations for all periods presented. Nominal activities that are not classified as discontinued operations have been subsumed into Parent and other. Our discussions below exclude discontinued operations, unless otherwise noted.

RESULTS OF OPERATIONS

We discuss the following in Results of Operations:

- Overall results of operations of Sempra Energy Consolidated;
- Segment results;
- Significant changes in revenues, costs and earnings; and
- Impact of foreign currency and inflation rates on our results of operations.

OVERALL RESULTS OF OPERATIONS OF SEMPRA ENERGY CONSOLIDATED

In 2020 compared to 2019, our earnings increased by $1,709 million to $3,764 million and our diluted EPS increased by $5.59 to $12.88. In 2019 compared to 2018, our earnings increased by $1,131 million to $2,055 million and our diluted EPS increased by $3.87 to $7.29. The change in diluted EPS for 2020 and 2019 included decreases of $(0.46) and $(0.33), respectively, attributable to an increase in weighted-average common shares outstanding. Our earnings and diluted EPS were impacted by variances discussed in "Segment Results" below.

SEGMENT RESULTS

This section presents earnings (losses) by Sempra Energy segment, as well as Parent and other and discontinued operations, and a related discussion of the changes in segment earnings (losses). Throughout the MD&A, our reference to earnings represents earnings attributable to common shares. Variance amounts presented are the after-tax earnings impact (based on applicable statutory tax rates), unless otherwise noted, and before NCI, where applicable.

SEMPRA ENERGY EARNINGS (LOSSES) BY SEGMENT

(Dollars in millions)

	Years ended December 31,		
	2020	2019	2018
SDG&E	$ 824	$ 767	$ 669
SoCalGas	504	641	400
Sempra Texas Utilities	579	528	371
Sempra Mexico	259	253	237
Sempra LNG	320	(6)	(617)
Sempra Renewables	—	59	328
Parent and other[(1)]	(562)	(515)	(620)
Discontinued operations	1,840	328	156
Earnings attributable to common shares	$ 3,764	$ 2,055	$ 924

(1) Includes intercompany eliminations recorded in consolidation and certain corporate costs.

SDG&E

The increase in earnings of $57 million (7%) in 2020 compared to 2019 was primarily due to:

- $62 million due to the release of a regulatory liability in 2020 related to 2016-2018 forecasting differences that are not subject to tracking in the income tax expense memorandum account, which we discuss in Note 4 of the Notes to Consolidated Financial Statements;
- $52 million higher electric transmission margin, including an increase in authorized ROE and the following impacts from the March 2020 FERC-approved TO5 settlement:
  - $18 million to conclude a rate base matter, and
  - $9 million favorable impact from the retroactive application of the final TO5 settlement for 2019;
- $23 million higher AFUDC equity; and
- $16 million higher income tax benefits from flow-through items; **offset by**
- $44 million expected to be refunded to customers and a fine related to the Energy Efficiency Program inquiry, which we discuss in Note 4 of the Notes to Consolidated Financial Statements;
- $31 million income tax benefit in 2019 from the release of a regulatory liability established in connection with 2017 tax reform for excess deferred income tax balances that the CPUC directed to be allocated to shareholders in a January 2019 decision;
- $13 million higher amortization and accretion of the Wildfire Fund asset and liability, respectively; and
- $12 million higher net interest expense.

The increase in earnings of $98 million (15%) in 2019 compared to 2018 was primarily due to:

- $71 million higher CPUC base operating margin authorized for 2019, net of operating expenses;
- $31 million income tax benefit from the release of a regulatory liability established in connection with 2017 tax reform for excess deferred income tax balances that the CPUC directed to be allocated to shareholders in a January 2019 decision; and
- $11 million higher margin from electric transmission operations, net of a FERC formulaic rate adjustment benefit in 2018; **offset by**
- $10 million amortization of the Wildfire Fund asset.

SoCalGas

The decrease in earnings of $137 million (21%) in 2020 compared to 2019 was primarily due to:

- $233 million from impacts associated with Aliso Canyon natural gas storage facility litigation and regulatory matters;
- $38 million income tax benefit in 2019 from the impact of the January 2019 CPUC decision allocating certain excess deferred income tax balances to shareholders; and
- $12 million higher net interest expense; **offset by**
- $64 million due to the release of a regulatory liability in 2020 related to 2016-2018 income tax expense forecasting differences;
- $29 million higher CPUC base operating margin authorized for 2020, net of operating expenses;
- $21 million impairment of non-utility native gas assets in 2019;
- $10 million higher income tax benefits from flow-through items; and
- $8 million in penalties in 2019 related to the SoCalGas billing practices OII.

The increase in earnings of $241 million in 2019 compared to 2018 was primarily due to:

- $216 million higher CPUC base operating margin authorized for 2019, net of operating expenses;
- $38 million income tax benefit from the impact of the January 2019 CPUC decision allocating certain excess deferred income tax balances to shareholders;
- $22 million from impacts associated with Aliso Canyon natural gas storage facility litigation in 2018; and
- $14 million higher income tax benefits from flow-through items; **offset by**
- $21 million impairment of non-utility native gas assets in 2019;
- $18 million higher net interest expense; and
- $8 million penalties in 2019 related to the SoCalGas billing practices OII.

Sempra Texas Utilities

The increase in earnings of $51 million (10%) in 2020 compared to 2019 was primarily due to higher equity earnings from Oncor Holdings driven by:

- increased revenues from rate updates to reflect increases in invested capital and customer growth;
- the impact of Oncor's acquisition of InfraREIT in May 2019; and
- higher AFUDC equity; **offset by**
- unfavorable weather and increased operating costs and expenses attributable to invested capital.

The increase in earnings of $157 million (42%) in 2019 compared to 2018 primarily represented higher equity earnings from Oncor Holdings, which we acquired in March 2018, driven by the impact of Oncor's acquisition of InfraREIT in May 2019 and higher revenues due to rate updates to reflect increases in invested transmission capital, offset by higher operating costs.

Sempra Mexico

Because Ecogas, our natural gas distribution utility in Mexico, uses the local currency as its functional currency, its revenues and expenses are translated into U.S. dollars at average exchange rates for the period for consolidation in Sempra Energy's results of operations. Prior year amounts used in the variances discussed below are as adjusted for the difference in foreign currency translation rates between years. We discuss these and other foreign currency effects below in "Impact of Foreign Currency and Inflation Rates on Results of Operations."

The increase in earnings of $6 million (2%) in 2020 compared to 2019 was primarily due to:

- $69 million favorable impact from foreign currency and inflation effects, net of foreign currency derivatives effects, comprised of:
  - in 2020, $51 million favorable foreign currency and inflation effects, offset by a $39 million loss from foreign currency derivatives, and
  - in 2019, $86 million unfavorable foreign currency and inflation effects, offset by a $29 million gain from foreign currency derivatives; and
- $33 million higher earnings primarily due to the start of commercial operations of the Sur de Texas-Tuxpan marine pipeline at IMG JV in September 2019; **offset by**
- $165 million earnings attributable to NCI at IEnova in 2020 compared to $122 million earnings in 2019;
- $22 million higher net interest expense;
- $21 million lower earnings at the Guaymas-El Oro segment of the Sonora pipeline primarily from force majeure payments that ended in August 2019; and
- $13 million lower earnings at TdM primarily due to scheduled major maintenance in the fourth quarter of 2020.

The increase in earnings of $16 million (7%) in 2019 compared to 2018 was primarily due to:

- $18 million primarily due to the start of commercial operations of the Sur de Texas-Tuxpan marine pipeline at IMG JV in the third quarter of 2019;
- $16 million lower income tax expense in 2019 primarily from a two-year tax abatement that expired in 2020; and
- $122 million earnings attributable to NCI at IEnova in 2019 compared to $132 million earnings in 2018; **offset by**
- $20 million lower earnings primarily from force majeure payments that ended on August 22, 2019 with respect to the Guaymas-El Oro segment of the Sonora pipeline; and
- $17 million unfavorable impact from foreign currency and inflation effects, net of foreign currency derivatives effects, comprised of:

- in 2019, $88 million unfavorable foreign currency and inflation effects, offset by a $29 million gain from foreign currency derivatives, *offset by*
- in 2018, $43 million unfavorable foreign currency and inflation effects, offset by a $1 million gain from foreign currency derivatives.

Sempra LNG

Earnings of $320 million in 2020 compared to losses of $6 million in 2019 were primarily due to:

- $284 million higher equity earnings from Cameron LNG JV primarily due to commencement of Phase 1 commercial operations; and
- $41 million higher earnings from Sempra LNG's marketing operations primarily driven by changes in natural gas prices.

The decrease in losses of $611 million in 2019 compared to 2018 was primarily due to:

- $665 million net impairment of certain non-utility natural gas storage assets in the southeast U.S. in 2018, including $801 million impairment in the second quarter of 2018, offset by a $136 million reduction to the impairment in the fourth quarter of 2018;
- $17 million higher equity earnings from Cameron LNG JV, including:
  - $36 million increase primarily due to Train 1 commencing commercial operation under its tolling agreements in August 2019, *offset by*
  - $19 million decrease due to the write-off of unamortized debt issuance costs and associated fees related to Cameron LNG JV's debt refinancing; and
- $9 million unfavorable adjustment in 2018 to TCJA provisional amounts recorded in 2017 related to the remeasurement of deferred income taxes; **offset by**
- $36 million losses attributable to NCI in 2018 related to the net impairment discussed above; and
- $28 million higher liquefaction project development costs and operating costs.

Sempra Renewables

As we discuss in Note 5 of the Notes to Consolidated Financial Statements, Sempra Renewables sold its remaining wind assets and investments in April 2019, upon which date the segment ceased to exist.

The decrease in earnings of $269 million in 2019 compared to 2018 was primarily due to:

- $367 million gain on the sale of all Sempra Renewables' operating solar assets, solar and battery storage development projects and its 50% interest in a wind power generation facility in December 2018; and
- $92 million lower earnings from assets sold in December 2018 and April 2019, net of lower general and administrative and other costs due to the wind-down of this business; **offset by**
- $145 million other-than-temporary impairment of certain U.S. wind equity method investments in 2018; and
- $45 million gain on sale of Sempra Renewables' remaining wind assets in 2019.

Parent and Other

The increase in losses of $47 million (9%) in 2020 compared to 2019 was primarily due to:

- $100 million equity losses from our investment in RBS Sempra Commodities to settle pending tax matters and related legal costs, which we discuss in Note 16 of the Notes to Consolidated Financial Statements;
- $26 million higher preferred dividends due to the issuance of series C preferred stock in June 2020;
- $9 million lower net investment gains on dedicated assets in support of our employee nonqualified benefit plan and deferred compensation obligations, net of deferred compensation expenses; **offset by**
- $36 million lower net interest expense;
- $18 million higher income tax benefit primarily due to:
  - $26 million income tax benefit in 2020 compared to $7 million income tax expense in 2019 from changes to a valuation allowance against certain tax credit carryforwards, and
  - $11 million income tax benefit in 2020 compared to $2 million income tax expense in 2019 related to share-based compensation, *offset by*
  - $24 million consolidated California state income tax expense in 2020 associated with income from our investments in Sempra LNG entities, and
  - $10 million income tax benefit in 2019 from a reduction in a valuation allowance against certain NOL carryforwards as a result of our decision to sell our South American businesses; and

- $8 million decrease in losses from foreign currency derivatives used to hedge exposure to fluctuations in the Peruvian sol and Chilean peso related to the sale of our South American businesses.

The decrease in losses of $105 million (17%) in 2019 compared to 2018 was primarily due to:

- $65 million impairment of the RBS Sempra Commodities equity method investment in 2018;
- $48 million higher investment gains in 2019 on dedicated assets in support of our employee nonqualified benefit plan obligations, net of deferred compensation expenses;
- $32 million income tax expense in 2018 to adjust provisional amounts recorded in 2017 related to the TCJA; and
- $10 million income tax benefit in 2019 to reduce a valuation allowance against certain NOL carryforwards as a result of our decision to sell our South American businesses; **offset by**
- $17 million increase in preferred dividends primarily from the issuance of series B preferred stock in July 2018;
- $11 million increase primarily related to settlement charges from our nonqualified pension plan; and
- $11 million loss from foreign currency derivatives used to hedge exposure to fluctuations in the Peruvian sol related to the sale of our operations in Peru.

Discontinued Operations

Discontinued operations that were previously in our Sempra South American Utilities segment include our former 100% interest in Chilquinta Energía in Chile, our former 83.6% interest in Luz del Sur in Peru and our former interests in two energy-services companies, Tecnored and Tecsur, which provide electric construction and infrastructure services to Chilquinta Energía and Luz del Sur, respectively, as well as third parties. Discontinued operations also include activities, mainly income taxes related to the South American businesses, that were previously included in the holding company of the South American businesses at Parent and other.

As we discuss in Note 5 of the Notes to Consolidated Financial Statements, we completed the sales of our South American businesses in the second quarter of 2020. In April 2020, we sold our equity interests in our Peruvian businesses, including our 83.6% interest in Luz del Sur and our interest in Tecsur, for cash proceeds of $3,549 million, net of transaction costs and as adjusted for post-closing adjustments, and in June 2020, we sold our equity interests in our Chilean businesses, including our 100% interest in Chilquinta Energía and Tecnored and our 50% interest in Eletrans, for cash proceeds of $2,216 million, net of transaction costs and as adjusted for post-closing adjustments.

The increase in earnings from our discontinued operations of $1,512 million in 2020 compared to 2019 was primarily due to:

- $1,499 million after-tax gain on the sale of our Peruvian businesses;
- $248 million after-tax gain on the sale of our Chilean businesses; and
- $7 million income tax benefit in 2020 compared to $51 million income tax expense in 2019 related to changes in outside basis differences from earnings and foreign currency effects since the January 25, 2019 approval of our plan to sell our South American businesses; **offset by**
- $201 million lower operational earnings mainly as a result of the sales of our Peruvian and Chilean businesses; and
- $89 million income tax benefit in 2019 related to outside basis differences existing as of January 25, 2019.

The increase in earnings of $172 million in 2019 compared to 2018 was primarily due to:

- $91 million higher earnings from South American operations mainly from higher rates, lower cost of purchased power at Peru, and including $38 million lower depreciation expense due to assets classified as held for sale;
- $89 million income tax benefit in 2019 from outside basis differences in our South American businesses primarily related to the change in our indefinite reinvestment assertion from our decision on January 25, 2019 to hold those businesses for sale and a change in the anticipated structure of the sale; and
- $44 million income tax expense in 2018 to adjust TCJA provisional amounts recorded in 2017 primarily related to withholding tax on our expected future repatriation of foreign undistributed earnings; **offset by**
- $51 million income tax expense related to the increase in outside basis differences from 2019 earnings since January 25, 2019.

SIGNIFICANT CHANGES IN REVENUES, COSTS AND EARNINGS

This section contains a discussion of the differences between periods in the specific line items of the Consolidated Statements of Operations for Sempra Energy, SDG&E and SoCalGas.

Utilities Revenues and Cost of Sales

Our utilities revenues include natural gas revenues at our California Utilities and Sempra Mexico's Ecogas and electric revenues at SDG&E. Intercompany revenues included in the separate revenues of each utility are eliminated in the Sempra Energy Consolidated Statements of Operations.

SoCalGas and SDG&E currently operate under a regulatory framework that permits:

- The cost of natural gas purchased for core customers (primarily residential and small commercial and industrial customers) to be passed through to customers in rates substantially as incurred. However, SoCalGas' GCIM provides SoCalGas the opportunity to share in the savings and/or costs from buying natural gas for its core customers at prices below or above monthly market-based benchmarks. This mechanism permits full recovery of costs incurred when average purchase costs are within a price range around the benchmark price. Any higher costs incurred or savings realized outside this range are shared between the core customers and SoCalGas.
- SDG&E to recover the actual cost incurred to generate or procure electricity based on annual estimates of the cost of electricity supplied to customers. The differences in cost between estimates and actual are recovered or refunded in subsequent periods through rates.
- The California Utilities to recover certain program expenditures and other costs authorized by the CPUC, or "refundable programs."

Because changes in SoCalGas' and SDG&E's cost of natural gas and/or electricity are recovered in rates, changes in these costs are offset in the changes in revenues and therefore do not impact earnings. In addition to the changes in cost or market prices, natural gas or electric revenues recorded during a period are impacted by customer billing cycles causing a difference between customer billings and recorded or authorized costs. These differences are required to be balanced over time, resulting in over- and undercollected regulatory balancing accounts.

The table below summarizes utilities revenues and cost of sales.

UTILITIES REVENUES AND COST OF SALES
(Dollars in millions)

	Years ended December 31,		
	2020	2019	2018
Natural gas revenues:			
SoCalGas	$ 4,748	$ 4,525	$ 3,962
SDG&E	694	658	565
Sempra Mexico	58	73	78
Eliminations and adjustments	(89)	(71)	(65)
Total	5,411	5,185	4,540
Electric revenues:			
SDG&E	4,619	4,267	4,003
Eliminations and adjustments	(5)	(4)	(4)
Total	4,614	4,263	3,999
Total utilities revenues	$ 10,025	$ 9,448	$ 8,539
Cost of natural gas[(1)]:			
SoCalGas	$ 783	$ 977	$ 1,048
SDG&E	162	176	152
Sempra Mexico	12	14	21
Eliminations and adjustments	(32)	(28)	(13)
Total	$ 925	$ 1,139	$ 1,208
Cost of electric fuel and purchased power[(1)]:			
SDG&E	$ 1,191	$ 1,194	$ 1,370
Eliminations and adjustments	(4)	(6)	(12)
Total	$ 1,187	$ 1,188	$ 1,358

[(1)] Excludes depreciation and amortization, which are presented separately on the Sempra Energy, SDG&E and SoCalGas Consolidated Statements of Operations.

Natural Gas Revenues and Cost of Natural Gas

The table below summarizes the average cost of natural gas sold by the California Utilities and included in Cost of Natural Gas on the Consolidated Statements of Operations. The average cost of natural gas sold at each utility is impacted by market prices, as well as transportation, tariff and other charges.

CALIFORNIA UTILITIES AVERAGE COST OF NATURAL GAS
(Dollars per thousand cubic feet)

	Years ended December 31,		
	2020	2019	2018
SoCalGas	$ 2.59	$ 3.07	$ 3.58
SDG&E	3.74	3.91	3.81

In 2020 compared to 2019, our natural gas revenues increased by $226 million (4%) to $5.4 billion primarily due to:

- $223 million increase at SoCalGas, which included:
  - $198 million higher CPUC-authorized revenues,
  - $144 million higher recovery of costs associated with refundable programs, which revenues are offset in O&M, and
  - $84 million due to the release of a regulatory liability in 2020 related to 2016-2018 income tax expense forecasting differences, *offset by*
  - $194 million decrease in cost of natural gas sold, which we discuss below, and
  - $19 million lower non-service component of net periodic benefit cost in 2020, which fully offsets in Other (Expense) Income, Net; and
- $36 million increase at SDG&E, which included:
  - $23 million higher recovery of costs associated with refundable programs, which revenues are offset in O&M,
  - $15 million higher CPUC-authorized revenues, and

- $6 million due to the release of a regulatory liability in 2020 related to 2016-2018 income tax expense forecasting differences, *offset by*
- $14 million decrease in cost of natural gas sold, which we discuss below; **offset by**

- $15 million decrease at Sempra Mexico primarily due to foreign currency effects and a regulatory rate adjustment.

In 2019 compared to 2018, our natural gas revenues increased by $645 million (14%) to $5.2 billion primarily due to:

- $563 million increase at SoCalGas, which included:
  - $383 million higher CPUC-authorized revenue in 2019,
  - $105 million higher recovery of costs associated with refundable programs, which revenues are offset in O&M,
  - $62 million higher non-service component of net periodic benefit cost in 2019, which fully offsets in Other (Expense) Income, Net,
  - $29 million charges in 2018 associated with tracking the income tax benefit from flow-through items in relation to forecasted amounts in the 2016 GRC FD, and
  - $16 million higher net revenues from PSEP, *offset by*
  - $71 million decrease in the cost of natural gas sold, which we discuss below; and
- $93 million increase at SDG&E, which included:
  - $68 million higher authorized revenue in 2019, and
  - $24 million increase in the cost of natural gas sold, which we discuss below.

Our cost of natural gas decreased by $214 million (19%) to $925 million in 2020 compared to 2019 primarily due to:

- $194 million decrease at SoCalGas, including $143 million from lower average natural gas prices and $51 million from lower volumes driven primarily by weather; and
- $14 million decrease at SDG&E, including $7 million from lower average natural gas prices and $7 million from lower volumes driven primarily by weather.

Our cost of natural gas decreased by $69 million (6%) to $1.1 billion in 2019 compared to 2018 primarily due to:

- $71 million decrease at SoCalGas, including $164 million due to lower average natural gas prices, offset by $93 million from higher volumes driven by weather; and
- $15 million increase in intercompany eliminations primarily associated with sales between Sempra LNG and SoCalGas; **offset by**
- $24 million increase at SDG&E, including $19 million from higher volumes driven by weather and $5 million from higher average natural gas prices.

Electric Revenues and Cost of Electric Fuel and Purchased Power

Our electric revenues, substantially all of which are at SDG&E, increased by $351 million (8%) to $4.6 billion in 2020 compared to 2019 primarily due to:

- $242 million higher recovery of costs associated with refundable programs, which revenues are offset in O&M;
- $112 million higher revenues from transmission operations, including an increase in authorized ROE and the following impacts related to the March 2020 FERC-approved TO5 settlement:
  - $26 million to settle a rate base matter, and
  - $12 million favorable impact from the retroactive application of the final TO5 settlement for 2019;
- $77 million due to the release of a regulatory liability in 2020 related to 2016-2018 income tax expense forecasting differences;
- $35 million higher CPUC-authorized revenues; and
- $19 million higher revenues associated with SDG&E's wildfire mitigation plan; **offset by**
- $55 million lower cost of electric fuel and purchased power, which we discuss below; and
- $51 million expected to be refunded to customers related to the Energy Efficiency Program inquiry.

In 2019 compared to 2018, our electric revenues increased by $264 million (7%) to $4.3 billion, primarily attributable to SDG&E, primarily due to:

- $121 million higher authorized revenue in 2019, including $108 million of revenues to cover liability insurance premium costs that are now balanced and offset in O&M;
- $40 million higher revenues from transmission operations, net of a FERC formulaic rate adjustment benefit in 2018;

- $34 million higher recovery of costs associated with refundable programs, excluding 2019 liability insurance premium costs, which revenues are offset in O&M;
- $27 million higher finance lease costs, offset by lower cost of electric fuel and purchased power, which we discuss below; and
- $21 million charges in 2018 associated with tracking the income tax benefit from certain flow-through items in relation to forecasted amounts in the 2016 GRC FD.

Our utility cost of electric fuel and purchased power, substantially all of which is at SDG&E, decreased by $1 million remaining at $1.2 billion in 2020 compared to 2019 primarily due to:

- $55 million lower recoverable cost of electric fuel and purchased power primarily due to a decrease in residential demand mainly from an increase in rooftop solar adoption; **offset by**
- $52 million associated with Otay Mesa VIE, which we deconsolidated in August 2019.

Our utility cost of electric fuel and purchased power decreased by $170 million (13%) to $1.2 billion in 2019 compared to 2018, primarily attributable to SDG&E, primarily due to:

- $103 million of finance lease costs for PPAs in 2018. Similar amounts are now included in Interest Expense and Depreciation and Amortization Expense as a result of the 2019 adoption of the lease standard; and
- $73 million decrease primarily from lower electricity market cost, offset by an increase primarily due to an additional capacity contract.

Energy-Related Businesses: Revenues and Cost of Sales

The table below shows revenues and cost of sales for our energy-related businesses.

ENERGY-RELATED BUSINESSES: REVENUES AND COST OF SALES
(Dollars in millions)

	Years ended December 31,		
	2020	2019	2018
REVENUES			
Sempra Mexico	$ 1,198	$ 1,302	$ 1,298
Sempra LNG	374	410	472
Sempra Renewables	—	10	124
Parent and other[1]	(227)	(341)	(331)
Total revenues	$ 1,345	$ 1,381	$ 1,563
COST OF SALES[2]			
Sempra Mexico	$ 283	$ 373	$ 363
Sempra LNG	218	299	313
Parent and other[1]	(225)	(328)	(319)
Total cost of sales	$ 276	$ 344	$ 357

(1) *Includes eliminations of intercompany activity.*

(2) *Excludes depreciation and amortization, which are presented separately on the Sempra Energy Consolidated Statements of Operations.*

Revenues from our energy-related businesses decreased by $36 million (3%) to $1.3 billion in 2020 compared to 2019 primarily due to:

- $104 million decrease at Sempra Mexico primarily due to:
  - $59 million from the marketing business primarily due to lower natural gas prices and volumes,
  - $37 million lower revenues from TdM mainly due to lower volumes, offset by higher power prices, and
  - $21 million lower transportation revenues primarily from force majeure payments that ended in August 2019 with respect to the Guaymas-El Oro segment of the Sonora pipeline; and
- $36 million decrease at Sempra LNG primarily due to:
  - $87 million decrease in revenues from LNG marketing operations primarily from lower natural gas sales to Sempra Mexico mainly as a result of lower volumes and natural gas prices, and from lower diversion revenues due to lower natural gas prices, and
  - $18 million lower revenues from the expiration of capacity release contracts in the fourth quarter of 2019, *offset by*
  - $70 million increase from natural gas marketing operations primarily due to changes in natural gas prices; **offset by**
- $114 million increase primarily from lower intercompany eliminations associated with sales between Sempra LNG and Sempra Mexico.

In 2019 compared to 2018, revenues from our energy-related businesses decreased by $182 million (12%) to $1.4 billion primarily due to:

- $114 million decrease at Sempra Renewables primarily due to the sale of assets in December 2018 and April 2019; and
- $62 million decrease at Sempra LNG primarily due to:
  - $45 million lower natural gas storage revenues primarily due to the sale of storage assets in February 2019,
  - $15 million from the marketing business due to lower turnback cargo revenues, and
  - $12 million from LNG sales to Cameron LNG JV in January 2018, *offset by*
  - $14 million from natural gas marketing activities primarily due to changes in natural gas prices; **offset by**
- $4 million increase at Sempra Mexico primarily due to:
  - $23 million from the marketing business, including an increase in volumes due to new regulations that went into effect on March 1, 2018 that require high consumption end users (previously serviced by Ecogas and other natural gas utilities) to procure their natural gas needs from natural gas marketers, such as Sempra Mexico's marketing business, offset by lower natural gas prices, and
  - $6 million increase primarily due to renewable assets placed in service in 2019, *offset by*
  - $27 million lower revenues primarily from force majeure payments that ended on August 22, 2019 with respect to the Guaymas-El Oro segment of the Sonora pipeline.

The cost of sales for our energy-related businesses decreased by $68 million (20%) to $276 million in 2020 compared to 2019 primarily due to:

- $90 million decrease at Sempra Mexico mainly associated with lower revenues from the marketing business and from TdM as a result of lower volumes and natural gas prices; and
- $81 million decrease at Sempra LNG mainly from natural gas marketing activities primarily due to lower natural gas purchases; **offset by**
- $103 million increase primarily from lower intercompany eliminations associated with sales between Sempra LNG and Sempra Mexico.

The cost of sales for our energy-related businesses in 2019 was comparable to 2018.

Operation and Maintenance

In the table below, we provide O&M by segment.

OPERATION AND MAINTENANCE
(Dollars in millions)

	Years ended December 31,		
	2020	2019	2018
SDG&E[1]	$ 1,454	$ 1,175	$ 1,058
SoCalGas	2,029	1,780	1,613
Sempra Mexico	279	256	239
Sempra LNG	159	156	123
Sempra Renewables	—	18	89
Parent and other[2]	19	81	28
Total operation and maintenance	$ 3,940	$ 3,466	$ 3,150

[1] *Excludes impairment losses, which we discuss below.*
[2] *Includes eliminations of intercompany activity.*

Our O&M increased by $474 million (14%) to $3.9 billion in 2020 compared to 2019 primarily due to:

- $279 million increase at SDG&E, primarily due to:
  - $265 million higher expenses associated with refundable programs for which costs incurred are recovered in revenue (refundable program expenses), and
  - $18 million higher amortization of the Wildfire Fund asset and accretion of the Wildfire Fund obligation; and
- $249 million increase at SoCalGas, primarily due to:
  - $144 million higher expenses associated with refundable programs, and
  - $105 million higher non-refundable operating costs, including labor, purchased materials and services, and administrative and support costs; **offset by**

- $62 million decrease at Parent and other primarily from lower deferred compensation expense and retained operating costs; and
- $18 million decrease at Sempra Renewables primarily due to lower general and administrative and other costs due to the wind-down of the business in 2019.

Our O&M increased by $316 million (10%) to $3.5 billion in 2019 compared to 2018 primarily due to:

- $167 million increase at SoCalGas, primarily due to:
  - $105 million higher expenses associated with refundable programs, and
  - $57 million higher non-refundable operating costs, including labor, contract services and administrative and support costs;
- $117 million increase at SDG&E, primarily due to:
  - $147 million higher expenses associated with refundable programs, including $112 million of 2019 liability insurance premium costs that are now balanced in revenue, and
  - $13 million amortization of the Wildfire Fund asset and accretion of the Wildfire Fund obligation, *offset by*
  - $46 million lower non-refundable operating costs, including $87 million decrease from liability insurance premium costs for 2018 that were not balanced, offset by $41 million of higher operating costs;
- $53 million increase at Parent and other primarily from higher deferred compensation expense;
- $33 million increase at Sempra LNG primarily from higher liquefaction development project costs and higher operating costs; and
- $17 million increase at Sempra Mexico primarily due to expenses associated with growth in the business and operating lease costs in 2019; **offset by**
- $71 million decrease at Sempra Renewables primarily due to lower general and administrative and other costs due to the wind-down of the business.

Aliso Canyon Litigation and Regulatory Matters

In 2020, SoCalGas recorded a charge of $307 million in Aliso Canyon Litigation and Regulatory Matters related to settlement discussions in connection with civil litigation and regulatory matters associated with the Leak, which we describe in Note 16 of the Notes to Consolidated Financial Statements.

Impairment Losses

In September 2019, SoCalGas recognized a $29 million impairment loss related to non-utility native gas assets. In September 2019, SDG&E and SoCalGas recognized impairment losses of $6 million and $8 million, respectively, for certain disallowed capital costs in the 2019 GRC FD. In 2018, Sempra LNG recognized a $1.1 billion net impairment loss for certain non-utility natural gas storage assets in the southeast U.S.

Gain on Sale of Assets

In April 2019, Sempra Renewables recognized a $61 million gain on the sale of its remaining wind assets and investments. In December 2018, Sempra Renewables recognized a $513 million gain on the sale of all its operating solar assets, solar and battery storage development projects and its 50% interest in a wind power generation facility.

Other (Expense) Income, Net

As part of our central risk management function, we may enter into foreign currency derivatives to hedge Sempra Mexico parent's exposure to movements in the Mexican peso from its controlling interest in IEnova. The gains/losses associated with these derivatives are included in Other (Expense) Income, Net, as described below, and partially mitigate the transactional effects of foreign currency and inflation included in Income Tax (Expense) Benefit for Sempra Mexico's consolidated entities and in Equity Earnings for Sempra Mexico's equity method investments. We also utilized foreign currency derivatives to hedge exposure to fluctuations in the Peruvian sol and Chilean peso related to the sales of our operations in Peru and Chile, respectively. We discuss policies governing our risk management below in "Part II – Item 7A. Quantitative and Qualitative Disclosures About Market Risk."

Other expense, net, was $48 million in 2020 compared to other income, net, of $77 million in 2019. The change was primarily due to:

- $92 million net losses in 2020 from interest rate and foreign exchange instruments and foreign currency transactions compared to net gains of $55 million in 2019 primarily due to:
  - $53 million losses in 2020 compared to $40 million gains in 2019 on foreign currency derivatives as a result of fluctuation of the Mexican peso, and

- $42 million losses in 2020 compared to $30 million gains in 2019 on a Mexican peso-denominated loan to IMG JV, which is offset in Equity Earnings; *offset by*
- $17 million gains in 2020 compared to $9 million losses in 2019 on other foreign currency transactional effects;

- $20 million lower investment gains in 2020 on dedicated assets in support of our executive retirement and deferred compensation plans; and
- $6 million fine at SDG&E related to the Energy Efficiency Program inquiry; **offset by**
- $34 million higher AFUDC equity, including $23 million at SDG&E and $7 million at SoCalGas;
- $30 million lower non-service component of net periodic benefit cost in 2020;
- $8 million increase in regulatory interest at the California Utilities due to the release of a regulatory liability in 2020 related to 2016-2018 income tax expense forecasting differences; and
- $8 million in penalties in 2019 related to the SoCalGas billing practices OII.

In 2019 compared to 2018, other income, net, increased by $19 million (33%) to $77 million primarily due to:

- $61 million investment gains in 2019 compared to $6 million investment losses in 2018 on dedicated assets in support of our executive retirement and deferred compensation plans; and
- $54 million higher net gains from interest rate and foreign exchange instruments and foreign currency transactions primarily due to:
  - $37 million higher gains in 2019 on foreign currency derivatives as a result of fluctuation of the Mexican peso, and
  - $30 million foreign currency gains in 2019 compared to $3 million foreign currency losses in 2018 on a Mexican peso-denominated loan to IMG JV, which is offset in Equity Earnings, *offset by*
  - $15 million losses in 2019 on foreign currency derivatives used to hedge exposure to fluctuations in the Peruvian sol related to the sale of our operations in Peru; **offset by**
- $97 million higher non-service component of net periodic benefit cost in 2019, including $14 million at SDG&E and $62 million at SoCalGas.

We provide further details of the components of other (expense) income, net, in Note 1 of the Notes to Consolidated Financial Statements.

Income Taxes

The table below shows the income tax expense (benefit) and ETRs for Sempra Energy Consolidated, SDG&E and SoCalGas.

INCOME TAX EXPENSE (BENEFIT) AND EFFECTIVE INCOME TAX RATES
(Dollars in millions)

	Years ended December 31,		
	2020	2019	2018
Sempra Energy Consolidated:			
Income tax expense (benefit) from continuing operations	$ 249	$ 315	$ (49)
Income from continuing operations before income taxes and equity earnings	$ 1,489	$ 1,734	$ 714
Equity earnings (losses), before income tax[(1)]	294	30	(236)
Pretax income	$ 1,783	$ 1,764	$ 478
Effective income tax rate	14 %	18 %	(10)%
SDG&E:			
Income tax expense	$ 190	$ 171	$ 173
Income before income taxes	$ 1,014	$ 945	$ 849
Effective income tax rate	19 %	18 %	20 %
SoCalGas:			
Income tax expense	$ 96	$ 120	$ 92
Income before income taxes	$ 601	$ 762	$ 493
Effective income tax rate	16 %	16 %	19 %

(1) *We discuss how we recognize equity earnings in Note 6 of the Notes to Consolidated Financial Statements.*

Sempra Energy Consolidated

Sempra Energy's income tax expense decreased in 2020 compared to 2019 primarily due to a lower ETR. The change in ETR was primarily due to:

- $44 million income tax benefit in 2020 compared to $71 million income tax expense in 2019 from foreign currency and inflation effects primarily as a result of fluctuation of the Mexican peso;
- $26 million income tax benefit in 2020 compared to $7 million income tax expense in 2019 from changes to a valuation allowance against certain tax credit carryforwards; and
- $19 million income tax benefit in 2020 compared to $4 million income tax expense in 2019 related to share-based compensation; **offset by**
- $69 million total income tax benefits in 2019 from the release of regulatory liabilities at SDG&E and SoCalGas established in connection with 2017 tax reform for excess deferred income tax balances that the CPUC directed be allocated to shareholders in a January 2019 decision; and
- $10 million income tax benefit in 2019 from a reduction in a valuation allowance against certain NOL carryforwards as a result of our decision to sell our South American businesses.

Sempra Energy's income tax expense in 2019 compared to an income tax benefit in 2018 was due to higher pretax income and a higher ETR. Pretax income in 2018 was impacted by the impairments at our Sempra LNG and Sempra Renewables segments offset by the gain from sale of assets at Sempra Renewables. The change in ETR was primarily due to:

- $131 million income tax benefit in 2018 resulting from the reduced outside basis difference in Sempra LNG as a result of the impairment of certain non-utility natural gas storage assets; and
- $45 million higher income tax expense in 2019 from foreign currency and inflation effects primarily as a result of fluctuation of the Mexican peso; **offset by**
- $69 million total income tax benefits in 2019 from the release of regulatory liabilities at SDG&E and SoCalGas established in connection with 2017 tax reform for excess deferred income tax balances that the CPUC directed be allocated to shareholders in a January 2019 decision;
- $41 million income tax expense in 2018 to adjust provisional estimates recorded in 2017 for the effects of tax reform;
- $21 million income tax expense in 2018 associated with Aliso Canyon natural gas storage facility litigation; and
- $10 million income tax benefit in 2019 from a reduction in a valuation allowance against certain NOL carryforwards as a result of our decision to sell our South American businesses.

We report as part of our pretax results the income or loss attributable to NCI. However, we do not record income taxes for a portion of this income or loss, as some of our entities with NCI are currently treated as partnerships for income tax purposes, and thus we are only liable for income taxes on the portion of the earnings that are allocated to us. Our pretax income, however, includes 100% of these entities. If our entities with NCI grow, and if we continue to invest in such entities, the impact on our ETR may become more significant.

We discuss the impact of foreign currency exchange rates and inflation on income taxes below in "Impact of Foreign Currency and Inflation Rates on Results of Operations." See Notes 1 and 8 of the Notes to Consolidated Financial Statements for further details about our accounting for income taxes and items subject to flow-through treatment.

SDG&E

SDG&E's income tax expense increased in 2020 compared to 2019 primarily due to:

- higher pretax income; and
- $31 million income tax benefit in 2019 from the release of a regulatory liability established in connection with 2017 tax reform for excess deferred income tax balances that the CPUC directed be allocated to shareholders in a January 2019 decision; **offset by**
- higher income tax benefits in 2020 from flow-through deductions.

SDG&E's income tax expense decreased in 2019 compared to 2018 due to a lower ETR offset by higher pretax income. The change in ETR was primarily due to a $31 million income tax benefit in 2019 from the release of a regulatory liability established in connection with 2017 tax reform for excess deferred income tax balances that the CPUC directed be allocated to shareholders in a January 2019 decision.

SoCalGas

SoCalGas' income tax expense decreased in 2020 compared to 2019 primarily due to:

- lower pretax income; and
- higher income tax benefits in 2020 from flow-through deductions; **offset by**
- $38 million income tax benefit in 2019 from the release of a regulatory liability established in connection with 2017 tax reform for excess deferred income tax balances that the CPUC directed be allocated to shareholders in a January 2019 decision.

SoCalGas' income tax expense increased in 2019 compared to 2018 due to higher pretax income offset by a lower ETR. The change in ETR was primarily due to:

- $38 million income tax benefit in 2019 from the release of a regulatory liability established in connection with 2017 tax reform for excess deferred income tax balances that the CPUC directed be allocated to shareholders in a January 2019 decision; and
- $21 million income tax expense in 2018 associated with the Aliso Canyon natural gas storage facility litigation.

Equity Earnings

Equity earnings increased by $435 million to $1.0 billion in 2020 compared to 2019 primarily due to:

- $367 million higher equity earnings from Cameron LNG JV primarily due to commencement of Phase 1 commercial operations;
- $94 million higher equity earnings at IMG JV, primarily due to higher revenues from the start of commercial operations of the Sur de Texas-Tuxpan marine pipeline and foreign currency effects, including $42 million foreign currency gains in 2020 compared to $30 million foreign currency losses in 2019 on IMG JV's Mexican peso-denominated loans from its JV owners, which is fully offset in Other (Expense) Income, Net, offset by lower AFUDC equity;
- $51 million higher equity earnings at Oncor Holdings primarily due to higher revenues from rate updates and customer growth, the acquisition of InfraREIT in May 2019 and higher AFUDC equity, offset by unfavorable weather and increased operating costs; and
- $23 million higher equity earnings at TAG JV primarily due to lower income tax expense in 2020; **offset by**
- $100 million equity losses at RBS Sempra Commodities in 2020, which represents an estimate of our obligations to settle pending tax matters and related legal costs at our equity method investment.

Equity earnings increased by $405 million to $580 million in 2019 compared to 2018 primarily due to:

- $174 million increase at Sempra Renewables, including $200 million other-than-temporary impairment of certain wind equity method investments in 2018;
- $155 million higher equity earnings, net of income tax, from our investment in Oncor Holdings, which we acquired in March 2018;
- $65 million impairment of our RBS Sempra Commodities equity method investment in 2018; and
- $24 million higher equity earnings from Cameron LNG JV including:
  - $50 million increase primarily due to Train 1 commencing commercial operation under its tolling agreements in August 2019, *offset by*
  - $26 million decrease due to the write-off of unamortized debt issuance costs and associated fees related to the JV's debt refinancing; **offset by**
- $20 million lower equity earnings, net of income tax, from IMG JV, including $30 million foreign currency losses in 2019 compared to $3 million foreign currency gains in 2018 on its Mexican peso-denominated loans from its JV owners, which is fully offset in Other Income, Net.

Earnings Attributable to Noncontrolling Interests

Earnings attributable to NCI were $172 million for 2020 compared to $164 million for 2019. The net change of $8 million (5%) was primarily due to an increase in earnings attributable to NCI at Sempra Mexico mainly from foreign currency effects as a result of fluctuation of the Mexico peso, offset by a decrease due to the sales of our Peruvian businesses in April 2020 and Chilean businesses in June 2020.

Earnings attributable to NCI were $164 million for 2019 compared to $76 million for 2018. The net change of $88 million included:

- $1 million earnings attributable to NCI at Sempra Renewables in 2019 compared to $58 million losses in 2018 primarily due to the sales of our tax equity investments in December 2018 and April 2019; and
- $36 million losses attributable to NCI at Sempra LNG in 2018 due to the net impairment of certain non-utility natural gas storage assets.

Preferred Dividends

Preferred dividends increased by $26 million (18%) to $168 million in 2020 compared to 2019 primarily due to dividends associated with our series C preferred stock, which was issued in June 2020.

Preferred dividends increased by $17 million (14%) to $142 million in 2019 compared to 2018 primarily due to dividends associated with our series B preferred stock, which was issued in July 2018.

IMPACT OF FOREIGN CURRENCY AND INFLATION RATES ON RESULTS OF OPERATIONS

Because our natural gas distribution utility in Mexico, Ecogas, uses its local currency as its functional currency, revenues and expenses are translated into U.S. dollars at average exchange rates for the period for consolidation in Sempra Energy Consolidated's results of operations. Prior to the sales of our South American businesses in 2020, our operations in South America used their local currency as their functional currency.

Foreign Currency Translation

Any difference in average exchange rates used for the translation of income statement activity from year to year can cause a variance in Sempra Energy's comparative results of operations. Changes in foreign currency translation rates between years resulted in $9 million lower earnings in 2020 compared to 2019 and $8 million lower earnings in 2019 compared to 2018.

Transactional Impacts

Income statement activities at our foreign operations and their JVs are also impacted by transactional gains and losses, a summary of which is shown in the table below:

TRANSACTIONAL (LOSSES) GAINS FROM FOREIGN CURRENCY AND INFLATION
(Dollars in millions)

	Total reported amounts			Transactional (losses) gains included in reported amounts		
	Years ended December 31,					
	2020	2019	2018	2020	2019	2018
Other (expense) income, net	$ (48)	$ 77	$ 58	$ (92)	$ 55	$ (1)
Income tax (expense) benefit	(249)	(315)	49	44	(71)	(26)
Equity earnings	1,015	580	175	43	(47)	(14)
Income from continuing operations, net of income tax	2,255	1,999	938	8	(70)	(41)
Income from discontinued operations, net of income tax	1,850	363	188	15	2	6
Earnings attributable to common shares	3,764	2,055	924	(1)	(39)	(21)

Foreign Currency Exchange Rate and Inflation Impacts on Income Taxes and Related Hedging Activity

Our Mexican subsidiaries have U.S. dollar-denominated cash balances, receivables, payables and debt (monetary assets and liabilities) that are affected by Mexican currency exchange rate movements for Mexican income tax purposes. They also have deferred income tax assets and liabilities, which are significant, denominated in the Mexican peso that must be translated to U.S. dollars for financial reporting purposes. In addition, monetary assets and liabilities and certain nonmonetary assets and liabilities are adjusted for Mexican inflation for Mexican income tax purposes. As a result, fluctuations in both the currency exchange rate for the Mexican peso against the U.S. dollar and Mexican inflation may expose us to fluctuations in Income Tax Expense, Other (Expense) Income, Net and Equity Earnings. We may use foreign currency derivatives as a means to help manage exposure to the currency exchange rate on our monetary assets and liabilities, and this derivative activity impacts Other (Expense) Income, Net. However, we generally do not hedge our deferred income tax assets and liabilities, which makes us susceptible to volatility in income tax expense caused by exchange rate fluctuations and inflation.

We also utilized foreign currency derivatives to hedge exposure to fluctuations in the Peruvian sol and Chilean peso related to the sales of our operations in Peru and Chile in discontinued operations.

Other Transactions

Although the financial statements of most of our Mexican subsidiaries and JVs have the U.S. dollar as the functional currency, some transactions may be denominated in the local currency; such transactions are remeasured into U.S. dollars. This

remeasurement creates transactional gains and losses that are included in Other (Expense) Income, Net, for our consolidated subsidiaries and in Equity Earnings for our JVs.

We utilize cross-currency swaps that exchange our Mexican peso-denominated principal and interest payments into the U.S. dollar and swap Mexican variable interest rates for U.S. fixed interest rates. The impacts of these cross-currency swaps are offset in OCI and are reclassified from AOCI into earnings through Other (Expense) Income, Net and Interest Expense as settlements occur.

Certain of our Mexican pipelines (namely Los Ramones I at IEnova Pipelines and Los Ramones Norte at TAG JV) generate revenue based on tariffs that are set by government agencies in Mexico, with contracts denominated in Mexican pesos that are indexed to the U.S. dollar, adjusted annually for inflation and fluctuation in the exchange rate. The resultant gains and losses from remeasuring the local currency amounts into U.S. dollars and the settlement of foreign currency forwards and swaps related to these contracts are included in Revenues: Energy-Related Businesses or Equity Earnings.

CAPITAL RESOURCES AND LIQUIDITY

OVERVIEW

Sempra Energy Consolidated

Impact of the COVID-19 Pandemic

On March 11, 2020, the World Health Organization declared the COVID-19 outbreak to be a pandemic. The U.S. government officially declared a national emergency on March 13, 2020, and the Mexican government announced a national state of sanitary emergency on March 30, 2020. The COVID-19 pandemic is materially impacting the economy, including a surge in unemployment claims and, at times, substantial volatility in financial markets, and has resulted in action by governments and other authorities to help address these effects. For example:

- The CPUC required that all energy companies under its jurisdiction, including the California Utilities, take action to implement several emergency customer protection measures to support California customers. The measures currently apply to all residential and small business customers affected by the COVID-19 pandemic and include suspending service disconnections due to nonpayment, waiving late payment fees, and offering flexible payment plans to all customers experiencing difficulty paying their electric or gas bills. The CPUC approved a resolution authorizing each of the California Utilities to track and request recovery of incremental costs associated with complying with residential and small business customer protection measures implemented by the CPUC related to the COVID-19 pandemic, including costs associated with suspending service disconnections and uncollectible expenses that arise from these customers' failure to pay. Although we are tracking these costs in various regulatory mechanisms, recovery is not assured. The continuation of these circumstances could result in a further reduction in payments received from the California Utilities' customers and a further increase in uncollectible accounts, which could become material, and any inability or delay in recovering all or a substantial portion of these costs could have a material adverse effect on the cash flows, financial condition and results of operations of Sempra Energy, SDG&E and SoCalGas. We discuss regulatory mechanisms in Note 4 of the Notes to Consolidated Financial Statements.
- In Texas, the PUCT issued orders creating the COVID-19 Electricity Relief Program and suspending service disconnections due to nonpayment for customers enrolled in the program through September 30, 2020. The COVID-19 Electricity Relief Program created a fund through which transmission and distribution utilities and retail electric providers in Texas may seek to recover certain costs (including transmission and distribution utility electricity delivery charges) of providing uninterrupted services to customers facing financial hardship due to the effects of the COVID-19 pandemic. Financial assistance under the program was available to enrolled residential customers for electricity bills issued on or after March 26, 2020 through September 30, 2020. The PUCT has also authorized the use of a regulatory asset accounting mechanism and a subsequent process through which regulated utility companies may seek future recovery of other expenses resulting from the effects of the COVID-19 pandemic. Rate regulation is premised on the full recovery of prudently incurred costs. The regulatory assets established with respect to COVID-19 pandemic costs are subject to PUCT review for reasonableness and possible disallowance. Any inability to recover these costs could have an adverse effect on the cash flows, financial condition and results of operations of Sempra Energy.

- On March 27, 2020, the Coronavirus Aid, Relief, and Economic Security Act (CARES Act) was enacted and signed into law in response to the COVID-19 pandemic. Among other things, the CARES Act contains significant business tax provisions, including a delay of payment of employer payroll taxes and an acceleration of refunds of corporate alternative minimum tax (AMT) credits. Sempra Energy, SDG&E and SoCalGas have deferred payment of the employer's share of payroll taxes through the end of 2020, with half of such taxes to be paid by the end of 2021 and the other half to be paid by the end of 2022. In 2020, Sempra Energy filed and received a refund claim for its corporate AMT credits, rather than receiving it in installments through 2021.

Our businesses that invest in, develop and operate energy infrastructure and provide electric and gas services to customers have been identified as critical or essential services in the U.S. and Mexico and have continued to operate throughout the COVID-19 pandemic. As our businesses continue to operate, our priority is the safety of our employees, customers, partners and the communities we serve. We and other companies, including our partners, are taking steps to try to protect the health and well-being of our employees and other stakeholders. For example, we have activated our business continuity plans and continue to work closely with local, state and federal authorities to provide essential services with minimum interruption to customers and in accordance with applicable shelter-in-place and other orders. We have implemented precautionary measures across our businesses, including requiring employees to work remotely when possible, restricting non-essential business travel, increasing facility sanitization and communicating proper health and safety protocols to employees. We also have engaged an infectious disease expert to advise us during this public health crisis. Throughout 2020, these actions have not required significant outlays of capital and have not had a material impact on our results of operations, but these or other measures that we may implement in the future could have a material adverse effect on our liquidity, cash flows, financial position and results of operations if circumstances related to the COVID-19 pandemic worsen or continue for an extended period of time.

The COVID-19 pandemic and its widespread effects also have impacted our capital plans, liquidity and asset values, as we discuss with respect to each of our segments below. We perform recovery testing of our recorded asset values when market conditions indicate that such values may not be recoverable. Given the current environment (including the decline in the price of our common stock, financial market volatility, high unemployment rates, reduction in customer collections that could become material, inability to secure permits and other authorizations due to government closures, and governments pursuing new laws or policies that modify pre-existing contract terms or alter operations), we evaluated whether these events or changes in circumstances resulted in an impairment of our long-lived assets, intangible assets or goodwill in 2020 and concluded that no such impairment was warranted. However, as the effects of the COVID-19 pandemic evolve, we will continue to periodically assess the need to perform interim impairment tests. A significant impairment charge related to our long-lived assets, intangible assets or goodwill would have a material adverse effect on our results of operations in the period in which it is recorded.

For a further discussion of risks and uncertainties related to the COVID-19 pandemic, see below in "Part I – Item 1A. Risk Factors."

Liquidity

We expect to meet our cash requirements through cash flows from operations, unrestricted cash and cash equivalents, proceeds from recent asset sales, borrowings under our credit facilities, distributions from our equity method investments, issuances of debt, project financing and partnering in JVs. We believe that these cash flow sources, combined with available funds, will be adequate to fund our current operations, including to:

- finance capital expenditures
- meet liquidity requirements
- fund dividends
- fund new business or asset acquisitions or start-ups
- fund capital contribution requirements
- repay long-term debt
- fund expenditures related to the natural gas leak at SoCalGas' Aliso Canyon natural gas storage facility

Sempra Energy and the California Utilities currently have reasonable access to the money markets and capital markets and are not currently constrained in their ability to borrow money at reasonable rates from commercial banks, under existing revolving credit facilities or through public offerings registered with the SEC. However, the money markets and capital markets in general, including particularly the commercial paper markets, and the availability of financing from commercial banks have experienced distress at times during 2020 due to the COVID-19 pandemic, and our ability to access the money markets and capital markets or obtain credit from commercial banks outside of our committed revolving credit facilities could become materially constrained if changing economic conditions and disruptions to the money markets and capital markets, due to the COVID-19 pandemic or otherwise, worsen. In addition, our financing activities and actions by credit rating agencies, as well as many other factors, could

negatively affect the availability and cost of both short-term and long-term financing. Also, cash flows from operations may be impacted by the timing of commencement and completion, and potentially cost overruns, of large projects. If cash flows from operations were to be significantly reduced or we were unable to borrow under acceptable terms, we would likely first reduce or postpone discretionary capital expenditures (not related to safety) and investments in new businesses. We monitor our ability to finance the needs of our operating, investing and financing activities in a manner consistent with our intention to maintain our investment-grade credit ratings and capital structure.

We have significant investments in several trusts to provide for future payments of pensions and other postretirement benefits and nuclear decommissioning. Changes in asset values, which are dependent on activity in the equity and fixed income markets, have not materially and adversely affected the trust funds' abilities to make required payments. However, changes in these or other factors in future periods, such as changes to discount rates, assumed rates of return, mortality tables and regulations, may impact funding requirements for pension and other postretirement benefits plans. Funding requirements for SDG&E's NDT could also be impacted by the timing and amount of SONGS decommissioning costs. At the California Utilities, funding requirements are generally recoverable in rates. We discuss our employee benefit plans and SDG&E's NDT, including our investment allocation strategies for assets in these trusts, in Notes 9 and 15, respectively, of the Notes to Consolidated Financial Statements.

Available Funds

Our committed lines of credit provide liquidity and support commercial paper. As we discuss in Note 7 of the Notes to Consolidated Financial Statements, Sempra Energy, Sempra Global, SDG&E and SoCalGas each have five-year credit agreements expiring in 2024. In addition, Sempra Mexico has committed lines of credit that expire in 2021 and 2024 and an uncommitted revolving credit facility that expires in 2023. The table below shows the amount of available funds at December 31, 2020, including available unused credit on these primary U.S. and foreign lines of credit.

AVAILABLE FUNDS AT DECEMBER 31, 2020
(Dollars in millions)

	Sempra Energy Consolidated	SDG&E	SoCalGas
Unrestricted cash and cash equivalents[1]	$ 960	$ 262	$ 4
Available unused credit[2][3]	7,700	1,500	637

(1) *Amounts at Sempra Energy Consolidated include $295 million held in non-U.S. jurisdictions. We discuss repatriation in Note 8 of the Notes to Consolidated Financial Statements.*

(2) *Available unused credit is the total available on Sempra Energy's, Sempra Global's, SDG&E's, SoCalGas' and Sempra Mexico's credit facilities that we discuss in Note 7 of the Notes to Consolidated Financial Statements.*

(3) *Because our commercial paper programs are supported by these lines, we reflect the amount of commercial paper outstanding as a reduction to the available unused credit.*

Short-Term Borrowings

We use short-term debt primarily to meet liquidity requirements, fund shareholder dividends, and temporarily finance capital expenditures, acquisitions or start-ups. Our California Utilities use short-term debt primarily to meet working capital needs. Due to volatility in commercial paper markets shortly following the start of the COVID-19 pandemic, commercial paper borrowing at that time became less desirable and, in some cases, not competitive or unavailable. To secure sufficient sources of liquidity during this period, Sempra Energy, Sempra Global, SDG&E, SoCalGas and IEnova each drew amounts under their respective credit facilities and Sempra Energy and SDG&E each also obtained short-term term loans, much of which has been subsequently repaid. Revolving lines of credit, term loans and commercial paper were our primary sources of short-term debt funding in 2020.

We discuss our short-term debt activities in Note 7 of the Notes to Consolidated Financial Statements.

The following table shows selected statistics for our commercial paper borrowings.

COMMERCIAL PAPER STATISTICS
(Dollars in millions)

	Sempra Energy Consolidated		SDG&E		SoCalGas	
	December 31,		December 31,		December 31,	
	2020	2019	2020	2019	2020	2019
Amount outstanding at period end	$ 113	$ 2,334	$ —	$ 80	$ 113	$ 630
Weighted-average interest rate at period end	0.14 %	2.06 %	— %	1.97 %	0.14 %	1.86 %
Daily weighted-average outstanding balance	$ 2,282	$ 2,774	$ 198	$ 288	$ 373	$ 322
Daily weighted-average yield	1.61 %	2.48 %	1.50 %	2.65 %	0.44 %	2.23 %
Maximum daily amount outstanding	$ 2,495	$ 3,243	$ 263	$ 417	$ 635	$ 642

Long-Term Debt Activities

Major issuances of and payments on long-term debt in 2020 included the following:

LONG-TERM DEBT ISSUANCES AND PAYMENTS
(Dollars in millions)

Issuances:	Amount at issuance	Maturity
SDG&E variable rate 364-day term loan	$ 200	2021
SDG&E variable rate revolving line of credit	200	2024
SDG&E 1.70% first mortgage bonds	800	2030
SDG&E 3.32% first mortgage bonds	400	2050
SoCalGas senior unsecured variable rate notes	300	2023
SoCalGas 2.55% first mortgage bonds	650	2030
Sempra Mexico 2.38% bank loans	100	2034
Sempra Mexico 2.90% bank loans	241	2034
Sempra Mexico 4.75% senior unsecured notes	800	2051
Sempra LNG variable rate notes	17	2025

Payments:	Payments	Maturity
Sempra Energy 2.4% notes	$ 500	2020
Sempra Energy 2.4% notes	500	2020
Sempra Energy 2.85% notes	400	2020
Sempra Energy variable rate notes	700	2021
SDG&E 1.914% amortizing first mortgage bonds	36	2020
SDG&E variable rate revolving line of credit	200	2024
SDG&E 5.875% first mortgage bonds	176	2034
SDG&E 4% first mortgage bonds	75	2039
Sempra Mexico amortizing variable rate notes	41	2020
Sempra Mexico amortizing fixed and variable rate bank loans	25	2020

SDG&E used the proceeds from its long-term debt offerings to repay first mortgage bonds, commercial paper and line of credit borrowings, for working capital and for other general corporate purposes.

SoCalGas used the proceeds from its long-term debt offerings to repay commercial paper and for general corporate purposes.

Sempra Mexico used the proceeds from its issuances of long-term debt to finance the construction of solar generation projects, to repay line of credit borrowings and for other general corporate purposes.

We discuss our long-term debt activities in Note 7 of the Notes to Consolidated Financial Statements.

Credit Ratings

The credit ratings of Sempra Energy, SDG&E and SoCalGas remained at investment grade levels in 2020. On January 29, 2021, Moody’s placed the long-term debt ratings of SDG&E on review for upgrade.

CREDIT RATINGS AT DECEMBER 31, 2020			
	Sempra Energy	SDG&E	SoCalGas
Moody's	Baa2 with a stable outlook	Baa1 with a positive outlook	A2 with a stable outlook
S&P	BBB+ with a negative outlook	BBB+ with a negative outlook	A with a negative outlook
Fitch	BBB+ with a stable outlook	BBB+ with a stable outlook	A with a stable outlook

A downgrade of Sempra Energy's or any of its subsidiaries' credit ratings or rating outlooks may, depending on the severity, result in a requirement for collateral to be posted in the case of certain financing arrangements and may materially and adversely affect the market prices of their equity and debt securities, the rates at which borrowings are made and commercial paper is issued, and the various fees on their outstanding credit facilities. We provide additional information about our credit ratings at Sempra Energy, SDG&E and SoCalGas in "Part I – Item 1A. Risk Factors."

Sempra Energy has agreed that, if the credit rating of Oncor's senior secured debt by any of the three major rating agencies falls below BBB (or the equivalent), Oncor will suspend dividends and other distributions (except for contractual tax payments), unless otherwise allowed by the PUCT. Oncor's senior secured debt was rated A2, A+ and A at Moody's, S&P and Fitch, respectively, at December 31, 2020.

Sempra Energy, SDG&E and SoCalGas have committed lines of credit to provide liquidity and to support commercial paper. Borrowings under these facilities bear interest at benchmark rates plus a margin that varies with market index rates and each borrower's credit rating. Each facility also requires a commitment fee on available unused credit that may be impacted by each borrower's credit rating. Depending on the severity of the downgrade:

- If Sempra Energy were to experience a ratings downgrade from its current level, the rate at which borrowings bear interest would increase by 25 to 50 bps. The commitment fee on available unused credit would also increase 5 to 10 bps.
- If SDG&E were to experience a ratings downgrade from its current level, the rate at which borrowings bear interest would increase by 25 to 50 bps. The commitment fee on available unused credit would also increase 5 to 10 bps.
- If SoCalGas were to experience a ratings downgrade from its current level, the rate at which borrowings bear interest would increase by 12.5 bps. The commitment fee on available unused credit would also increase 2.5 bps.

Sempra Energy's and SDG&E's credit ratings also may affect their respective credit limits related to derivative instruments, as we discuss in Note 11 of the Notes to Consolidated Financial Statements.

Loans to/from Affiliates

At December 31, 2020, Sempra Energy had $780 million in loans due from unconsolidated affiliates and $275 million in loans due to unconsolidated affiliates.

California Utilities

SDG&E's and SoCalGas' operations have historically provided relatively stable earnings and liquidity. Their future performance and liquidity will depend primarily on the ratemaking and regulatory process, environmental regulations, economic conditions, actions by the California legislature, litigation and the changing energy marketplace, as well as other matters described in this report.

SDG&E and SoCalGas expect that the available unused credit from their credit facilities described above, cash flows from operations, and debt issuances will continue to be adequate to fund their respective current operations and planned capital expenditures. The California Utilities are continuing to monitor the impacts of the COVID-19 pandemic on cash flows and results of operations. Some customers are experiencing a diminished ability to pay their electric or gas bills, leading to slower payments and higher levels of nonpayment than has been the case historically. These impacts could become significant and could require modifications to our financing plans. The California Utilities manage their capital structure and pay dividends when appropriate and as approved by their respective boards of directors.

As we discuss in Note 4 of the Notes to Consolidated Financial Statements, changes in balancing accounts for significant costs at SDG&E and SoCalGas, particularly a change between over- and undercollected status, may have a significant impact on cash flows. These changes generally represent the difference between when costs are incurred and when they are ultimately recovered in rates through billings to customers.

Disconnection OIR

In June 2020, the CPUC issued a decision addressing service disconnections that, among other things, allows each of the California Utilities to establish a two-way balancing account to record the uncollectible expenses associated with residential customers' inability to pay their electric or gas bills. This decision also directs the California Utilities to establish an AMP that provides successfully participating, income-qualified residential customers with relief from outstanding utility bill amounts and is effective as of February 2021. The California Utilities have recorded increases in their allowances for uncollectible accounts at December 31, 2020 primarily related to expected forgiveness of outstanding bill amounts for customers eligible under the AMP. The AMP could result in a further reduction in payments received from the California Utilities' customers and a further increase to uncollectible accounts, which could become material, and any inability to recover these costs could have a material adverse effect on the cash flows, financial condition and results of operations of Sempra Energy, SDG&E and SoCalGas.

Pipeline Safety Enhancement Plan

In November 2018, SoCalGas and SDG&E filed a joint application with the CPUC for a reasonableness review of PSEP project costs totaling $941 million for 83 pipeline safety enhancement projects. SoCalGas and SDG&E subsequently entered into a settlement agreement for cost recovery of $935 million ($806 million for SoCalGas and $129 million for SDG&E). A final decision was approved in August 2020, granting the proposed settlement agreement as well as the amortization schedule for recovery of costs. The final decision was implemented in rates on October 1, 2020.

CCM

A CPUC cost of capital proceeding determines a utility's authorized capital structure and authorized return on rate base and addresses the CCM. The CCM, if triggered in 2021, would be effective January 1, 2022, and would automatically update the California Utilities' authorized cost of debt based on actual costs and update the California Utilities' authorized ROE. A trigger of the CCM that requires a downward adjustment beginning January 1, 2022 could materially adversely affect the results of operations and cash flows of Sempra Energy and, depending on the CCM that is triggered, SDG&E and SoCalGas. We discuss the CCM further in "Part I – Item 1. Business – Ratemaking Mechanisms – California Utilities – Cost of Capital Proceedings," "Part I – Item 1A. Risk Factors" and in Note 4 of the Notes to Consolidated Financial Statements.

SDG&E

Wildfire Fund

In 2019, SDG&E recorded a Wildfire Fund asset for committed shareholder contributions to the Wildfire Fund. We describe the Wildfire Legislation and related accounting treatment in Note 1 of the Notes to Consolidated Financial Statements.

SDG&E is exposed to the risk that the participating California electric IOUs may incur third-party wildfire claims for which they will seek recovery from the Wildfire Fund. In such a situation, SDG&E may recognize a reduction of its Wildfire Fund asset and record a charge against earnings in the period when there is a reduction of the available coverage due to recoverable claims from any of the participating IOUs. As a result, if any California electric IOU's equipment is determined to be a cause of a fire, it could have a material adverse effect on SDG&E's and Sempra Energy's financial condition and results of operations up to the carrying value of our Wildfire Fund asset, with additional potential material exposure if SDG&E's equipment is determined to be a cause of a fire. In addition, the Wildfire Fund could be completely exhausted due to fires in the other California electric IOUs' service territories, by fires in SDG&E's service territory or by a combination thereof. In 2020, California experienced some of the largest wildfires in its history (measured by acres burned), including fires in SDG&E's service territory. Although SDG&E is not aware of any claims made against the Wildfire Fund by any participating IOU, there is no assurance that the equipment of a California electric IOU will not be determined to be a cause of one or more of these fires. In the event that the Wildfire Fund is materially diminished, exhausted or terminated, SDG&E will lose the protection afforded by the Wildfire Fund, and as a consequence, a fire in SDG&E's service territory could cause a material adverse effect on SDG&E's and Sempra Energy's cash flows, results of operations and financial condition.

SoCalGas

SoCalGas' future performance and liquidity will be impacted by the resolution of legal, regulatory and other matters concerning the Leak, which we discuss below, in Note 16 of the Notes to Consolidated Financial Statements, and in "Part I – Item 1A. Risk Factors."

Aliso Canyon Natural Gas Storage Facility Gas Leak

From October 23, 2015 through February 11, 2016, SoCalGas experienced a natural gas leak from one of the injection-and-withdrawal wells, SS25, at its Aliso Canyon natural gas storage facility located in Los Angeles County. In February 2016, CalGEM confirmed that the well was permanently sealed.

Cost Estimates, Accounting Impact and Insurance. At December 31, 2020, SoCalGas estimates certain costs related to the Leak are $1,627 million (the cost estimate). This cost estimate may increase significantly as more information becomes available. A substantial portion of the cost estimate has been paid, and $451 million is accrued as Reserve for Aliso Canyon Costs on SoCalGas' and Sempra Energy's Consolidated Balance Sheets.

Except for the amounts paid or estimated to settle certain actions, the cost estimate does not include litigation or regulatory costs to the extent it is not possible to predict at this time the outcome of these actions or reasonably estimate the costs to defend or resolve the actions or the amount of damages, restitution, or civil, administrative or criminal fines, sanctions, penalties or other costs or remedies that may be imposed or incurred. The cost estimate also does not include certain other costs incurred by Sempra Energy associated with defending against shareholder derivative lawsuits and other potential costs that we currently do not anticipate incurring or that we cannot reasonably estimate. These costs not included in the cost estimate could be significant and could have a material adverse effect on SoCalGas' and Sempra Energy's cash flows, financial condition and results of operations.

We have received insurance payments for many of the costs included in the cost estimate, including temporary relocation and associated processing costs, control-of-well expenses, costs of the government-ordered response to the Leak, certain legal costs and lost gas. As of December 31, 2020, we recorded the expected recovery of the cost estimate related to the Leak of $445 million as Insurance Receivable for Aliso Canyon Costs on SoCalGas' and Sempra Energy's Consolidated Balance Sheets. This amount is exclusive of insurance retentions and $834 million of insurance proceeds we received through December 31, 2020. We intend to pursue the full extent of our insurance coverage for the costs we have incurred. Other than insurance for certain future defense costs we may incur as well as directors' and officers' liability, we have exhausted all of our insurance in this matter. We continue to pursue other sources of insurance coverage for costs related to this matter, but we may not be successful in obtaining additional insurance recovery for any of these costs. If we are not able to secure additional insurance recovery, if any costs we have recorded as an insurance receivable are not collected, if there are delays in receiving insurance recoveries, or if the insurance recoveries are subject to income taxes while the associated costs are not tax deductible, such amounts, which could be significant, could have a material adverse effect on SoCalGas' and Sempra Energy's cash flows, financial condition and results of operations.

Natural Gas Storage Operations and Reliability. Natural gas withdrawn from storage is important for service reliability during peak demand periods, including peak electric generation needs in the summer and consumer heating needs in the winter. The Aliso Canyon natural gas storage facility is the largest SoCalGas storage facility and an important element of SoCalGas' delivery system. As a result of the Leak, SoCalGas suspended injection of natural gas into the Aliso Canyon natural gas storage facility beginning in October 2015 and, following a comprehensive safety review and authorization by CalGEM and the CPUC's Executive Director, resumed injection operations in July 2017 based on limited operating ranges for the field. In February 2017, the CPUC opened a proceeding pursuant to SB 380 OII to determine the feasibility of minimizing or eliminating the use of the Aliso Canyon natural gas storage facility while still maintaining energy and electric reliability for the region, including considering alternative means for meeting or avoiding the demand for the facility's services if it were eliminated.

The CPUC has issued a series of directives to SoCalGas specifying the range of working gas to be maintained in the Aliso Canyon natural gas storage facility as well as protocols for the withdrawal of gas, to support safe and reliable natural gas service. Withdrawals of natural gas from the facility were made in 2018, 2019 and 2020 to augment natural gas supplies to meet consumer demand, including for electric generation needs.

If the Aliso Canyon natural gas storage facility were to be permanently closed, or if future cash flows from its operation were otherwise insufficient to recover its carrying value, it could result in an impairment of the facility and significantly higher than expected operating costs and/or additional capital expenditures, and natural gas reliability and electric generation could be jeopardized. At December 31, 2020, the Aliso Canyon natural gas storage facility had a net book value of $821 million. Any significant impairment of this asset, or higher operating costs and additional capital expenditures incurred by SoCalGas that may not be recoverable in customer rates, could have a material adverse effect on SoCalGas' and Sempra Energy's results of operations, financial condition and cash flows.

OSCs – Energy Efficiency and Advocacy

As we discuss in Note 4 of the Notes to Consolidated Financial Statements, in October 2019, the CPUC issued an OSC to determine whether SoCalGas should be sanctioned for violation of certain CPUC code sections and orders related to energy efficiency codes and standards advocacy activities undertaken by SoCalGas in 2018. In December 2019, the CPUC issued a second OSC to determine whether SoCalGas is entitled to the energy efficiency program's shareholder incentives for codes and standards advocacy in 2016 and 2017, whether its shareholders should bear the costs of those advocacy activities, and to address whether any other remedies are appropriate. The scope of this second OSC was later expanded to include energy efficiency program years 2014 and 2015, and SoCalGas' engagement with local governments on proposed reach codes. If the CPUC were to assess fines or penalties on SoCalGas associated with these OSCs, they could have a material adverse effect on SoCalGas' and

Sempra Energy's results of operations, financial condition and cash flows. We expect CPUC decisions on these OSCs in the first half of 2021.

Sempra Texas Utilities

Oncor relies on external financing as a significant source of liquidity for its capital requirements. In the past, Oncor has financed a substantial portion of its cash needs from operations and with proceeds from indebtedness. In the event that Oncor fails to meet its capital requirements or is unable to access sufficient capital to finance its ongoing needs, we may elect to make additional capital contributions to Oncor (as our commitments to the PUCT prohibit us from making loans to Oncor) which could be substantial and which would reduce the cash available to us for other purposes, could increase our indebtedness and could ultimately materially adversely affect our results of operations, liquidity, financial condition and prospects.

Oncor's ability to pay dividends may be limited by factors such as its credit ratings, regulatory capital requirements, debt-to-equity ratio approved by the PUCT and other restrictions. In addition, Oncor will not pay dividends if a majority of Oncor's independent directors or any minority member director determines it is in the best interests of Oncor to retain such amounts to meet expected future requirements.

Sempra Mexico

Construction Projects and Related Regulatory Matters

Sempra Mexico is currently constructing additional terminals for the receipt, storage, and delivery of liquid fuels in the vicinity of Mexico City, Puebla, Veracruz and Topolobampo. Sempra Mexico is also constructing a new solar facility (Border Solar) in Juárez, Chihuahua, through which it intends to supply renewable energy to several private companies. Sempra Mexico is currently developing additional terminals for the receipt, storage, and delivery of liquid fuels in the vicinity of Manzanillo, Guadalajara and Ensenada. We expect to fund these capital expenditures, investments and operations at IEnova with available funds, including credit facilities, and funds internally generated by the Sempra Mexico businesses, as well as funds from project financing, sales of securities, interim funding from the parent or affiliates, and partnering in JVs. We expect the projects under construction to commence commercial operations on various dates in 2021. However, expected commencement dates could be delayed by worsening or extended disruptions of project construction or development caused by the COVID-19 pandemic or other factors outside our control. Sempra Mexico is continuing to monitor the impacts of the COVID-19 pandemic on cash flows and results of operations. See "Part I – Item 1A. Risk Factors."

As we discuss in Note 16 of the Notes to Consolidated Financial Statements, in the second quarter of 2020, certain Mexican governmental agencies issued orders and regulations that would reduce or limit the renewable energy sector's participation in the country's energy market. Those orders would, among other things, create barriers for renewable energy facilities to enter the wholesale electricity market, prevent renewable energy projects currently in construction from reaching operations and increase grid fees for legacy renewables and cogeneration energy contract holders. IEnova and other companies affected by such measures, certain non-governmental environmental organizations or advocacy groups, and COFECE, Mexico's antitrust regulator, have filed legal complaints with the respective Mexican courts to prevent such measures from going into effect. In most cases, the courts have sided with the complainants and such measures have been stayed temporarily. The court-ordered injunctions provide relief until Mexico's Federal District Court ultimately resolves the amparo claims (constitutional protection lawsuits).

An unfavorable final decision on these amparo challenges, or the potential for an extended dispute, could impact our ability to successfully complete construction of our Border Solar project, which is not yet commercially operating, or to complete such construction in a timely manner and within expected budgets, may impact our ability to operate our wind and solar facilities already in service at existing levels or at all, and may adversely affect our ability to develop new projects, any of which may have a material adverse impact on our results of operations and cash flows and our ability to recover the carrying values of our renewable energy investments in Mexico.

The ability to successfully complete major construction projects is subject to a number of risks and uncertainties. For a discussion of these risks and uncertainties, see "Part I – Item 1A. Risk Factors."

Other Legal and Regulatory Matters

As we discuss in Note 16 of the Notes to Consolidated Financial Statements, IEnova received force majeure payments for the Guaymas-El Oro segment of the Sonora pipeline from August 2017 to August 2019. Under an agreement between IEnova and the CFE, the CFE will resume making payments only when the damaged section of the Guaymas-El Oro segment of the Sonora pipeline is repaired. If the pipeline is not repaired by March 14, 2021 and the parties do not agree on a new service start date, IEnova retains the right to terminate the contract and seek to recover its reasonable and documented costs and lost profits. If IEnova is unable to make such repairs (which have not commenced) and resume operations in the Guaymas-El Oro segment of

the Sonora pipeline or if IEnova terminates the contract and is unable to obtain recovery, there may be a material adverse impact on Sempra Energy's results of operations and cash flows and our ability to recover the carrying value of our investment. At December 31, 2020, the Guaymas-El Oro segment of the Sonora pipeline had a net book value of $447 million. The Sasabe-Puerto Libertad-Guaymas segment of the Sonora pipeline remains in full operation and is not impacted by these developments.

In May 2020, the two third-party capacity customers at the ECA Regas Facility, Shell Mexico and Gazprom, asserted that a 2019 update of the general terms and conditions for service at the facility, as approved by the CRE, resulted in a breach of contract by IEnova and a force majeure event. Citing these circumstances, the customers subsequently stopped making payments of amounts due under their respective LNG storage and regasification agreements. IEnova has rejected the customers' assertions and has drawn (and expects to continue to draw) on the customers' letters of credit provided as payment security. The parties engaged in discussions under the applicable contractual dispute resolution procedures without coming to a mutually acceptable resolution. In July 2020, Shell Mexico submitted a request for arbitration of the dispute and although Gazprom has joined the proceeding, Gazprom has replenished the amounts drawn on its letter of credit and has resumed making regular monthly payments under its LNG storage and regasification agreement. IEnova intends to avail itself of its available claims, defenses, rights and remedies in the arbitration proceeding, including seeking dismissal of the customers' claims. In addition to the arbitration proceeding, Shell Mexico also filed a constitutional challenge to the CRE's approval of the update to the general terms and conditions. In October 2020, Shell Mexico's request to stay CRE's approval was denied and, subsequently, Shell Mexico filed an appeal of that decision.

Potential Acquisition of ESJ

As we discuss in Note 5 of the Notes to Consolidated Financial Statements, in February 2021, IEnova agreed to acquire Saavi Energía's 50% interest in ESJ for approximately $83 million. At December 31, 2020, IEnova owned a 50% interest in ESJ, which is accounted for as an equity method investment. Upon completion of the acquisition, IEnova will own 100% of ESJ and will consolidate it. We expect to complete the acquisition in the first half of 2021, subject to various closing conditions, including authorizations from the FERC and COFECE.

ESJ is constructing a second wind power generation facility, which we expect will be completed in late 2021 or in the first quarter of 2022 and will have a nameplate capacity of 108 MW.

Exchange Offer

On December 2, 2020, we announced a non-binding offer to acquire up to 100% of the publicly held shares of IEnova in exchange for shares of our common stock at an exchange ratio of 0.0313 shares of our common stock for each one IEnova ordinary share, which exchange ratio remains subject to approval by the Sempra Energy board of directors. We expect to complete this transaction in the second quarter of 2021, subject to authorization by the SEC, CNBV and Mexican Stock Exchange and other closing conditions. This proposed transaction is subject to a number of risks that we discuss in "Part I – Item 1A. Risk Factors."

IEnova Common Stock Repurchase Fund

In April 2020, IEnova's shareholders approved an increase to a previously approved fund for IEnova to repurchase shares of its common stock for a maximum amount of $500 million, increased from $250 million. As of February 25, 2021, IEnova has repurchased 81,742,780 shares of its outstanding common stock held by NCI for approximately $248 million since the inception of the fund in 2018, increasing Sempra Energy's ownership interest in IEnova from 66.6% to 70.2% over this period. IEnova does not intend to repurchase shares of its common stock during the pendency of the exchange offer described above. Following the completion of the exchange offer, IEnova may repurchase shares under the existing program from time-to-time at the discretion of management.

Sempra LNG

Sempra LNG is pursuing development of additional LNG export facilities on the Gulf Coast and Pacific Coast of North America through its proposed Cameron LNG JV Phase 2 liquefaction expansion project in Louisiana, ECA LNG liquefaction export projects in Mexico, and Port Arthur LNG liquefaction export project in Texas. We expect Sempra LNG to require funding for the development and expansion of its portfolio of projects, which may be financed through a combination of operating cash flows, funding from the parent, project financing and participating in JVs.

Cameron LNG JV Three-Train Liquefaction Project (Phase 1)

Sempra LNG, through its 50.2% interest in Cameron LNG JV, operates a three-train natural gas liquefaction facility with an export capacity of 12 Mtpa of LNG, which we refer to as Phase 1. The majority of the construction was project-financed at the JV, with most or all of the remainder of the capital requirements provided by the project partners, including Sempra Energy,

through equity contributions under the project equity agreements. Cameron LNG JV achieved commercial operations of Train 1, Train 2 and Train 3 under its tolling agreements in August 2019, February 2020 and August 2020, respectively.

As we discuss below in "Off-Balance Sheet Arrangements" and in Note 6 of the Notes to Consolidated Financial Statements, Sempra Energy has guaranteed a maximum of $4.0 billion related to Cameron LNG JV's project financing and financing-related agreements for the Phase 1 project. These guarantees terminate upon Cameron LNG JV achieving "financial completion" of the Phase 1 three-train liquefaction export project, including all three trains achieving commercial operation and meeting certain operational performance tests, which are currently underway. Cameron LNG JV's financing agreements contain events of default customary for such financings, including a failure to achieve financial completion of the project by a deadline of September 30, 2021 (with up to an additional 365 days extension beyond such date permitted in cases of force majeure). Pursuant to the financing agreements, Cameron LNG JV is restricted from making distributions to its project owners, including Sempra LNG, from January 1, 2021 until the earlier of September 30, 2021 and the achievement of financial completion, at which time any deferred distributions will be released. A delay that results in a failure to achieve financial completion by September 30, 2021 would result in an event of default under Cameron LNG JV's financing agreements and a potential demand on Sempra Energy's guarantees. We anticipate that the guarantees will be terminated in the first half of 2021, but this timing could be delayed, perhaps substantially, if the operational performance tests required to achieve financial completion are not completed due to weather-related events, other events or other factors beyond our control. If, due to Cameron LNG JV's failure to satisfy the financial completion criteria by the applicable deadline, we are required to repay some or all of the $4.0 billion under our guarantees, any such repayments could have a material adverse effect on our business, results of operations, cash flows, financial condition and/or prospects.

For a discussion of our investment in Cameron LNG JV, JV financing, Sempra Energy guarantees, the risks discussed above and other risks relating to the Cameron LNG JV Phase 1 liquefaction export project that could adversely affect our future performance, see "Part I – Item 1A. Risk Factors."

Cameron LNG JV Liquefaction Expansion Project (Phase 2)

Cameron LNG JV has received the major permits and FTA and non-FTA approvals necessary to expand the current configuration of the Cameron LNG JV liquefaction project beyond Phase 1. The permits obtained for the Phase 2 project include up to two additional liquefaction trains and up to two additional full containment LNG storage tanks (one of which was permitted with the Phase 1 three-train project).

Sempra Energy has entered MOUs with TOTAL SE, Mitsui & Co., Ltd. and Mitsubishi Corporation that provide a framework for cooperation for the development of and 100% of the offtake from the potential Cameron LNG JV Phase 2 project. The ultimate participation of and offtake by TOTAL SE, Mitsui & Co., Ltd. and Mitsubishi Corporation remains subject to negotiation and finalization of definitive agreements, among other factors, and TOTAL SE, Mitsui & Co., Ltd. and Mitsubishi Corporation have no commitment to participate in or enter into offtake agreements with the Phase 2 project until such definitive agreements are established.

Expansion of the Cameron LNG JV liquefaction facility beyond the first three trains is subject to certain restrictions and conditions under the JV project financing agreements, including among others, timing restrictions on expansion of the project unless appropriate prior consent is obtained from the Phase 1 project lenders. Under the Cameron LNG JV equity agreements, the expansion of the project requires the unanimous consent of all the partners, including with respect to the equity investment obligation of each partner. Discussions among all the Cameron LNG JV partners have been taking place regarding how an expansion may be structured and we expect that discussions will continue. There is no assurance that the Cameron LNG JV members will unanimously agree in a timely manner or at all on an expansion structure, which, if not accomplished, would materially and adversely impact the development of the Phase 2 expansion project. In light of this and other considerations, we are unable to predict whether or when Cameron LNG JV might be able to move forward on the Phase 2 expansion of the Cameron LNG JV liquefaction facility beyond the first three trains.

The development of the potential Cameron LNG JV Phase 2 expansion project is subject to numerous other risks and uncertainties, including securing binding customer commitments; reaching unanimous agreement with our partners to proceed; obtaining a number of permits and regulatory approvals; securing financing; negotiating and completing suitable commercial agreements, including a definitive EPC contract, equity acquisition and governance agreements; reaching a final investment decision; and other factors associated with this potential investment. For a discussion of these risks, see "Part I – Item 1A. Risk Factors."

ECA LNG Liquefaction Export Projects

Sempra LNG and IEnova are developing two natural gas liquefaction export projects at IEnova's existing ECA Regas Facility. The liquefaction export projects, which are planned for development in two phases (a mid-scale project referred to as ECA LNG Phase 1 and a proposed large-scale project referred to as ECA LNG Phase 2), are being developed to provide buyers with direct access to North American west coast LNG supplies. We do not expect the construction of the ECA LNG Phase 1 project to disrupt operations at the ECA Regas Facility. However, construction of the ECA LNG Phase 2 project would conflict with the current operations at the ECA Regas Facility, which currently has long-term regasification contracts for 100% of the regasification facility's capacity through 2028, making the decisions on whether and how to pursue the ECA LNG Phase 2 project dependent in part on whether the investment in a large-scale liquefaction facility would, over the long term, be more beneficial financially than continuing to supply regasification services under our existing contracts. We have planned measures to not disrupt operations at the ECA Regas Facility with the construction of the ECA LNG Phase 1 project.

In March 2019, ECA LNG received two authorizations from the DOE to export U.S.-produced natural gas to Mexico and to re-export LNG to non-FTA countries from its ECA LNG Phase 1 project, which is a one-train natural gas liquefaction facility with a nameplate capacity of 3.25 Mtpa and initial offtake capacity of approximately 2.5 Mtpa that is under construction, and its proposed ECA LNG Phase 2 project that is in development.

In April 2020, ECA LNG Phase 1 executed definitive 20-year LNG sale and purchase agreements with Mitsui & Co., Ltd. for approximately 0.8 Mtpa of LNG and with an affiliate of TOTAL SE for approximately 1.7 Mtpa of LNG. In December 2020, an affiliate of TOTAL SE acquired a 16.6% ownership interest in ECA LNG Phase 1, with Sempra LNG and IEnova each retaining a 41.7% ownership interest. Our MOU with Mitsui & Co., Ltd. provides a framework for Mitsui & Co., Ltd.'s potential offtake of LNG from, and potential acquisition of an equity interest in, ECA LNG Phase 2.

In February 2020, we entered into an EPC contract with TechnipFMC for the engineering, procurement and construction of the ECA LNG Phase 1 project. Since reaching a final investment decision with respect to the project in November 2020, we released TechnipFMC to commence work to construct the ECA LNG Phase 1 project. The total price of the EPC contract is estimated at approximately $1.5 billion. We estimate that capital expenditures will approximate $2.0 billion, including capitalized interest and project contingency. The actual cost of the EPC contract and the actual amount of these capital expenditures may differ, perhaps substantially, from our estimates.

In December 2020, ECA LNG Phase 1 entered into a five-year loan agreement for an aggregate principal amount of up to $1.6 billion, of which $17 million was outstanding at December 31, 2020. Proceeds from the loan are being used to finance the cost of construction of the ECA LNG Phase 1 project. We discuss the details of this loan in Note 7 of the Notes to Consolidated Financial Statements.

The construction of the ECA LNG Phase 1 project and the development of the potential ECA LNG Phase 2 project are subject to numerous risks and uncertainties. For Phase 1, these include maintaining permits and regulatory approvals; construction delays; securing and maintaining commercial arrangements, such as gas supply and transportation agreements; and other factors associated with the project and its construction. For Phase 2, these include obtaining binding customer commitments; the receipt of a number of permits and regulatory approvals; obtaining financing; negotiating and completing suitable commercial agreements, including a definitive EPC contract, equity acquisition and governance agreements, LNG sales agreements and gas supply and transportation agreements; reaching a final investment decision; and other factors associated with this potential investment. In addition, as we discuss in Note 16 of the Notes to Consolidated Financial Statements, an unfavorable decision on certain property disputes or permit challenges, or an extended dispute with existing customers at the ECA Regas Facility, could materially and adversely affect the development of these projects and Sempra Energy's financial condition, results of operations, cash flows and prospects, including the impairment of all or a substantial portion of the capital costs invested in the projects to date. For a discussion of these risks, see "Part I – Item 1A. Risk Factors."

Port Arthur LNG Liquefaction Export Project

Sempra LNG is developing a proposed natural gas liquefaction export project on a greenfield site that it owns in the vicinity of Port Arthur, Texas, located along the Sabine-Neches waterway. Sempra LNG received authorizations from the DOE in August 2015 and May 2019 that collectively permit the LNG to be produced from the proposed Port Arthur LNG project to be exported to all current and future FTA and non-FTA countries.

In April 2019, the FERC approved the siting, construction and operation of the proposed Port Arthur LNG liquefaction facility, along with certain natural gas pipelines, including the Louisiana Connector and Texas Connector Pipelines, that could be used to supply feed gas to the liquefaction facility, assuming the project is completed. In February 2020, Sempra LNG filed a FERC application for the siting, construction and operation of a second phase at the proposed Port Arthur LNG facility, including the potential addition of two liquefaction trains.

In February 2020, we entered into an EPC contract with Bechtel for the proposed Port Arthur LNG liquefaction project. The EPC contract contemplates the construction of two liquefaction trains with a nameplate capacity of approximately 13.5 Mtpa, two LNG storage tanks, a marine berth and associated loading facilities and related infrastructure necessary to provide liquefaction services. We have no obligation to move forward on the EPC contract, and we may release Bechtel to perform portions of the work pursuant to limited notices to proceed. We plan to fully release Bechtel to perform all of the work to construct the Port Arthur LNG liquefaction export project only after we reach a final investment decision with respect to the project and after certain other conditions are met, including obtaining project financing. In December 2020, we amended and restated the EPC contract to reflect an estimated price of approximately $8.7 billion, depending on the timing of a full notice to proceed, which, if not issued by July 15, 2021, will require renegotiation of the EPC contract. Any changes to the EPC contract will require the agreement of both parties, which cannot be assured.

In December 2018, Polish Oil & Gas Company (PGNiG) and Port Arthur LNG entered into a definitive 20-year agreement for the sale and purchase of 2 Mtpa of LNG per year from the Port Arthur LNG liquefaction export project. Under the agreement, LNG purchases by PGNiG from Port Arthur LNG will be made on a free-on-board basis, with PGNiG responsible for shipping the LNG from the Port Arthur facility to the final destination. Port Arthur LNG will manage the gas pipeline transportation, liquefaction processing and cargo loading. The agreement is subject to certain conditions precedent, including Port Arthur LNG making a positive final investment decision within certain agreed timelines. The failure of these conditions precedent to be satisfied or waived within the agreed timelines could result in the termination of the agreement.

In May 2019, Aramco Services Company and Sempra LNG signed a Heads of Agreement for the negotiation of a definitive 20-year LNG sale and purchase agreement for 5 Mtpa of LNG offtake from the Port Arthur LNG liquefaction export project. The Heads of Agreement also includes the negotiation of a potential 25% equity investment in the project. In January 2020, Aramco Services Company and Sempra LNG signed an Interim Project Participation Agreement, which sets forth certain mechanisms for the parties to work towards receipt of corporate approvals to enter into and proceed with the transaction, execution of the transaction agreements and the fulfillment or waiver of the conditions precedent contemplated by these agreements, making a final investment decision and other pre-final investment decision activities. The Heads of Agreement and Interim Project Participation Agreement do not obligate the parties to ultimately execute any agreements or participate in the project.

In November 2019, Port Arthur LNG commenced the relocation and upgrade of approximately three miles of highway where the Port Arthur LNG liquefaction export project would be located.

We continue to work on completing all necessary milestones so that we are prepared to make a final investment decision for the proposed Port Arthur LNG liquefaction export project when appropriate. The impact of the COVID-19 pandemic on the global economy and uncertainty in the energy and financial markets, among other reasons, have delayed the expected timing of our final investment decision until 2021.

Development of the Port Arthur LNG liquefaction export project is subject to a number of risks and uncertainties, including obtaining additional customer commitments; completing the required commercial agreements, such as equity acquisitions and governance agreements, LNG sales agreements and gas supply and transportation agreements; completing construction contracts; securing all necessary permits and approvals; obtaining financing and incentives; reaching a final investment decision; and other factors associated with the potential investment. An unfavorable outcome with respect to any of these factors could have a material adverse effect on Sempra Energy’s financial condition, results of operations and prospects, including the impairment of all or a substantial portion of the capital costs invested in the project to date. For a discussion of these risks, see “Part I – Item 1A. Risk Factors.”

Proposed Sempra Infrastructure Partners Transaction

In December 2020, we announced our intention to sell NCI in Sempra Infrastructure Partners, which represents the combined businesses of Sempra LNG and IEnova. We expect to complete this transaction in the second quarter of 2021. We intend to use the expected proceeds from the proposed sale of NCI to fund capital investments to support additional growth opportunities and strengthen our balance sheet by reducing debt.

The proposed sale of NCI in Sempra Infrastructure Partners will reduce our ownership interest in Sempra Infrastructure Partners. Any decrease in our ownership of Sempra Infrastructure Partners would also decrease our share of the cash flows, profits and other benefits these businesses currently or may in the future produce, which could materially adversely affect our results of operations, cash flows, financial condition and/or prospects.

Our ability to complete this transaction is subject to a number of risks, including, among others, the ability to identify a suitable partner to purchase such NCI; negotiate the terms of equity sale, shareholder and other governance agreements with such partner; and obtain governmental, regulatory and third-party consents and approvals and satisfy any other closing conditions to complete

this transaction. Although the structure and terms of this transaction remain to be determined, the governmental and regulatory authorities with jurisdiction over the transaction could seek to block or challenge it or could impose requirements or obligations as conditions to its approval. If any of these circumstances were to occur, or if we are not able to achieve all of the foregoing in a timely manner or on satisfactory terms, then the proposed transaction may be abandoned and our prospects could be materially adversely affected. This transaction is subject to a number of risks and uncertainties that we discuss further in “Part I – Item 1A. Risk Factors.”

Discontinued Operations

In April 2020, we completed the sale of our equity interests in our Peruvian businesses for cash proceeds of $3,549 million, net of transaction costs and as adjusted for post-closing adjustments. In June 2020, we completed the sale of our equity interests in our Chilean businesses for cash proceeds of $2,216 million, net of transaction costs and as adjusted for post-closing adjustments.

Our utilities in South America historically provided relatively stable earnings and liquidity. We used a portion of the proceeds from the sales of these businesses to strengthen our balance sheet by repaying certain borrowings and repurchasing shares of our common stock, and we intend to use the remaining proceeds to focus on capital investment in North America to support additional growth opportunities. We expect the cash provided by earnings from our capital investments will exceed the absence of cash flows from these discontinued operations. However, there is no assurance that we will derive these anticipated benefits. Further, there is no assurance that we will be able to redeploy the capital that we obtained from such sales in a way that results in cash flows or earnings exceeding those historically generated by these businesses.

SOURCES AND USES OF CASH

The following tables include only significant changes in cash flow activities for each of our registrants.

CASH FLOWS FROM OPERATING ACTIVITIES

(Dollars in millions)

Years ended December 31,	Sempra Energy Consolidated	SDG&E	SoCalGas
2020	$ 2,591	$ 1,389	$ 1,526
2019	3,088	1,090	868
Change	$ (497)	$ 299	$ 658
Change in intercompany activities with discontinued operations (including $403 dividends received from our South American businesses in 2019)	$ (378)		
Net increase in Insurance Receivable for Aliso Canyon primarily due to $132 higher accruals and $94 lower insurance proceeds received	(228)		$ (228)
Change in accounts receivable	(224)	$ (119)	(28)
Release of a regulatory liability related to 2016-2018 income tax expense forecasting differences	(175)	(86)	(89)
Change in bad debt regulatory assets	(84)	(51)	(33)
TCJA revenue amortization	(82)	(44)	(38)
Increase in prepaid insurance premiums		(24)	
Net increase in Reserves for Aliso Canyon Costs, current and noncurrent, due to $450 higher accruals and $129 lower payments	579		579
Distributions of earnings from Cameron LNG JV in 2020	365		
Change in net undercollected regulatory balancing accounts (including long-term amounts in regulatory assets)	352	29	323
SDG&E's initial shareholder contribution to the Wildfire Fund in September 2019	323	323	
Decrease in funding for the Rabbi Trust	141		
Higher net margin posted at Sempra LNG's marketing operations	109		
Change in income taxes receivable/payable, net	72	255	345
Change in accounts payable	61		71
Higher distributions of earnings from Oncor Holdings	39		
Higher (lower) net income, adjusted for noncash items included in earnings	39	35	(258)
Other	35	(19)	14
Change in net cash flows from discontinued operations primarily due to $1,161 income taxes paid related to the sale of our South American businesses	(1,441)		
	$ (497)	$ 299	$ 658

CASH FLOWS FROM OPERATING ACTIVITIES (CONTINUED)

(Dollars in millions)

Years ended December 31,	Sempra Energy Consolidated	SDG&E	SoCalGas
2019	$ 3,088	$ 1,090	$ 868
2018	3,516	1,584	1,013
Change	$ (428)	$ (494)	$ (145)
Change in net undercollected regulatory balancing accounts (including long-term amounts in regulatory assets)	$ (513)	$ (254)	$ (259)
SDG&E's initial shareholder contribution to the Wildfire Fund in September 2019	(323)	(323)	
Change in income taxes receivable/payable, net, primarily due to higher payments	(254)	(149)	(170)
Net decrease in Reserve for Aliso Canyon Costs due to $119 higher payments and $81 lower accruals	(200)		(200)
Deferred revenue due to the TCJA at the California Utilities in 2018	(123)	(62)	(61)
Cash payments for operating leases in 2019	(101)	(33)	(27)
Decrease in interest payable primarily due to higher payments	(86)		
Higher contributions to Rabbi Trust	(81)		
Higher net income, adjusted for noncash items included in earnings	442	266	336
Change in intercompany activities with discontinued operations (including $334 higher dividends received from our South American businesses)	308		
Change in long-term GHG obligations	185		174
Net decrease in Insurance Receivable for Aliso Canyon Costs due to $84 higher insurance proceeds received and $81 lower accruals	165		165
Higher distributions of earnings from Oncor Holdings	97		
Change in accounts payable			(78)
Lower (higher) purchases of GHG allowances		50	(43)
Other	(38)	11	18
Change in net cash flows from discontinued operations	94		
	$ (428)	$ (494)	$ (145)

CASH FLOWS FROM INVESTING ACTIVITIES

(Dollars in millions)

Years ended December 31,	Sempra Energy Consolidated	SDG&E	SoCalGas
2020	$ 553	$ (1,934)	$ (1,843)
2019	(4,593)	(1,522)	(1,438)
Change	$ 5,146	$ (412)	$ (405)
Contributions to Oncor Holdings to fund Oncor's purchase of InfraREIT in May 2019	$ 1,067		
Distribution from Cameron LNG JV in 2020	753		
Contributions to Peruvian businesses in discontinued operations in 2019	583		
Contributions to Chilean businesses in discontinued operations in 2019	394		
Acquisition of investment in Sharyland Holdings in May 2019	95		
Increase in capital expenditures	(968)	$ (420)	$ (404)
Dividends received from Peruvian businesses in discontinued operations in 2019	(583)		
Net proceeds from the April 2019 sale of Sempra Renewables' wind assets and investments	(569)		
Dividends received from Chilean businesses in discontinued operations in 2019	(394)		
Net proceeds from the February 2019 sale of Sempra LNG's non-utility natural gas storage assets	(322)		
Loan to ESJ JV in 2020	(85)		
Other	(8)	8	(1)
Change in net cash flows from discontinued operations mainly due to $5,766 proceeds, net of transaction costs, offset by $502 cash sold from the sale of our South American businesses	5,183		
	$ 5,146	$ (412)	$ (405)

2019	$ (4,593)	$ (1,522)	$ (1,438)
2018	(12,470)	(1,542)	(1,531)
Change	$ 7,877	$ 20	$ 93
Acquisition of investment in Oncor Holdings in March 2018	$ 9,556		
Dividends received from Peruvian businesses in discontinued operations in 2019	583		
Dividends received from Chilean businesses in discontinued operations in 2019	394		
Net proceeds from sale of Sempra LNG's non-utility natural gas storage assets	322		
Lower expenditures for investments in Cameron LNG JV and IMG JV	245		
Lower advances to unconsolidated affiliates	79		
Higher contributions to Oncor Holdings primarily to fund Oncor's purchase of InfraREIT in May 2019	(1,357)		
Lower net proceeds from sale of certain Sempra Renewables' assets and investments ($569 in 2019 and $1,571 in 2018)	(1,002)		
Contributions to Peruvian businesses in discontinued operations in 2019	(583)		
Contributions to Chilean businesses in discontinued operations in 2019	(394)		
(Increase) decrease in capital expenditures	(164)	$ 20	$ 99
Acquisition of investment in Sharyland Holdings in May 2019	(95)		
Other	40		(6)
Change in net cash flows from discontinued operations	253		
	$ 7,877	$ 20	$ 93

CASH FLOWS FROM FINANCING ACTIVITIES

(Dollars in millions)

Years ended December 31,	Sempra Energy Consolidated	SDG&E	SoCalGas
2020	$ (2,373)	$ 797	$ 311
2019	1,475	405	562
Change	$ (3,848)	$ 392	$ (251)
Change in short-term debt, net	$ (2,415)	$ 131	$ (891)
Net proceeds from issuances of common stock from settlement of forward sale agreements in 2019	(1,794)		
Higher payments for commercial paper and other short-term debt with maturities greater than 90 days	(1,341)		
Higher payments on long-term debt and finance leases	(856)	(236)	(6)
Repurchase of common stock under ASR program in 2020	(500)		
Higher repurchases of IEnova stock held by NCI	(221)		
Lower issuances of short-term debt with maturities greater than 90 days	(213)		
(Higher) lower common dividends paid	(181)	(200)	50
Capital contribution from OMEC LLC in 2019 to repay OMEC's loan	(175)	(175)	
Lower advances from unconsolidated affiliates	(91)		
Equity contribution from Sempra Energy to fund initial shareholder contribution to the Wildfire Fund in September 2019		(322)	
Higher issuances of long-term debt	1,968	1,198	600
Net proceeds from issuance of series C preferred stock	891		
Change in intercompany activities with discontinued operations primarily related to intercompany loans in 2019	266		
Other	21	(4)	(4)
Change in net cash flows from discontinued operations primarily from a $250 intercompany loan and $60 net increase in short-term debt in 2020 and $977 equity contribution from Sempra Energy, offset by $1,380 common dividends paid in 2019	793		
	$ (3,848)	$ 392	$ (251)
2019	$ 1,475	$ 405	$ 562
2018	8,850	(34)	528
Change	$ (7,375)	$ 439	$ 34
Higher issuances of long-term debt in 2018, including increases at Sempra Energy Consolidated primarily to fund the March 2018 acquisition of investment in Oncor Holdings and at SDG&E from issuance of a new loan by OMEC LLC to partially repay OMEC's project financing loan	$ (4,826)	$ (218)	$ (600)
Net proceeds from 2018 issuances of mandatory convertible preferred stock	(2,258)		
Lower net proceeds from issuances of common stock primarily related to settlements of forward sale agreements	(442)		
(Higher) lower payments on long-term debt and finance leases	(217)	218	494
(Higher) lower common dividends paid	(169)	250	(100)
Change in intercompany activities with discontinued operations primarily related to intercompany loans	(157)		
Higher payments for commercial paper and other short-term debt with maturities greater than 90 days	(108)		
Increase (decrease) in short-term debt, net	740	(249)	234
Higher issuances of commercial paper and other short-term debt with maturities greater than 90 days	195		
Advances from unconsolidated affiliates	155		
Higher capital contributions from OMEC LLC to repay OMEC's loan	110	110	
Equity contribution from Sempra Energy to fund initial shareholder contribution to the Wildfire Fund in September 2019		322	
Other	(31)	6	6
Change in net cash flows from discontinued operations primarily from $1,311 common dividends paid offset by $977 equity contributions received in 2019	(367)		
	$ (7,375)	$ 439	$ 34

Expenditures for PP&E

We invest the majority of our capital expenditures in the California Utilities, primarily for transmission and distribution improvements, including pipeline and wildfire safety. The following table summarizes by segment capital expenditures for the last three years.

EXPENDITURES FOR PP&E
(Dollars in millions)

	Years ended December 31,		
	2020	2019	2018
SDG&E	$ 1,942	$ 1,522	$ 1,542
SoCalGas	1,843	1,439	1,538
Sempra Mexico	611	624	368
Sempra LNG	268	112	31
Sempra Renewables	—	2	51
Parent and other	12	9	14
Total	$ 4,676	$ 3,708	$ 3,544

Expenditures for Investments and Acquisitions

In 2019 and 2018, we invested heavily in our Sempra Texas Utilities, which included our March 2018 acquisition of Oncor Holdings and subsequent contributions to Oncor Holdings, primarily to fund Oncor's purchase of InfraREIT in May 2019. The following table summarizes by segment our investments in various JVs, as well as business and asset acquisitions.

EXPENDITURES FOR INVESTMENTS AND ACQUISITIONS
(Dollars in millions)

	Years ended December 31,		
	2020	2019	2018
Sempra Texas Utilities	$ 648	$ 1,685	$ 9,457
Sempra Mexico	—	—	100
Sempra LNG	4	110	275
Sempra Renewables	—	—	5
Parent and other	—	2	331
Total	$ 652	$ 1,797	$ 10,168

Future Capital Expenditures and Investments

The amounts and timing of capital expenditures and certain investments are generally subject to approvals by various regulatory and other governmental and environmental bodies, including the CPUC, the FERC and the PUCT, and various other factors described in this MD&A and in "Part I – Item 1A. Risk Factors." In 2021, we expect to make capital expenditures and investments of approximately $5.8 billion (which excludes capital expenditures that will be funded by unconsolidated entities), as summarized by segment in the following table.

FUTURE CAPITAL EXPENDITURES AND INVESTMENTS
(Dollars in millions)

	Year ended December 31, 2021
SDG&E	$ 2,400
SoCalGas	2,000
Sempra Texas Utilities	200
Sempra Mexico	400
Sempra LNG	800
Total	$ 5,800

We expect the majority of our capital expenditures and investments in 2021 will relate to transmission and distribution improvements at our regulated public utilities, the ECA LNG Phase 1 liquefaction export project at Sempra LNG and construction of liquid fuels terminals at Sempra Mexico.

From 2021 through 2025, and subject to the factors described below, which could cause these estimates to vary substantially, Sempra Energy expects to make aggregate capital expenditures and investments of approximately $22.5 billion (which excludes

capital expenditures that will be funded by unconsolidated entities), as follows: $9.6 billion at SDG&E, $9.2 billion at SoCalGas, $0.6 billion at Sempra Texas Utilities, $1.1 billion at Sempra Mexico and $2.0 billion at Sempra LNG. Capital expenditure amounts include capitalized interest and AFUDC related to debt.

Periodically, we review our construction, investment and financing programs and revise them in response to changes in regulation, economic conditions, competition, customer growth, inflation, customer rates, the cost and availability of capital, and safety and environmental requirements.

Our level of capital expenditures and investments in the next few years may vary substantially and will depend on, among other things, the cost and availability of financing, regulatory approvals, changes in U.S. federal tax law and business opportunities providing desirable rates of return. See "Part I – Item 1A. Risk Factors" for a discussion of other factors that could affect future levels of our capital expenditures and investments. We intend to finance our capital expenditures in a manner that will maintain our investment-grade credit ratings and capital structure, but there is no guarantee that we will be able to do so.

Capital Stock Transactions

Sempra Energy

Cash provided by issuances of common and preferred stock was:

- $902 million in 2020
- $1.8 billion in 2019
- $4.5 billion in 2018

Sempra Energy Series C Preferred Stock Offering. In June 2020, we issued 900,000 shares of our series C preferred stock in a registered public offering at a price to the public of $1,000 per share and received net proceeds of $889 million after deducting the underwriting discount and equity issuance costs of $11 million. We used the net proceeds for working capital and other general corporate purposes, including the repayment of indebtedness. We provide additional discussion about this equity offering in Note 13 of the Notes to Consolidated Financial Statements.

Sempra Energy Common Stock Repurchase Program. As we discuss in Note 14 of the Notes to Consolidated Financial Statements, in 2020, we entered into and completed an ASR program under which we paid $500 million to repurchase 4,089,375 shares of our common stock at an average price of $122.27 per share. We funded the $500 million share repurchase with a portion of the proceeds received from the sale of our South American businesses.

Dividends

Sempra Energy

Sempra Energy paid cash dividends of:

- $1,174 million for common stock and $157 million for preferred stock in 2020
- $993 million for common stock and $142 million for preferred stock in 2019
- $877 million for common stock and $89 million for preferred stock in 2018

On November 18, 2020, Sempra Energy declared a quarterly dividend of $1.045 per share of common stock, $1.50 per share of series A preferred stock and $1.6875 per share of series B preferred stock, all of which were paid on January 15, 2021.

Dividends declared on common stock have increased in each of the last three years due to an increase in the per-share quarterly dividends approved by our board of directors to $1.045 in 2020 ($4.18 annually) from $0.9675 in 2019 ($3.87 annually) and from $0.895 in 2018 ($3.58 annually).

On February 23, 2021, our board of directors approved an increase in Sempra Energy's quarterly common stock dividend to $1.10 per share ($4.40 annually), the first of which is payable April 15, 2021. In addition, on February 23, 2021, our board of directors declared quarterly dividends of $1.6875 per share on our series B preferred stock and semi-annual dividends of $24.375 per share on our series C preferred stock, both payable on April 15, 2021. All declarations of dividends on our common stock and preferred stock are made at the discretion of the board of directors. While we view dividends as an integral component of shareholder return, the amount of future dividends will depend on earnings, cash flows, financial and legal requirements, and other relevant factors at that time. As a result, Sempra Energy's dividends on common stock declared on an annual historical basis, including recent historical increases, may not be indicative of future declarations.

SDG&E

In 2020 and 2018, SDG&E paid common stock dividends to Enova and Enova paid corresponding dividends to Sempra Energy of $200 million and $250 million, respectively. SDG&E did not declare or pay common stock dividends in 2019. SDG&E's dividends on common stock declared on an annual historical basis may not be indicative of future declarations and could be impacted over the next few years in order for SDG&E to maintain its authorized capital structure while managing its capital investment program.

Enova, a wholly owned subsidiary of Sempra Energy, owns all of SDG&E's outstanding common stock. Accordingly, dividends paid by SDG&E to Enova and dividends paid by Enova to Sempra Energy are eliminated in Sempra Energy's consolidated financial statements.

SoCalGas

In 2020, 2019 and 2018, SoCalGas paid common stock dividends to PE and PE paid corresponding dividends to Sempra Energy of $100 million, $150 million and $50 million, respectively. SoCalGas' dividends on common stock declared on an annual historical basis may not be indicative of future declarations and could be impacted over the next few years in order for SoCalGas to maintain its authorized capital structure while managing its capital investment program.

PE, a wholly owned subsidiary of Sempra Energy, owns all of SoCalGas' outstanding common stock. Accordingly, dividends paid by SoCalGas to PE and dividends paid by PE to Sempra Energy are eliminated in Sempra Energy's consolidated financial statements.

Dividend Restrictions

The board of directors for each of Sempra Energy, SDG&E and SoCalGas has the discretion to determine whether to declare and, if declared, the amount of any dividends by each such entity. The CPUC's regulation of SDG&E's and SoCalGas' capital structures limits the amounts that are available for loans and dividends to Sempra Energy. At December 31, 2020, based on these regulations, Sempra Energy could have received combined loans and dividends of approximately $717 million from SDG&E and $148 million from SoCalGas.

We provide additional information about dividend restrictions in "Restricted Net Assets" in Note 1 of the Notes to Consolidated Financial Statements.

Book Value Per Common Share

Sempra Energy's book value per common share on the last day of each of the last three fiscal years was as follows:

- $70.11 in 2020
- $60.58 in 2019
- $54.35 in 2018

The increase in 2020 was primarily due to comprehensive income exceeding dividends, offset by common stock repurchases. In 2019, the increase was primarily due to comprehensive income exceeding dividends and common stock issuances.

Capitalization

Our debt to capitalization ratio, calculated as total debt as a percentage of total debt and equity, was as follows:

TOTAL CAPITALIZATION AND DEBT-TO-CAPITALIZATION RATIOS
(Dollars in millions)

	Sempra Energy Consolidated	SDG&E	SoCalGas
	December 31, 2020		
Total capitalization	$ 49,140	$ 15,207	$ 10,030
Debt-to-capitalization ratio	49 %	49 %	49 %
	December 31, 2019		
Total capitalization	$ 47,621	$ 13,542	$ 9,172
Debt-to-capitalization ratio	54 %	48 %	48 %

Significant changes in 2020 that affected capitalization included the following:

- Sempra Energy Consolidated: decrease in short-term debt and increase in equity from issuances of common and preferred stock and comprehensive income exceeding dividends.
- SDG&E: increase in long-term debt and increase in equity from comprehensive income exceeding dividends.
- SoCalGas: increase in long-term debt and increase in equity from comprehensive income exceeding dividends.

COMMITMENTS

The following tables summarize undiscounted principal contractual commitments at December 31, 2020 for Sempra Energy Consolidated, SDG&E and SoCalGas. We provide additional information about commitments above and in Notes 1, 7, 9, 15 and 16 of the Notes to Consolidated Financial Statements.

UNDISCOUNTED PRINCIPAL CONTRACTUAL COMMITMENTS – SEMPRA ENERGY CONSOLIDATED

(Dollars in millions)

	2021	2022 and 2023	2024 and 2025	Thereafter	Total
Long-term debt	$ 1,504	$ 2,632	$ 1,875	$ 16,248	$ 22,259
Interest on long-term debt[1]	845	1,614	1,442	11,111	15,012
Operating leases	73	119	91	415	698
Finance leases	206	406	391	2,465	3,468
Purchased-power contracts – fixed payments	222	381	233	794	1,630
Purchased-power contracts – estimated variable payments	363	726	724	3,610	5,423
Natural gas contracts[2]	280	422	319	1,032	2,053
LNG contract[3]	320	811	776	1,452	3,359
Construction commitments	525	41	32	98	696
SONGS decommissioning	110	146	89	697	1,042
Other asset retirement obligations	66	146	154	11,768	12,134
Sunrise Powerlink wildfire mitigation fund	4	8	8	279	299
Pension and other postretirement benefit obligations[4]	251	461	477	922	2,111
Wildfire Fund obligation	13	26	26	38	103
Environmental commitments[5]	12	19	9	58	98
Other	70	44	24	98	236
Total	$ 4,864	$ 8,002	$ 6,670	$ 51,085	$ 70,621

(1) *We calculate expected interest payments using the stated interest rate for fixed-rate obligations, including floating-to-fixed interest rate swaps and cross-currency swaps. We calculate expected interest payments for variable-rate obligations based on forecast rates in effect at December 31, 2020.*

(2) *Includes $30 million of estimated variable payments.*

(3) *Sempra LNG has a sale and purchase agreement for the supply of LNG to the ECA Regas Facility. The commitment amount is calculated using a predetermined formula based on estimated forward prices of the index applicable from 2021 to 2029.*

(4) *Amounts represent expected company contributions to the plans for the next 10 years.*

(5) *Excludes amounts related to the Leak that are recorded in Reserve for Aliso Canyon Costs and that are not currently known or reasonably estimable.*

UNDISCOUNTED PRINCIPAL CONTRACTUAL COMMITMENTS – SDG&E

(Dollars in millions)

	2021	2022 and 2023	2024 and 2025	Thereafter	Total
Long-term debt	$ 585	$ 468	$ —	$ 5,200	$ 6,253
Interest on long-term debt[1]	230	438	411	2,875	3,954
Operating leases	30	39	20	22	111
Finance leases	194	388	374	2,453	3,409
Purchased-power contracts – fixed payments	222	381	233	794	1,630
Purchased-power contracts – estimated variable payments	363	726	724	3,610	5,423
Construction commitments	2	2	2	19	25
SONGS decommissioning	110	146	89	697	1,042
Other asset retirement obligations	7	12	14	1,250	1,283
Sunrise Powerlink wildfire mitigation fund	4	8	8	279	299
Pension and other postretirement benefit obligations[2]	54	106	58	92	310
Wildfire Fund obligation	13	26	26	38	103
Environmental commitments	2	4	4	46	56
Other	4	7	7	48	66
Total	$ 1,820	$ 2,751	$ 1,970	$ 17,423	$ 23,964

(1) *SDG&E calculates expected interest payments using the stated interest rate for fixed-rate obligations. We calculate expected interest payments for variable-rate obligations based on forecast rates in effect at December 31, 2020.*

(2) *Amounts represent expected SDG&E contributions to the plans for the next 10 years.*

UNDISCOUNTED PRINCIPAL CONTRACTUAL COMMITMENTS – SOCALGAS

(Dollars in millions)

	2021	2022 and 2023	2024 and 2025	Thereafter	Total
Long-term debt	$ —	$ 300	$ 850	$ 3,609	$ 4,759
Interest on long-term debt[1]	167	334	303	2,115	2,919
Natural gas contracts	175	249	171	359	954
Operating leases	19	30	20	8	77
Finance leases	12	18	17	12	59
Environmental commitments[2]	10	15	5	11	41
Pension and other postretirement benefit obligations[3]	158	306	378	731	1,573
Asset retirement obligations	59	134	140	10,240	10,573
Other	2	4	4	34	44
Total	$ 602	$ 1,390	$ 1,888	$ 17,119	$ 20,999

(1) *SoCalGas calculates expected interest payments using the stated interest rate for fixed-rate obligations. We calculate expected interest payments for variable-rate obligations based on forecast rates in effect at December 31, 2020.*

(2) *Excludes amounts related to the Leak.*

(3) *Amounts represent expected SoCalGas contributions to the plans for the next 10 years.*

The tables above exclude contracts between consolidated affiliates, intercompany debt and employment contracts.

The tables also exclude income tax liabilities at December 31, 2020 of:

- $99 million for Sempra Energy Consolidated
- $13 million for SDG&E
- $68 million for SoCalGas

These liabilities relate to uncertain tax positions and were excluded from the tables because we are unable to reasonably estimate the timing and amount of future payments due to uncertainties in the effective settlement of tax positions. We provide additional information about unrecognized income tax benefits in Note 8 of the Notes to Consolidated Financial Statements.

We have bilateral unsecured standby letter of credit capacity with select lenders that is uncommitted and supported by reimbursement agreements. At December 31, 2020, we had approximately $508 million in standby letters of credit outstanding under these agreements.

OFF-BALANCE SHEET ARRANGEMENTS

In August 2014 and December 2019, Sempra Energy provided guarantees for 50.2% of Cameron LNG JV's financing obligations for a maximum amount of up to $4.0 billion. The guarantees will terminate upon satisfaction of certain conditions, including all three trains achieving financial completion by September 30, 2021 (with up to an additional 365-day extension beyond such date permitted in cases of force majeure). However, if Cameron LNG JV fails to satisfy the financial completion criteria, a demand could be made under the guarantee for Sempra Energy's 50.2% share of Cameron LNG JV's obligations under the financing arrangements then due and payable, which could have a material adverse impact on Sempra Energy's liquidity. We discuss these guarantees above in "Overview – Sempra LNG – Cameron LNG JV Three-Train Liquefaction Project (Phase 1)," in Note 6 of the Notes to Consolidated Financial Statements and "Part I – Item 1A. Risk Factors."

In July 2020, Sempra Energy entered into a Support Agreement, which contains a guarantee and represents a variable interest, for the benefit of CFIN with a maximum exposure to loss of $979 million. The guarantee will terminate upon full repayment of the guaranteed debt by 2039, including repayment following an event in which the guaranteed debt is put to Sempra Energy. We discuss this guarantee in Notes 1, 6 and 12 of the Notes to Consolidated Financial Statements.

SDG&E has entered into PPAs and tolling agreements that are variable interests. Our investments in Oncor Holdings and Cameron LNG JV are variable interests. Sempra Energy's other businesses may also enter into arrangements that could include variable interests. We discuss variable interests in Note 1 of the Notes to Consolidated Financial Statements.

CRITICAL ACCOUNTING POLICIES AND ESTIMATES

Management views certain accounting policies as critical because their application is the most relevant, judgmental, and/or material to our financial position and results of operations, and/or because they require the use of material judgments and estimates.

We describe our significant accounting policies in Note 1 of the Notes to Consolidated Financial Statements. We discuss choices among alternative accounting policies that are material to our financial statements and information concerning significant estimates with the Audit Committee of the Sempra Energy board of directors.

CONTINGENCIES

Sempra Energy, SDG&E, SoCalGas

We accrue losses for the estimated impacts of various conditions, situations or circumstances involving uncertain outcomes. For loss contingencies, we accrue the loss if an event has occurred on or before the balance sheet date and:

- information available through the date we file our financial statements indicates it is probable that a loss has been incurred, given the likelihood of uncertain future events
- the amount of the loss can be reasonably estimated

We do not accrue contingencies that might result in gains. We continuously assess contingencies for litigation claims, environmental remediation and other events.

Details of our issues in this area are discussed in Note 16 of the Notes to Consolidated Financial Statements.

REGULATORY ACCOUNTING

Sempra Energy, SDG&E, SoCalGas

As regulated entities, the California Utilities' customer rates, as set and monitored by regulators, are designed to recover the cost of providing service and provide the opportunity to earn a reasonable return on their investments. The California Utilities record regulatory assets, which are generally costs that would otherwise be charged to expense, if it is probable that, through the ratemaking process, the utility will recover that asset from customers in future rates. Similarly, regulatory liabilities are recorded for amounts recovered in rates in advance or in excess of costs incurred. The California Utilities assess probabilities of future rate recovery associated with regulatory account balances at the end of each reporting period and whenever new and/or unusual events occur, such as:

- changes in the regulatory and political environment or the utility's competitive position

- issuance of a regulatory commission order
- passage of new legislation

To the extent that circumstances associated with regulatory balances change, the regulatory balances are evaluated and adjusted if appropriate.

Adverse legislative or regulatory actions could materially impact the amounts of our regulatory assets and liabilities and could materially adversely impact our financial statements. Details of the California Utilities' regulatory assets and liabilities and additional factors that management considers when assessing probabilities associated with regulatory balances are discussed in Notes 1, 4, 15 and 16 of the Notes to Consolidated Financial Statements.

INCOME TAXES

Sempra Energy, SDG&E, SoCalGas

Our income tax expense and related balance sheet amounts involve significant management judgments and estimates. Amounts of deferred income tax assets and liabilities, as well as current and noncurrent accruals, involve judgments and estimates of the timing and probability of recognition of income and deductions by taxing authorities. When we evaluate the anticipated resolution of income tax issues, we consider:

- past resolutions of the same or similar issue
- the status of any income tax examination in progress
- positions taken by taxing authorities with other taxpayers with similar issues

The likelihood of deferred income tax recovery is based on analyses of the deferred income tax assets and our expectation of future taxable income, based on our strategic planning.

Actual income taxes could vary from estimated amounts because of:

- future impacts of various items, including changes in tax laws, regulations, interpretations and rulings
- our financial condition in future periods
- the resolution of various income tax issues between us and taxing and regulatory authorities

For an uncertain position to qualify for benefit recognition, the position must have at least a more-likely-than-not chance of being sustained (based on the position's technical merits) upon challenge by the respective authorities. The term more-likely-than-not means a likelihood of more than 50%. If we do not have a more-likely-than-not position with respect to a tax position, then we do not recognize any of the potential tax benefit associated with the position. A tax position that meets the more-likely-than-not recognition is measured as the largest amount of tax benefit that is greater than 50% likely of being realized upon the effective resolution of the tax position.

Unrecognized tax benefits involve management's judgment regarding the likelihood of the benefit being sustained. The final resolution of uncertain tax positions could result in adjustments to recorded amounts and may affect our results of operations, financial position and cash flows.

We discuss details of our issues in this area and additional information related to accounting for income taxes, including uncertainty in income taxes, in Note 8 of the Notes to Consolidated Financial Statements.

DERIVATIVES AND HEDGE ACCOUNTING

Sempra Energy, SDG&E, SoCalGas

We record derivative instruments for which we do not apply a scope exception at fair value on the balance sheet. Depending on the purpose for the contract and the applicability of hedge or regulatory accounting, the changes in fair value of derivatives may be recorded in earnings, on the balance sheet, or in OCI. We also use the normal purchase or sale exception for certain derivative contracts. Whenever possible, we use exchange quoted prices or other third-party pricing to estimate fair values; if no such data is available, we use internally developed models and other techniques. The assumed collectability of derivative assets considers events specific to a given counterparty, the counterparty's credit worthiness, and the tenor of the transaction.

The application of hedge accounting and normal purchase or sale accounting for certain derivatives is determined on a contract-by-contract basis. Significant changes in assumptions in our cash flow hedges, such as the amount and/or timing of forecasted transactions, could cause unrealized gains or losses (mark-to-market) to be reclassified out of AOCI to earnings, which may

materially impact our results of operations. Additionally, changes in assumed physical delivery on contracts for which we elected normal purchase or sale accounting may result in "tainting" of the election, which may (1) preclude us from making this election in future transactions and (2) impact Sempra Energy's results of operations. The impacts of derivatives and hedge accounting on the California Utilities' results of operations are typically not significant because regulatory accounting principles generally apply to their contracts. We provide details of our derivative instruments and our fair value approaches in Notes 11 and 12, respectively, of the Notes to Consolidated Financial Statements.

PENSION AND OTHER POSTRETIREMENT BENEFIT PLANS

Sempra Energy, SDG&E, SoCalGas

To measure our pension and other postretirement obligations, costs and liabilities, we rely on several assumptions. We consider current market conditions, including interest rates, in making these assumptions. We review these assumptions annually and update when appropriate.

The critical assumptions used to develop the required estimates include the following key factors:

- discount rates
- expected return on plan assets
- health care cost trend rates
- mortality rates
- rate of compensation increases
- termination and retirement rates
- utilization of postretirement welfare benefits
- payout elections (lump sum or annuity)
- lump sum interest rates

The actuarial assumptions we use may differ materially from actual results due to:

- return on plan assets
- changing market and economic conditions
- higher or lower withdrawal rates
- longer or shorter participant life spans
- more or fewer lump sum versus annuity payout elections made by plan participants
- higher or lower retirement rates

These differences, other than those related to the California Utilities' plans, where rate recovery offsets the effects of the assumptions on earnings, may result in a significant impact to the amount of pension and other postretirement benefit expense we record. For plans other than those at the California Utilities, the approximate annual effect on earnings of a 100 bps increase or decrease in the assumed discount rate would be less than $1 million and the effect of a 100 bps increase or decrease in the assumed rate of return on plan assets would be less than $2 million. We provide details of our pension and other postretirement benefit plans in Note 9 of the Notes to Consolidated Financial Statements.

ASSET RETIREMENT OBLIGATIONS

Sempra Energy, SDG&E

SDG&E's legal AROs related to the decommissioning of SONGS are estimated based on a site-specific study performed no less than every three years. The estimate of the obligations includes:

- estimated decommissioning costs, including labor, equipment, material and other disposal costs
- inflation adjustment applied to estimated cash flows
- discount rate based on a credit-adjusted risk-free rate
- actual decommissioning costs, progress to date and expected duration of decommissioning activities

Changes in the estimated decommissioning costs, or in the assumptions and judgments made by management underlying these estimates, could cause revisions to the estimated total cost associated with retiring the assets. SDG&E's nuclear decommissioning expenses are subject to rate recovery and, therefore, rate-making accounting treatment is applied to SDG&E's nuclear

decommissioning activities. SDG&E recognizes a regulatory asset, or liability, to the extent that its SONGS ARO exceeds, or is less than, the amount collected from customers and the amount earned in SDG&E's NDT.

We provide additional detail in Note 15 of the Notes to Consolidated Financial Statements.

IMPAIRMENT TESTING OF LONG-LIVED ASSETS

Sempra Energy

Whenever events or changes in circumstances indicate that an asset's carrying amount may not be recoverable, we consider if the estimated future undiscounted cash flows are less than the carrying amount of the asset. If so, we estimate the fair value of the asset to determine the extent to which carrying value exceeds fair value. For such an estimate, we may consider data from multiple valuation methods, including data from market participants. We exercise judgment to estimate the future cash flows and the useful life of a long-lived asset and to determine our intent to use the asset. Our intent to use or dispose of a long-lived asset is subject to re-evaluation and can change over time.

Events or changes in circumstances that indicate that the carrying amount of a long-lived asset may not be recoverable may include:

- significant decreases in the market price of an asset;
- a significant adverse change in the extent or manner in which we use an asset or in its physical condition;
- a significant adverse change in legal or regulatory factors or in the business climate that could affect the value of an asset;
- a current period operating or cash flow loss combined with a history of operating or cash flow losses or a projection of continuing losses associated with the use of a long-lived asset; and
- a current expectation that, more-likely-than-not, a long-lived asset will be sold or otherwise disposed of significantly before the end of its previously estimated useful life.

If an impairment test is required, the fair value of a long-lived asset can vary if differing estimates and assumptions are used in the valuation techniques applied as indicated by changing market or other conditions. We discuss impairment of long-lived assets in Note 1 of the Notes to Consolidated Financial Statements.

IMPAIRMENT TESTING OF GOODWILL

Sempra Energy

On an annual basis or whenever events or changes in circumstances necessitate an evaluation, we consider whether goodwill may be impaired. For our annual goodwill impairment testing, we have the option to first make a qualitative assessment of whether it is more-likely-than-not that the fair value of a reporting unit is less than its carrying amount before applying the quantitative goodwill impairment test. If we elect to perform the qualitative assessment, we evaluate relevant events and circumstances, including but not limited to, macroeconomic conditions, industry and market considerations, cost factors, changes in key personnel and the overall financial performance of the reporting unit. If, after assessing these qualitative factors, we determine that it is more-likely-than-not that the fair value of a reporting unit is less than its carrying amount, then we perform the quantitative goodwill impairment test. If, after performing the quantitative goodwill impairment test, we determine that goodwill is impaired, we record the amount of goodwill impairment as the excess of a reporting unit's carrying amount over its fair value, not to exceed the carrying amount of goodwill.

When determining if goodwill is impaired, the fair value of the reporting unit can vary if differing estimates and assumptions are used in the valuation techniques applied as indicated by changing market or other conditions. As a result, recognizing a goodwill impairment may or may not be required. When we perform the quantitative goodwill impairment test, we exercise judgment to develop estimates of the fair value of the reporting unit and compare that to its carrying value. Our fair value estimates are developed from the perspective of a knowledgeable market participant. We consider observable transactions in the marketplace for similar investments, if available, as well as an income-based approach such as a discounted cash flow analysis. A discounted cash flow analysis may be based directly on anticipated future revenues and expenses and may be performed based on free cash flows generated within the reporting unit. Critical assumptions that affect our estimates of fair value may include:

- consideration of market transactions
- future cash flows
- the appropriate risk-adjusted discount rate
- country risk
- entity risk

In 2020, we performed a quantitative goodwill impairment test and determined that the estimated fair values of our reporting units in Mexico to which goodwill was allocated was substantially above their carrying values as of October 1, 2020, our goodwill impairment testing date. We discuss goodwill in Note 1 of the Notes to Consolidated Financial Statements.

CARRYING VALUE OF EQUITY METHOD INVESTMENTS

Sempra Energy

We generally account for investments under the equity method when we have significant influence over, but do not have control of, the investee.

We consider whether the fair value of each equity investment as a whole, not the underlying net assets, has declined and whether that decline is other than temporary. To help evaluate whether a decline in fair value below carrying value has occurred and if the decline is other than temporary, we may develop fair value estimates for the investment. Our fair value estimates are developed from the perspective of a knowledgeable market participant. In the absence of observable transactions in the marketplace for similar investments, we consider an income-based approach such as a discounted cash flow analysis or, with less weighting, the replacement cost of the underlying net assets. A discounted cash flow analysis may be based directly on anticipated future distributions from the investment, or may be performed based on free cash flows generated within the entity and adjusted for our ownership share total. For certain investments, critical assumptions may include, but are not limited to, transportation rates for natural gas, the appropriate risk-adjusted discount rate and the availability and costs of natural gas and LNG.

In addition, for our indirect investment in Oncor, critical assumptions may also include the effects of ratemaking, such as the results of regulator decisions on rates and recovery of regulated investments and costs. The risk assumptions applied by other market participants to value the investments could vary significantly or the appropriate approaches could be weighted differently. These differences could impact whether or not the fair value of the investment is less than its carrying value, and if so, whether that condition is other than temporary. This could result in an impairment charge and, in cases where an impairment charge has been recorded, additional loss or gain upon sale in the case of a sale transaction.

We provide additional details in Notes 6 and 12 of the Notes to Consolidated Financial Statements.

NEW ACCOUNTING STANDARDS

We discuss the relevant pronouncements that have recently had or may have a significant effect on our financial statements and/or disclosures in Note 2 of the Notes to Consolidated Financial Statements.

ITEM 7A. QUANTITATIVE AND QUALITATIVE DISCLOSURES ABOUT MARKET RISK

Market risk is the risk of erosion of our cash flows, earnings, asset values or equity due to adverse changes in commodity market prices, interest rates and foreign currency and inflation rates.

RISK POLICIES

Sempra Energy has policies governing its market risk management and trading activities. Sempra Energy and the California Utilities maintain separate risk management committees, organizations and processes for the California Utilities and for all non-CPUC regulated affiliates to provide oversight of these activities. The committees consist of senior officers who establish policy, oversee energy risk management activities, and monitor the results of trading and other activities to help ensure compliance with our stated energy risk management and trading policies. These activities include, but are not limited to, monitoring of market positions that create credit, liquidity and market risk. The respective oversight organizations and committees are independent from energy procurement departments.

Along with other tools, we use VaR and liquidity metrics to measure our exposure to market risk associated with commodity portfolios. VaR is an estimate of the potential loss on a position or portfolio of positions over a specified holding period, based on normal market conditions and within a given statistical confidence interval. We use a variance-covariance VaR model at a 95% confidence level. A liquidity metric is intended to monitor the amount of financial resources needed for meeting potential margin calls as forward market prices move. VaR and liquidity risk metrics are independently verified by the respective risk management oversight organizations.

The California Utilities use power and natural gas derivatives to manage electric and natural gas price risk associated with servicing load requirements. The use of power and natural gas derivatives is subject to certain limitations imposed by company policy and is in compliance with risk management and trading activity plans that have been filed with and approved by the CPUC. We discuss revenue recognition in Note 3 and additional market-risk information regarding derivative instruments in Note 11 of the Notes to Consolidated Financial Statements.

We have exposure to changes in commodity prices, interest rates and foreign currency and inflation rates. The following discussion of these primary market-risk exposures as of December 31, 2020 includes a discussion of how these exposures are managed.

COMMODITY PRICE RISK

Market risk related to physical commodities is created by volatility in the prices and basis of certain commodities. Our various subsidiaries are exposed, in varying degrees, to commodity price risk, primarily to prices in the natural gas and electricity markets. Our policy is to manage this risk within a framework that considers the specific markets and operating and regulatory environments of each subsidiary.

Sempra Mexico and Sempra LNG are generally exposed to commodity price risk indirectly through their LNG, natural gas pipelines and storage, and power-generating assets. These segments may utilize commodity transactions in an effort to optimize these assets. These transactions are typically priced based on market indices, but may also include fixed price purchases and sales of commodities. Any residual exposure is monitored as described above. A hypothetical 10% unfavorable change in commodity prices would not have resulted in a material change in the fair value of our commodity-based derivatives for these segments at December 31, 2020 or 2019. The impact of a change in energy commodity prices on our commodity-based derivative instruments at a point in time is not necessarily representative of the results that will be realized when the contracts are ultimately settled and does not typically include the generally offsetting impact of our underlying asset positions.

The California Utilities' market-risk exposure is limited due to CPUC-authorized rate recovery of the costs of commodity purchases, interstate and intrastate transportation, and storage activity. However, SoCalGas may, at times, be exposed to market risk as a result of incentive mechanisms that reward or penalize the utility for commodity costs below or above certain benchmarks for SoCalGas' GCIM. If commodity prices were to rise too rapidly, it is likely that volumes would decline. This decline would increase the per-unit fixed costs, which could lead to further volume declines. The California Utilities manage their risk within the parameters of their market risk management framework. As of and for the year ended December 31, 2020, the total VaR of the California Utilities' natural gas and electric positions was not material, and SDG&E's power procurement activities were in compliance with the procurement plans filed with and approved by the CPUC.

INTEREST RATE RISK

We are exposed to fluctuations in interest rates primarily as a result of our having issued short- and long-term debt. Subject to regulatory constraints, we periodically enter into interest rate swap agreements to moderate our exposure to interest rate changes and to lower our overall cost of borrowing.

The table below shows the nominal amount of our debt:

NOMINAL AMOUNT OF DEBT[1]
(Dollars in millions)

	December 31, 2020			December 31, 2019		
	Sempra Energy Consolidated	SDG&E	SoCalGas	Sempra Energy Consolidated	SDG&E	SoCalGas
Short-term:						
California Utilities	$ 113	$ —	$ 113	$ 710	$ 80	$ 630
Other	772	—	—	2,798	—	—
Long-term:						
California Utilities fixed-rate	$ 10,512	$ 6,053	$ 4,459	$ 8,949	$ 5,140	$ 3,809
California Utilities variable-rate	500	200	300	—	—	—
Other fixed-rate	11,204	—	—	11,561	—	—
Other variable-rate	51	—	—	746	—	—

(1) *After the effects of interest rate swaps. Before the effects of acquisition-related fair value adjustments and reductions for unamortized discount and debt issuance costs, and excluding finance lease obligations.*

An interest rate risk sensitivity analysis measures interest rate risk by calculating the estimated changes in earnings that would result from a hypothetical change in market interest rates. Earnings are affected by changes in interest rates on short-term debt and variable-rate long-term debt. If weighted-average interest rates on short-term debt outstanding at December 31, 2020 increased or decreased by 10%, the change in earnings over the 12-month period ending December 31, 2021 would be negligible. If interest rates increased or decreased by 10% on all variable-rate long-term debt at December 31, 2020, after considering the effects of interest rate swaps, the change in earnings over the 12-month period ending December 31, 2021 would be negligible.

We provide further information about debt and interest rate swap transactions in Notes 7 and 11, respectively, of the Notes to Consolidated Financial Statements.

We also are subject to the effect of interest rate fluctuations on the assets of our pension plans, other postretirement benefit plans, and SDG&E's NDT. However, we expect the effects of these fluctuations, as they relate to the California Utilities, to be recovered in future rates.

FOREIGN CURRENCY AND INFLATION RATE RISK

We discuss our foreign currency and inflation exposures in "Part II – Item 7. MD&A – Impact of Foreign Currency and Inflation Rates on Results of Operations."

The hypothetical effect for every 10% appreciation in the U.S. dollar against the Mexican peso, in which we have operations and investments, are as follows:

HYPOTHETICAL EFFECTS FROM 10% STRENGTHENING OF U.S. DOLLAR [1]
(Dollars in millions)

	Hypothetical effects
Translation of 2020 earnings to U.S. dollars[2]	$ (2)
Transactional exposure[3]	115
Translation of net assets of foreign subsidiaries and investment in foreign entities[4]	(17)

(1) *After the effects of foreign currency derivatives.*
(2) *Amount represents the impact to earnings for a change in the average exchange rate throughout the reporting period.*
(3) *Amount primarily represents the effects of currency exchange rate movement from December 31, 2020 on monetary assets and liabilities and translation of non-U.S. deferred income tax balances at our Mexican subsidiaries.*
(4) *Amount represents the effects of currency exchange rate movement from December 31, 2020 that would be recorded to OCI at the end of the reporting period.*

Monetary assets and liabilities at our Mexican subsidiaries and JVs that are denominated in U.S. dollars may fluctuate significantly throughout the year. These monetary assets and liabilities and certain nonmonetary assets and liabilities are adjusted for Mexican inflation for Mexican income tax purposes. Based on a net monetary liability position of $4.4 billion, including those related to our investments in JVs, at December 31, 2020, the hypothetical effect of a 10% increase in the Mexican inflation rate is

approximately $90 million lower earnings as a result of higher income tax expense for our consolidated subsidiaries, as well as lower equity earnings for our JVs.

We completed the sales of our South American businesses in 2020 and are no longer exposed to changes in foreign currency and inflation rates in Peru and Chile.

ITEM 8. FINANCIAL STATEMENTS AND SUPPLEMENTARY DATA

Our consolidated financial statements are listed on the Index to Consolidated Financial Statements set forth on page F-1 of this annual report on Form 10-K.

ITEM 9. CHANGES IN AND DISAGREEMENTS WITH ACCOUNTANTS ON ACCOUNTING AND FINANCIAL DISCLOSURE

None.

ITEM 9A. CONTROLS AND PROCEDURES

EVALUATION OF DISCLOSURE CONTROLS AND PROCEDURES

Sempra Energy, SDG&E, SoCalGas

Sempra Energy, SDG&E and SoCalGas maintain disclosure controls and procedures designed to ensure that information required to be disclosed in their respective reports filed or submitted under the Exchange Act is recorded, processed, summarized and reported within the time periods specified in the rules and forms of the SEC and is accumulated and communicated to the management of each company, including each respective principal executive officer and principal financial officer, to allow timely decisions regarding required disclosure. In designing and evaluating these controls and procedures, the management of each company recognizes that any system of controls and procedures, no matter how well designed and operated, can provide only reasonable assurance of achieving the desired control objectives; therefore, the management of each company applies judgment in evaluating the cost-benefit relationship of possible controls and procedures.

Under the supervision and with the participation of the principal executive officers and principal financial officers of Sempra Energy, SDG&E and SoCalGas, each such company's management evaluated the effectiveness of the design and operation of its disclosure controls and procedures as of December 31, 2020, the end of the period covered by this report. Based on these evaluations, the principal executive officers and principal financial officers of Sempra Energy, SDG&E and SoCalGas concluded that their respective company's disclosure controls and procedures were effective at the reasonable assurance level as of such date.

MANAGEMENT'S REPORT ON INTERNAL CONTROL OVER FINANCIAL REPORTING

Sempra Energy, SDG&E, SoCalGas

The respective management of Sempra Energy, SDG&E and SoCalGas is responsible for establishing and maintaining adequate internal control over financial reporting, as defined in Exchange Act Rule 13a-15(f).

Under the supervision and with the participation of the principal executive officers and principal financial officers of Sempra Energy, SDG&E and SoCalGas, each such company's management evaluated the effectiveness of its internal control over financial reporting based on the framework in *Internal Control – Integrated Framework (2013)* issued by the Committee of Sponsoring Organizations of the Treadway Commission. Based on these evaluations, each company's management concluded that its internal control over financial reporting was effective as of December 31, 2020. Deloitte & Touche LLP audited the effectiveness of each company's internal control over financial reporting as of December 31, 2020, as stated in their reports, which are included in this annual report on Form 10-K.

There have been no changes in any such company’s internal control over financial reporting during the most recent fiscal quarter that have materially affected, or are reasonably likely to materially affect, such company’s internal control over financial reporting.

REPORT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

To the Shareholders and Board of Directors of Sempra Energy:

Opinion on Internal Control over Financial Reporting

We have audited the internal control over financial reporting of Sempra Energy and subsidiaries ("Sempra Energy") as of December 31, 2020, based on criteria established in Internal Control – Integrated Framework (2013) issued by the Committee of Sponsoring Organizations of the Treadway Commission ("COSO"). In our opinion, Sempra Energy maintained, in all material respects, effective internal control over financial reporting as of December 31, 2020, based on criteria established in Internal Control – Integrated Framework (2013) issued by COSO.

We have also audited, in accordance with the standards of the Public Company Accounting Oversight Board (United States) ("PCAOB"), the consolidated financial statements as of and for the year ended December 31, 2020 of Sempra Energy and our report dated February 25, 2021 expressed an unqualified opinion on those financial statements.

Basis for Opinion

Sempra Energy's management is responsible for maintaining effective internal control over financial reporting and for its assessment of the effectiveness of internal control over financial reporting, included in the accompanying Management's Report on Internal Control over Financial Reporting. Our responsibility is to express an opinion on Sempra Energy's internal control over financial reporting based on our audit. We are a public accounting firm registered with the PCAOB and are required to be independent with respect to Sempra Energy in accordance with the U.S. federal securities laws and the applicable rules and regulations of the Securities and Exchange Commission and the PCAOB.

We conducted our audit in accordance with the standards of the PCAOB. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether effective internal control over financial reporting was maintained in all material respects. Our audit included obtaining an understanding of internal control over financial reporting, assessing the risk that a material weakness exists, testing and evaluating the design and operating effectiveness of internal control based on the assessed risk, and performing such other procedures as we considered necessary in the circumstances. We believe that our audit provides a reasonable basis for our opinion.

Definition and Limitations of Internal Control over Financial Reporting

A company's internal control over financial reporting is a process designed to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles. A company's internal control over financial reporting includes those policies and procedures that (1) pertain to the maintenance of records that, in reasonable detail, accurately and fairly reflect the transactions and dispositions of the assets of the company; (2) provide reasonable assurance that transactions are recorded as necessary to permit preparation of financial statements in accordance with generally accepted accounting principles, and that receipts and expenditures of the company are being made only in accordance with authorizations of management and directors of the company; and (3) provide reasonable assurance regarding prevention or timely detection of unauthorized acquisition, use, or disposition of the company's assets that could have a material effect on the financial statements.

Because of its inherent limitations, internal control over financial reporting may not prevent or detect misstatements. Also, projections of any evaluation of effectiveness to future periods are subject to the risk that controls may become inadequate because of changes in conditions, or that the degree of compliance with the policies or procedures may deteriorate.

/s/ DELOITTE & TOUCHE LLP

San Diego, California
February 25, 2021

REPORT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

To the Shareholder and Board of Directors of San Diego Gas & Electric Company:

Opinion on Internal Control over Financial Reporting

We have audited the internal control over financial reporting of San Diego Gas & Electric Company ("SDG&E") as of December 31, 2020, based on criteria established in *Internal Control – Integrated Framework (2013)* issued by the Committee of Sponsoring Organizations of the Treadway Commission ("COSO"). In our opinion, SDG&E maintained, in all material respects, effective internal control over financial reporting as of December 31, 2020, based on criteria established in *Internal Control – Integrated Framework (2013)* issued by COSO.

We have also audited, in accordance with the standards of the Public Company Accounting Oversight Board (United States) ("PCAOB"), the consolidated financial statements as of and for the year ended December 31, 2020 of SDG&E and our report dated February 25, 2021 expressed an unqualified opinion on those financial statements.

Basis for Opinion

SDG&E's management is responsible for maintaining effective internal control over financial reporting and for its assessment of the effectiveness of internal control over financial reporting, included in the accompanying Management's Report on Internal Control over Financial Reporting. Our responsibility is to express an opinion on SDG&E's internal control over financial reporting based on our audit. We are a public accounting firm registered with the PCAOB and are required to be independent with respect to SDG&E in accordance with the U.S. federal securities laws and the applicable rules and regulations of the Securities and Exchange Commission and the PCAOB.

We conducted our audit in accordance with the standards of the PCAOB. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether effective internal control over financial reporting was maintained in all material respects. Our audit included obtaining an understanding of internal control over financial reporting, assessing the risk that a material weakness exists, testing and evaluating the design and operating effectiveness of internal control based on the assessed risk, and performing such other procedures as we considered necessary in the circumstances. We believe that our audit provides a reasonable basis for our opinion.

Definition and Limitations of Internal Control over Financial Reporting

A company's internal control over financial reporting is a process designed to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles. A company's internal control over financial reporting includes those policies and procedures that (1) pertain to the maintenance of records that, in reasonable detail, accurately and fairly reflect the transactions and dispositions of the assets of the company; (2) provide reasonable assurance that transactions are recorded as necessary to permit preparation of financial statements in accordance with generally accepted accounting principles, and that receipts and expenditures of the company are being made only in accordance with authorizations of management and directors of the company; and (3) provide reasonable assurance regarding prevention or timely detection of unauthorized acquisition, use, or disposition of the company's assets that could have a material effect on the financial statements.

Because of its inherent limitations, internal control over financial reporting may not prevent or detect misstatements. Also, projections of any evaluation of effectiveness to future periods are subject to the risk that controls may become inadequate because of changes in conditions, or that the degree of compliance with the policies or procedures may deteriorate.

/s/ DELOITTE & TOUCHE LLP

San Diego, California
February 25, 2021

REPORT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

To the Shareholders and Board of Directors of Southern California Gas Company:

Opinion on Internal Control over Financial Reporting

We have audited the internal control over financial reporting of Southern California Gas Company ("SoCalGas") as of December 31, 2020, based on criteria established in *Internal Control – Integrated Framework (2013)* issued by the Committee of Sponsoring Organizations of the Treadway Commission ("COSO"). In our opinion, SoCalGas maintained, in all material respects, effective internal control over financial reporting as of December 31, 2020, based on criteria established in *Internal Control – Integrated Framework (2013)* issued by COSO.

We have also audited, in accordance with the standards of the Public Company Accounting Oversight Board (United States) ("PCAOB"), the financial statements as of and for the year ended December 31, 2020 of SoCalGas and our report dated February 25, 2021 expressed an unqualified opinion on those financial statements.

Basis for Opinion

SoCalGas' management is responsible for maintaining effective internal control over financial reporting and for its assessment of the effectiveness of internal control over financial reporting, included in the accompanying Management's Report on Internal Control over Financial Reporting. Our responsibility is to express an opinion on SoCalGas' internal control over financial reporting based on our audit. We are a public accounting firm registered with the PCAOB and are required to be independent with respect to SoCalGas in accordance with the U.S. federal securities laws and the applicable rules and regulations of the Securities and Exchange Commission and the PCAOB.

We conducted our audit in accordance with the standards of the PCAOB. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether effective internal control over financial reporting was maintained in all material respects. Our audit included obtaining an understanding of internal control over financial reporting, assessing the risk that a material weakness exists, testing and evaluating the design and operating effectiveness of internal control based on the assessed risk, and performing such other procedures as we considered necessary in the circumstances. We believe that our audit provides a reasonable basis for our opinion.

Definition and Limitations of Internal Control over Financial Reporting

A company's internal control over financial reporting is a process designed to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles. A company's internal control over financial reporting includes those policies and procedures that (1) pertain to the maintenance of records that, in reasonable detail, accurately and fairly reflect the transactions and dispositions of the assets of the company; (2) provide reasonable assurance that transactions are recorded as necessary to permit preparation of financial statements in accordance with generally accepted accounting principles, and that receipts and expenditures of the company are being made only in accordance with authorizations of management and directors of the company; and (3) provide reasonable assurance regarding prevention or timely detection of unauthorized acquisition, use, or disposition of the company's assets that could have a material effect on the financial statements.

Because of its inherent limitations, internal control over financial reporting may not prevent or detect misstatements. Also, projections of any evaluation of effectiveness to future periods are subject to the risk that controls may become inadequate because of changes in conditions, or that the degree of compliance with the policies or procedures may deteriorate.

/s/ DELOITTE & TOUCHE LLP

San Diego, California
February 25, 2021

ITEM 9B. OTHER INFORMATION

None.

PART III.

Because SDG&E meets the conditions of General Instructions I(1)(a) and (b) of Form 10-K and is therefore filing this report with a reduced disclosure format as permitted by General Instruction I(2), the information required by Part III – Items 10, 11, 12 and 13 below is not required for SDG&E. We have, however, provided the information required by Part III – Item 10 with respect to SDG&E's executive officers in "Part I – Item 1. Business – Other Matters – Information About Our Executive Officers."

ITEM 10. DIRECTORS, EXECUTIVE OFFICERS AND CORPORATE GOVERNANCE

We provide the information required by Part III – Item 10 with respect to executive officers for Sempra Energy (other than information required by Item 405 of SEC Regulation S-K) and SoCalGas in "Part I – Item 1. Business – Other Matters – Information About Our Executive Officers." For Sempra Energy, all other information required by Part III – Item 10 is incorporated by reference from "Corporate Governance," "Share Ownership" and "Proposal 1: Election of Directors" in the proxy statement to be filed for its May 2021 annual meeting of shareholders. For SoCalGas, all other information required by Part III – Item 10 is incorporated by reference from its information statement to be filed for its June 2021 annual meeting of shareholders. In all cases, only the specific information that is expressly required by this item is incorporated herein by reference.

ITEM 11. EXECUTIVE COMPENSATION

The information required by Part III – Item 11 is incorporated by reference from "Corporate Governance" and "Executive Compensation," including "Compensation Discussion and Analysis," "Compensation and Talent Committee Report" and "Compensation Tables" in the proxy statement to be filed for the May 2021 annual meeting of shareholders for Sempra Energy and from the information statement to be filed for the June 2021 annual meeting of shareholders for SoCalGas. In all cases, only the specific information that is expressly required by this item is incorporated herein by reference.

ITEM 12. SECURITY OWNERSHIP OF CERTAIN BENEFICIAL OWNERS AND MANAGEMENT AND RELATED STOCKHOLDER MATTERS

SECURITIES AUTHORIZED FOR ISSUANCE UNDER EQUITY COMPENSATION PLANS

Sempra Energy has LTIPs that permit the grant of a wide variety of equity and equity-based incentive awards to directors, officers and key employees. At December 31, 2020, outstanding awards consisted of stock options and RSUs held by 460 employees.

The following table sets forth information regarding our equity compensation plans at December 31, 2020.

EQUITY COMPENSATION PLANS

Equity compensation plans approved by shareholders	Number of shares to be issued upon exercise of outstanding options, warrants and rights[1]		Weighted-average exercise price of outstanding options, warrants and rights[2]	Number of additional shares remaining available for future issuance[3]
2013 LTIP	1,087,964	$	106.76	—
2019 LTIP	514,969	$	149.12	6,927,284

(1) *The 2013 LTIP consists of 243,177 options to purchase shares of our common stock, all of which were granted at an exercise price equal to 100% of the grant date fair market value of the shares subject to the option, 658,574 performance-based RSUs and 186,213 service-based RSUs. The 2019 LTIP consists of 122,218 options to purchase shares of our common stock, all of which were granted at an exercise price equal to 100% of the grant date fair market value of the shares subject to the option, 235,387 performance-based RSUs and 157,364 service-based RSUs. Each performance-based RSU granted under the 2013 LTIP and the 2019 LTIP represents the right to receive from zero to 2.0 shares of our common stock if applicable performance conditions are satisfied. For purposes of this table, the number of shares of common stock shown to be subject to each performance-based RSU is 1.0 share, which assumes performance conditions are satisfied at the target level.*

(2) *Represents the weighted-average exercise price of the 243,177 and 122,218 outstanding options to purchase shares of our common stock under the 2013 LTIP and the 2019 LTIP, respectively.*

(3) *The number of shares available for future issuance is increased by the number of shares to which each participant would otherwise be entitled that are withheld or surrendered to satisfy the exercise price or to satisfy tax withholding obligations relating to any plan awards, and is also increased by the number of shares subject to awards that expire or are forfeited, canceled or otherwise terminated without the issuance of shares. No new awards may be granted under the 2013 LTIP.*

We provide additional discussion of share-based compensation in Note 10 of the Notes to Consolidated Financial Statements.

SECURITY OWNERSHIP OF CERTAIN BENEFICIAL OWNERS

The security ownership information required by Part III – Item 12 is incorporated by reference from “Share Ownership” in the proxy statement to be filed for the May 2021 annual meeting of shareholders for Sempra Energy and from the information statement to be filed for the June 2021 annual meeting of shareholders for SoCalGas. In all cases, only the specific information that is expressly required by this item is incorporated herein by reference.

ITEM 13. CERTAIN RELATIONSHIPS AND RELATED TRANSACTIONS, AND DIRECTOR INDEPENDENCE

The information required by Part III – Item 13 is incorporated by reference from “Corporate Governance” in the proxy statement to be filed for the May 2021 annual meeting of shareholders for Sempra Energy and from the information statement to be filed for the June 2021 annual meeting of shareholders for SoCalGas. In all cases, only the specific information that is expressly required by this item is incorporated herein by reference.

ITEM 14. PRINCIPAL ACCOUNTANT FEES AND SERVICES

Information regarding principal accountant fees and services is presented below for Sempra Energy, SDG&E and SoCalGas. The following table shows the fees paid to Deloitte & Touche LLP, the independent registered public accounting firm for Sempra Energy, SDG&E and SoCalGas, for services provided for 2020 and 2019.

PRINCIPAL ACCOUNTANT FEES

(Dollars in thousands)

	Sempra Energy Consolidated		SDG&E		SoCalGas	
	Fees	Percent of total	Fees	Percent of total	Fees	Percent of total
2020:						
Audit fees:						
Consolidated financial statements, internal controls audits and subsidiary audits	$ 9,145		$ 2,469		$ 3,023	
Regulatory filings and related services	827		100		55	
Total audit fees	9,972	82 %	2,569	86 %	3,078	90 %
Audit-related fees:						
Employee benefit plan audits	505		183		307	
Other audit-related services[1]	1,494		137		—	
Total audit-related fees	1,999	17	320	11	307	9
Tax fees[2]	156	1	111	3	32	1
All other fees[3]	22	—	—	—	—	—
Total fees	$ 12,149	100 %	$ 3,000	100 %	$ 3,417	100 %
2019:						
Audit fees:						
Consolidated financial statements, internal controls audits and subsidiary audits	$ 10,568		$ 2,804		$ 2,789	
Regulatory filings and related services	466		45		45	
Total audit fees	11,034	87 %	2,849	89 %	2,834	91 %
Audit-related fees:						
Employee benefit plan audits	517		162		286	
Other audit-related services[1]	883		99		10	
Total audit-related fees	1,400	11	261	8	296	9
Tax fees[2]	74	1	73	3	—	—
All other fees[3]	74	1	15	—	—	—
Total fees	$ 12,582	100 %	$ 3,198	100 %	$ 3,130	100 %

(1) *Other audit-related services in 2020 primarily relate to statutory audits, agreed upon procedures and permitted internal control advisory services. Other audit-related services in 2019 primarily relate to statutory audits and agreed upon procedures.*

(2) *Tax fees in 2020 relate to tax consulting and compliance services. Tax fees in 2019 relate to tax consulting services.*

(3) *All other fees relate to training and conferences.*

The Audit Committee of Sempra Energy's board of directors is directly responsible for the appointment, compensation, retention and oversight, including the oversight of the audit fee negotiations, of the independent registered public accounting firm for Sempra Energy and its subsidiaries, including SDG&E and SoCalGas. As a matter of good corporate governance, each of the Sempra Energy, SDG&E and SoCalGas boards of directors reviewed the performance of Deloitte & Touche LLP and appointed them as the independent registered public accounting firm for each of Sempra Energy, SDG&E and SoCalGas, respectively. Sempra Energy's board of directors has determined that each member of its Audit Committee is an independent director and is financially literate, and that Mr. Jack T. Taylor, who chairs the committee, and Ms. Cynthia L. Walker, who is a member of the committee, are audit committee financial experts as defined by the rules of the SEC.

Except where pre-approval is not required by SEC rules, Sempra Energy's Audit Committee pre-approves all audit, audit-related and permissible non-audit services provided by Deloitte & Touche LLP for Sempra Energy and its subsidiaries, including all services provided by Deloitte & Touche LLP for Sempra Energy, SDG&E and SoCalGas in 2020 and 2019. The committee's pre-approval policies and procedures provide for the general pre-approval of specific types of services and give detailed guidance to

management as to the services that are eligible for general pre-approval, and they require specific pre-approval of all other permitted services. For both types of pre-approval, the committee considers whether the services to be provided are consistent with maintaining the firm's independence. The committee's policies and procedures also delegate authority to the chair of the committee to address any requests for pre-approval of services between committee meetings, with any pre-approval decisions to be reported to the committee at its next scheduled meeting.

PART IV.

ITEM 15. EXHIBITS AND FINANCIAL STATEMENT SCHEDULES

The following documents are filed as part of this report:

1. FINANCIAL STATEMENTS

Our consolidated financial statements are listed on the Index to Consolidated Financial Statements set forth on page F-1 of this annual report on Form 10-K.

2. FINANCIAL STATEMENT SCHEDULES

Schedule I is listed on the Index to Condensed Financial Information of Parent as set forth on page S-1 of this annual report on Form 10-K.

Any other schedule for which provision is made in SEC Regulation S-X is not required under the instructions contained therein, is inapplicable or the information is included in the Consolidated Financial Statements and Notes thereto in this annual report on Form 10-K.

3. EXHIBITS

EXHIBIT INDEX

The exhibits listed below relate to each registrant as indicated. Unless otherwise indicated, the exhibits that are incorporated by reference herein were filed under File Number 1-14201 (Sempra Energy), File Number 1-40 (Pacific Lighting Corporation), File Number 1-03779 (San Diego Gas & Electric Company) and/or File Number 1-01402 (Southern California Gas Company).

EXHIBIT INDEX

Exhibit Number	Exhibit Description	Filed or Furnished Herewith	Incorporated by Reference		
			Form or Registration Statement No.	Exhibit or Appendix	Filing Date
EXHIBIT 2 -- PLAN OF ACQUISITION, REORGANIZATION, ARRANGEMENT, LIQUIDATION OR SUCCESSION					
Sempra Energy					
2.1	Purchase and Sale Agreement, dated as of September 20, 2018, by and between Sempra Solar Portfolio Holdings, LLC and CED Southwest Holdings, Inc.		8-K	2	09/20/18
2.2	Purchase and Sale Agreement, dated as of September 27, 2019, by and between Sempra International Holdings N.V. and China Yangtze Power International (Hongkong) Co., Limited.		8-K	2.1	09/30/19
2.3	Letter of Undertaking, dated as of September 27, 2019, by and between Sempra Energy International Holdings N.V., China Three Gorges Corporation and Ching Three Gorges Construction Management Co., Ltd.		8-K	2.2	09/30/19
2.4	Purchase and Sale Agreement, dated as of October 12, 2019, by and between Sempra Energy International Holdings N.V. and State Grid International Development Limited.		8-K	2.1	10/15/19
EXHIBIT 3 -- BYLAWS AND ARTICLES OF INCORPORATION					
Sempra Energy					
3.1	Amended and Restated Articles of Incorporation of Sempra Energy effective May 23, 2008.		10-K	3.1	02/27/20
3.2	Bylaws of Sempra Energy (as amended through April 14, 2020).		8-K	3.1	04/14/20
3.3	Certificate of Determination of Preferences of the 6% Mandatory Convertible Preferred Stock, Series A, of Sempra Energy (including the form of certificate representing the 6% Mandatory Convertible Preferred Stock, Series A), filed with the Secretary of State of the State of California and effective January 5, 2018.		8-K	3.1	01/09/18
3.4	Certificate of Determination of Preferences of the 6.75% Mandatory Convertible Preferred Stock, Series B, of Sempra Energy (including the form of certificate representing the 6.75% Mandatory Convertible Preferred Stock, Series B), filed with the Secretary of State of the State of California and effective July 11, 2018.		8-K	3.1	07/13/18
3.5	Certificate of Determination of Preferences of 4.875% Fixed-Rate Reset Cumulative Redeemable Perpetual Stock, Series C, of Sempra Energy (including the form of certificate representing the 4.875% Fixed-Rate Reset Cumulative Redeemable Perpetual Preferred Stock, Series C), filed with the Secretary of State of California and effective June 11, 2020.		8-K	3.1	06/15/20

EXHIBIT INDEX (CONTINUED)

Exhibit Number	Exhibit Description	Filed or Furnished Herewith	Incorporated by Reference		
			Form or Registration Statement No.	Exhibit or Appendix	Filing Date
San Diego Gas & Electric Company					
3.6	Amended and Restated Articles of Incorporation of San Diego Gas & Electric Company effective August 15, 2014.		10-K	3.4	02/26/15
3.7	Bylaws of San Diego Gas & Electric (as amended through October 26, 2016).		10-Q	3.1	11/02/16
Southern California Gas Company					
3.8	Restated Articles of Incorporation of Southern California Gas Company effective October 7, 1996.		10-K	3.01	03/28/97
3.9	Bylaws of Southern California Gas Company (as amended through January 30, 2017).		8-K	3.1	01/31/17

EXHIBIT 4 -- INSTRUMENTS DEFINING THE RIGHTS OF SECURITY HOLDERS, INCLUDING INDENTURES

Certain instruments defining the rights of holders of long-term debt instruments are not required to be filed or incorporated by reference herein pursuant to Item 601(b)(4)(iii)(A) of Regulation S-K. Each registrant agrees to furnish a copy of such instruments to the SEC upon request.

Sempra Energy					
4.1	Description of rights of Sempra Energy Common Stock (Amended and Restated Articles of Incorporation of Sempra Energy effective May 23, 2008) (included as Exhibit 3.1 above).		10-K	3.1	02/27/20
4.2	Description of Securities.	X			
4.3	Certificate of Determination of Preferences of the 6% Mandatory Convertible Preferred Stock, Series A, of Sempra Energy (including the form of certificate representing the 6% Mandatory Convertible Preferred Stock, Series A), filed with the Secretary of State of the State of California and effective January 5, 2018 (included as Exhibit 3.3 above).		8-K	3.1	01/09/18
4.4	Certificate of Determination of Preferences of the 6.75% Mandatory Convertible Preferred Stock, Series B, of Sempra Energy (including the form of certificate representing the 6.75% Mandatory Convertible Preferred Stock, Series B) filed with the Secretary of State of California and effective July 11, 2018 (included as Exhibit 3.4 above).		8-K	3.1	07/13/18
4.5	Certificate of Determination of Preferences of 4.875% Fixed-Rate Reset Cumulative Redeemable Perpetual Stock, Series C, of Sempra Energy (including the form of certificate representing the 4.875% Fixed-Rate Reset Cumulative Redeemable Perpetual Preferred Stock, Series C), filed with the Secretary of State of California and effective June 11, 2020 (included as Exhibit 3.5 above).		8-K	3.1	06/15/20
4.6	Indenture dated as of February 23, 2000, between Sempra Energy and U.S. Bank Trust National Association, as Trustee.		S-3ASR 333-153425	4.1	09/11/08
4.7	Officers' Certificate of Sempra Energy, including the form of its 6.00% Note due 2039.		8-K	4.1	10/08/09
4.8	Officers' Certificate of Sempra Energy, including the form of its 2.875% Note due 2022.		8-K	4.1	09/24/12
4.9	Officers' Certificate of Sempra Energy, including the form of its 4.05% Note due 2023.		8-K	4.1	11/22/13
4.10	Officers' Certificate of Sempra Energy, including the form of its 3.55% Note due 2024.		8-K	4.1	06/13/14
4.11	Officers' Certificate of Sempra Energy, including the form of its 3.75% Note due 2025.		8-K	4.1	11/17/15

EXHIBIT INDEX (CONTINUED)

Exhibit Number	Exhibit Description	Filed or Furnished Herewith	Incorporated by Reference		
			Form or Registration Statement No.	Exhibit or Appendix	Filing Date
4.12	Officers' Certificate of Sempra Energy, including the form of its 3.250% Note due 2027.		8-K	4.1	06/09/17
4.13	Officers' Certificate of Sempra Energy, including the form of its Floating Rate Note due 2021.		8-K	4.1	10/13/17
4.14	Officers' Certificate of Sempra Energy, including the forms of its 2.900% Note due 2023, 3.400% Note due 2028, 3.800% Note due 2038, and 4.000% Note due 2048.		8-K	4.1	01/12/18
4.15	Subordinated Indenture, dated as of June 26, 2019, between Sempra Energy and U.S. Bank National Association, as trustee.		8-K	4.2	06/26/19
4.16	Officers' Certificate of Sempra Energy, including the form of its 5.750% Junior Subordinated Note due 2079.		8-K	4.1	06/26/19
	Southern California Gas Company				
4.17	Description of preferences of Preferred Stock, Preference Stock and Series Preferred Stock (Southern California Gas Company Restated Articles of Incorporation) (included as Exhibit 3.8 above).		10-K	3.01	03/28/97
4.18	Description of Securities.		10-K	4.9	02/27/20
	Sempra Energy / San Diego Gas & Electric Company				
4.19	Mortgage and Deed of Trust dated July 1, 1940.		2-4769	B-3	(1)
4.20	Second Supplemental Indenture dated as of March 1, 1948.		2-7418	B-5B	(1)
4.21	Ninth Supplemental Indenture dated as of August 1, 1968.		333-52150	4.5	(1)
4.22	Tenth Supplemental Indenture dated as of December 1, 1968.		2-36042	2-K	(1)
4.23	Sixteenth Supplemental Indenture dated August 28, 1975.		33-34017	4.2	(1)
4.24	Fiftieth Supplemental Indenture, dated as of May 19, 2005.		8-K	4.1	05/19/05
4.25	Fifty-Second Supplemental Indenture, dated as of June 8, 2006.		8-K	4.1	06/08/06
4.26	Fifty-Fourth Supplemental Indenture, dated as of September 20, 2007.		8-K	4.1	09/20/07
4.27	Fifty-Fifth Supplemental Indenture, dated as of May 14, 2009.		8-K	4.1	05/15/09
4.28	Fifty-Sixth Supplemental Indenture, dated as of May 13, 2010.		8-K	4.1	05/13/10
4.29	Fifty-Seventh Supplemental Indenture, dated as of August 26, 2010.		8-K	4.1	08/26/10
4.30	Fifty-Eighth Supplemental Indenture, dated as of August 18, 2011.		8-K	4.1	08/18/11
4.31	Sixtieth Supplemental Indenture, dated as of November 17, 2011.		8-K	4.1	11/17/11
4.32	Sixty-First Supplemental Indenture, dated as of March 22, 2012.		8-K	4.1	03/23/12
4.33	Sixty-Second Supplemental Indenture, dated as of September 9, 2013.		8-K	4.1	09/09/13
4.34	Sixty-Fourth Supplemental Indenture, dated as of March 12, 2015.		8-K	4.2	03/12/15
4.35	Sixty-Fifth Supplemental Indenture, dated as of May 19, 2016.		8-K	4.1	05/19/16
4.36	Sixty-Sixth Supplemental Indenture, dated as of June 8, 2017.		8-K	4.1	06/08/17

(1) Exhibit is not available on the SEC's website as it was filed in paper and predates the SEC's Electronic Data Gathering, Analysis, and Retrieval (EDGAR) database.

EXHIBIT INDEX (CONTINUED)

Exhibit Number	Exhibit Description	Filed or Furnished Herewith	Incorporated by Reference		
			Form or Registration Statement No.	Exhibit or Appendix	Filing Date
4.37	Sixty-Seventh Supplemental Indenture, dated as of May 17, 2018.		8-K	4.1	05/17/18
4.38	Sixty-Eighth Supplemental Indenture, dated as of May 31, 2019.		8-K	4.1	05/31/19
4.39	Sixty-Ninth Supplemental Indenture, dated as of April 7, 2020.		8-K	4.1	04/07/20
4.40	Seventieth Supplemental Indenture, dated as of September 28, 2020.		8-K	4.1	09/28/20
Sempra Energy / Southern California Gas Company					
4.41	First Mortgage Indenture of Southern California Gas Company to American Trust Company dated October 1, 1940.		2-4504	B-4	(1)
4.42	Supplemental Indenture of Southern California Gas Company to American Trust Company dated as of August 1, 1955.		2-11997	4.07	(1)
4.43	Supplemental Indenture of Southern California Gas Company to American Trust Company dated as of December 1, 1956.		10-K	4.09	02/23/07
4.44	Supplemental Indenture of Southern California Gas Company to Wells Fargo Bank dated as of June 1, 1965.		10-K	4.10	02/23/07
4.45	Supplemental Indenture of Southern California Gas Company to Wells Fargo Bank, National Association dated as of August 1, 1972.		2-59832	2.19	(1)
4.46	Supplemental Indenture of Southern California Gas Company to Wells Fargo Bank, National Association dated as of May 1, 1976.		2-56034	2.20	(1)
4.47	Supplemental Indenture of Southern California Gas Company to Wells Fargo Bank, National Association dated as of September 15, 1981.		333-70654	4.24	(1)
4.48	Supplemental Indenture of Southern California Gas Company to U.S. National Bank Association, dated as of November 18, 2005.		8-K	4.1	11/18/05
4.49	Supplemental Indenture of Southern California Gas Company to U.S. National Bank Association, dated as of November 18, 2010.		8-K	4.1	11/18/10
4.50	Supplemental Indenture of Southern California Gas Company to U.S. National Bank Association, dated as of September 21, 2012.		8-K	4.1	09/21/12
4.51	Supplemental Indenture of Southern California Gas Company to U.S. National Bank Association, dated as of March 13, 2014.		8-K	4.1	03/13/14
4.52	Supplemental Indenture of Southern California Gas Company to U.S. National Bank Association, dated as of September 11, 2014.		8-K	4.1	09/11/14
4.53	Supplemental Indenture of Southern California Gas Company to U.S. National Bank Association, dated as of June 18, 2015.		8-K	4.2	06/18/15
4.54	Supplemental Indenture of Southern California Gas Company to U.S. National Bank Association, dated as of June 3, 2016.		8-K	4.1	06/03/16
4.55	Supplemental Indenture of Southern California Gas Company to U.S. National Bank Association, dated as of May 15, 2018.		8-K	4.1	05/15/18
4.56	Supplemental Indenture of Southern California Gas Company to U.S. National Bank Association, dated as of September 24, 2018.		8-K	4.1	09/24/18
4.57	Supplemental Indenture of Southern California Gas Company to U.S. National Bank Association, dated as of June 4, 2019.		8-K	4.1	06/04/19

(1) Exhibit is not available on the SEC's website as it was filed in paper and predates EDGAR.

EXHIBIT INDEX (CONTINUED)

Exhibit Number	Exhibit Description	Filed or Furnished Herewith	Incorporated by Reference		
			Form or Registration Statement No.	Exhibit or Appendix	Filing Date
4.58	Supplemental Indenture of Southern California Gas Company to U.S. National Bank Association, dated as of January 9, 2020.		8-K	4.1	01/09/20
4.59	Indenture, dated as of May 1, 1989, between Southern California Gas Company and Citibank, N.A., as trustee.		333-28260	4.1.1	(1)
4.60	First Supplemental Indenture, dated as of October 1, 1992, between Southern California Gas Company and Citibank, N.A., as trustee.		8-K	4.1.2	(1)
4.61	Form of 5.670% Medium Term Note due 2028.		8-K	4.2.1	(1)
4.62	Senior Indenture, dated as of September 21, 2020, between Southern California Gas Company and U.S. Bank National Association, as trustee.		8-K	4.1	09/21/20
4.63	Officers' Certificate of Southern California Gas Company, including the form of its Floating Rate Note due 2023.		8-K	4.2	09/21/20
	EXHIBIT 10 -- MATERIAL CONTRACTS				
	Sempra Energy				
10.1*	Amended and Restated Engineering, Procurement and Construction Contract, dated as of December 11, 2020, between Port Arthur LNG, LLC and PALNG Common Facilities Company, LLC (but only for the limited purpose set forth therein), and Bechtel Oil, Gas and Chemicals, Inc.	X			
10.2*	Engineering, Procurement and Construction Contract, dated as of February 28, 2020, between Port Arthur LNG, LLC and PALNG Common Facilities Company, LLC (but only for the limited purpose set forth therein), and Bechtel Oil, Gas and Chemicals, Inc.		10-Q	10.1	05/04/20
	Sempra Energy / San Diego Gas & Electric Company / Southern California Gas Company				
10.3	Form of Continental Forge and California Class Action Price Reporting Settlement Agreement dated as of January 4, 2006.		8-K	99.1	01/05/06
	Sempra Energy / San Diego Gas & Electric Company				
10.4	Amended and Restated Operating Order between San Diego Gas & Electric Company and the California Department of Water Resources effective March 10, 2011.		10-Q	10.4	05/09/11
10.5	Amended and Restated Servicing Order between San Diego Gas & Electric Company and the California Department of Water Resources effective March 10, 2011.		10-Q	10.5	05/09/11
	Management Contract or Compensatory Plan, Contract or Arrangement				
	Sempra Energy / San Diego Gas & Electric Company / Southern California Gas Company				
10.6	Form of Sempra Energy 2019 Long-Term Incentive Plan 2021 Nonqualified Stock Option Award Agreement.	X			
10.7	Form of Sempra Energy 2019 Long-Term Incentive Plan 2021 Performance-Based Restricted Stock Unit Award - EPS Growth Performance Measure.	X			
10.8	Form of Sempra Energy 2019 Long-Term Incentive Plan 2021 Performance-Based Restricted Stock Unit Award - Relative to Shareholder Return Performance Measure-S&P 500 Index.	X			
10.9	Form of Sempra Energy 2019 Long-Term Incentive Plan 2021 Performance-Based Restricted Stock Unit Award - Relative Total Shareholder Return Performance Measure-S&P 500 Utilities Index.	X			

* Portions of the exhibit have been omitted in accordance with applicable SEC rules.

(1) Exhibit is not available on the SEC's website as it was filed in paper and predates EDGAR.

EXHIBIT INDEX (CONTINUED)

Exhibit Number	Exhibit Description	Filed or Furnished Herewith	Incorporated by Reference		
			Form or Registration Statement No.	Exhibit or Appendix	Filing Date
10.10	Form of Sempra Energy 2019 Long-Term Incentive Plan 2020 Nonqualified Stock Option Award Agreement.		10-K	10.5	02/27/20
10.11	Form of Sempra Energy 2019 Long-Term Incentive Plan 2020 Time-Based Restricted Stock Unit Award - Three Year Ratable Vest.		10-K	10.6	02/27/20
10.12	Form of Sempra Energy 2019 Long-Term Incentive Plan 2020 Time-Based Restricted Stock Unit Award - Four Year Award Vest.		10-Q	10.1	11/05/20
10.13	Form of Sempra Energy 2019 Long-Term Incentive Plan 2020 Performance-Based Restricted Stock Unit Award - EPS Growth Performance Measure.		10-K	10.7	02/27/20
10.14	Form of Sempra Energy 2019 Long-Term Incentive Plan 2020 Performance-Based Restricted Stock Unit Award - Relative to Shareholder Return Performance Measure - S&P 500 Index.		10-K	10.8	02/27/20
10.15	Form of Sempra Energy 2019 Long-Term Incentive Plan 2020 Performance-Based Restricted Stock Unit Award - Relative Total Shareholder Return Performance Measure - S&P 500 Utilities Index.		10-K	10.9	02/27/20
10.16	Sempra Energy 2019 Long-Term Incentive Plan.		DEF 14A	E	03/22/19
10.17	Form of Sempra Energy 2019 Long-Term Incentive Plan 2019 Time-Based Restricted Stock Unit Award - Five Year Vest.		10-Q	10.2	08/02/19
10.18	Form of Sempra Energy 2013 Long-Term Incentive Plan 2019 Time-Based Restricted Stock Unit Award - One Year Vest.		10-Q	10.5	08/02/19
10.19	Form of Sempra Energy 2013 Long-Term Incentive Plan 2019 Nonqualified Stock Option Award Agreement.		10-Q	10.1	05/07/19
10.20	Form of Sempra Energy 2013 Long-Term Incentive Plan 2019 Performance-Based Restricted Stock Unit Award - EPS Growth Performance Measure.		10-Q	10.2	05/07/19
10.21	Form of Sempra Energy 2013 Long-Term Incentive Plan 2019 Performance-Based Restricted Stock Unit Award - Relative Total Shareholder Return Performance Measure - S&P 500 Index.		10-Q	10.3	05/07/19
10.22	Form of Sempra Energy 2013 Long-Term Incentive Plan 2019 Performance-Based Restricted Stock Unit Award - Relative Total Shareholder Return Performance Measure - S&P 500 Utilities Index.		10-Q	10.4	05/07/19
10.23	Form of Sempra Energy 2013 Long-Term Incentive Plan 2019 Time-Based Restricted Stock Unit Award - Ratable vesting.		10-Q	10.5	05/07/19
10.24	Form of Indemnification Agreement with Directors and Executive Officers (executed after January 2011).		10-Q	10.1	05/04/16
10.25	Form of Sempra Energy Shared Services Executive Incentive Compensation Plan.		10-K	10.19	02/27/14
10.26	Amendment Number 1 to the Amended and Restated Sempra Energy 2013 Long-Term Incentive Plan.	X			
10.27	Amended and Restated Sempra Energy 2013 Long-Term Incentive Plan.		10-K	10.5	02/26/16
10.28	Form of Sempra Energy 2013 Long-Term Incentive Plan 2018 Performance-Based Restricted Stock Unit Award - Relative Total Shareholder Return Performance Measure - S&P 500 Index.		10-Q	10.8	05/07/18

EXHIBIT INDEX (CONTINUED)

Exhibit Number	Exhibit Description	Filed or Furnished Herewith	Incorporated by Reference		
			Form or Registration Statement No.	Exhibit or Appendix	Filing Date
10.29	Form of Sempra Energy 2013 Long-Term Incentive Plan 2018 Performance-Based Restricted Stock Unit Award - Relative Total Shareholder Return Performance Measure - S&P 500 Utilities Index.		10-Q	10.9	05/07/18
10.30	Form of Sempra Energy 2013 Long-Term Incentive Plan 2018 Performance-Based Restricted Stock Unit Award - EPS Growth Performance Measure.		10-Q	10.10	05/07/18
10.31	Form of Sempra Energy 2013 Long-Term Incentive Plan 2018 Time-Based Restricted Stock Unit Award - Cliff vest.		10-Q	10.11	05/07/18
10.32	Form of Sempra Energy 2013 Long-Term Incentive Plan 2018 Special Time-Based Restricted Stock Unit Award - Two-year vest.		10-Q	10.12	05/07/18
10.33	Amended and Restated Sempra Energy 2005 Deferred Compensation Plan, now known as Sempra Energy Employee and Director Savings Plan.	X			
10.34	Form of Sempra Energy 2013 Long-Term Incentive Plan 2018 Special Time-Based Restricted Stock Unit Award - Multi-year vest.		10-Q	10.13	05/07/18
10.35	Amended and Restated Sempra Energy Deferred Compensation and Excess Savings Plan.		10-K	10.28	02/28/17
10.36	2009 Amendment and Restatement of the Sempra Energy Supplemental Executive Retirement Plan effective July 1, 2009.		10-K	10.28	02/26/16
10.37	First Amendment to the 2009 Amendment and Restatement of the Sempra Energy Supplemental Executive Retirement Plan effective February 11, 2010.		10-K	10.29	02/26/16
10.38	Second Amendment to the 2009 Amendment and Restatement of the Sempra Energy Supplemental Executive Retirement Plan effective January 1, 2014.		10-K	10.43	02/26/15
10.39	2015 Amendment and Restatement of the Sempra Energy Cash Balance Restoration Plan effective November 10, 2015.		10-K	10.31	02/26/16
10.40	Sempra Energy Amended and Restated Executive Life Insurance Plan.		10-K	10.22	02/26/13
10.41	Sempra Energy Executive Personal Financial Planning Program Policy Document.		10-K	10.35	02/27/20
10.42	Form of Indemnification Agreement with Directors and Executive Officers (executed before January 2011).		10-Q	10.2	08/07/08
Sempra Energy					
10.43	Form of Sempra Energy 2019 Long-Term Incentive Plan Non-Employee Directors' Annual Restricted Stock Unit Award.		10-Q	10.3	08/02/19
10.44	Form of Sempra Energy 2019 Long-Term Incentive Plan Non-Employee Directors' Initial Restricted Stock Unit Award.		10-Q	10.4	08/02/19
10.45	Sempra Energy Executive Incentive Plan effective January 1, 2003.		10-K	10.09	02/26/03
10.46	Form of 2017 and 2018 Sempra Energy Non-Employee Directors' Initial Restricted Stock Unit Award.		10-K	10.50	02/27/18
10.47	Sempra Energy Amended and Restated Retirement Plan for Directors.		10-Q	10.7	08/07/08
10.48	Sempra Energy Annual Incentive Plan.		10-Q	10.7	05/07/18

EXHIBIT INDEX (CONTINUED)

Exhibit Number	Exhibit Description	Filed or Furnished Herewith	Incorporated by Reference		
			Form or Registration Statement No.	Exhibit or Appendix	Filing Date
10.49	Amended and Restated Severance Pay Agreement between Sempra Energy and Jeffrey W. Martin, dated May 1, 2018.		10-Q	10.3	08/06/18
10.50	Amended and Restated Severance Pay Agreement between Sempra Energy and Kevin C. Sagara, signed October 3, 2020 and effective as of June 27, 2020.		10-Q	10.2	11/05/20
10.51	Amended and Restated Severance Pay Agreement between Sempra Energy and Trevor I. Mihalik, dated May 1, 2018.		10-Q	10.5	08/06/18
10.52	Amended and Restated Severance Pay Agreement between Sempra Energy and Peter R. Wall signed October 3, 2020 and effective as of July 1, 2020.		10-Q	10.3	11/05/20
10.53	Severance Pay Agreement between Sempra Energy and Dennis V. Arriola, dated January 1, 2017.		10-K	10.42	02/28/17
10.54	Severance Pay Agreement between Sempra Energy and George W. Bilicic dated June 17, 2019.		10-Q	10.1	11/01/19
10.55	Severance Agreement and Mutual Release between Sempra Energy and George Bilicic dated March 30, 2020.		10-Q	10.2	05/04/20
Sempra Energy / San Diego Gas & Electric Company					
10.56	Form of San Diego Gas & Electric Company Executive Incentive Compensation Plan.		10-K	10.64	02/27/14
10.57	Severance Pay Agreement between Sempra Energy and Caroline A. Winn, signed May 7, 2020 and effective as of January 1, 2020.		10-Q	10.1	08/05/20
10.58	Severance Pay Agreement between Sempra Energy and Bruce A. Folkmann, dated March 1, 2017.		10-Q	10.15	05/09/17
10.59	Severance Pay Agreement between Sempra Energy and Valerie A. Bille, signed September 30, 2020 and effective as of August 22, 2020.		10-Q	10.4	11/05/20
10.60	Severance Pay Agreement between Sempra Energy and Diana L. Day dated March 1, 2017.		10-K	10.68	02/26/19
Sempra Energy / Southern California Gas Company					
10.61	Form of Southern California Gas Company Executive Incentive Compensation Plan.		10-K	10.71	02/27/14
10.62	Severance Pay Agreement between Sempra Energy and Scott D. Drury dated August 25, 2018.		10-Q	10.4	11/07/18
10.63	Severance Pay Agreement between Sempra Energy and Maryam S. Brown, dated March 1, 2017.		10-Q	10.7	08/02/19
10.64	Severance Pay Agreement between Sempra Energy and Jimmie I. Cho, signed May 4, 2020, effective as of January 1, 2020.		10-Q	10.2	08/05/20
10.65	Severance Pay Agreement between Sempra Energy and Mia DeMontigny, date June 15, 2019.		10-Q	10.6	08/02/19
10.66	Severance Pay Agreement between Sempra Energy and David J. Barrett, dated January 12, 2019.		10-K	10.77	02/26/19
10.67	Severance Pay Agreement between Sempra Energy and Jeffery L. Walker, dated March 16, 2019.	X			

EXHIBIT INDEX (CONTINUED)

Exhibit Number	Exhibit Description	Filed or Furnished Herewith	Incorporated by Reference		
			Form or Registration Statement No.	Exhibit or Appendix	Filing Date
Nuclear					
Sempra Energy / San Diego Gas & Electric Company					
10.68	Nuclear Facilities Qualified CPUC Decommissioning Master Trust Agreement for San Onofre Nuclear Generating Station dated June 29, 1992.		10-K	10.7	(1)
10.69	Amendment No. 1 to the Qualified CPUC Decommissioning Master Trust Agreement for San Onofre Nuclear Generating Station dated September 30, 1994 (see Exhibit 10.68 above).		10-K	10.56	02/28/95
10.70	Second Amendment to the San Diego Gas & Electric Company Nuclear Facilities Qualified CPUC Decommissioning Master Trust Agreement for San Onofre Nuclear Generating Station dated December 29, 1994 (see Exhibit 10.68 above).		10-K	10.57	02/28/95
10.71	Third Amendment to the San Diego Gas & Electric Company Nuclear Facilities Qualified CPUC Decommissioning Master Trust Agreement for San Onofre Nuclear Generating Station dated March 1, 1996 (see Exhibit 10.68 above).		10-K	10.59	03/19/97
10.72	Fourth Amendment to the San Diego Gas & Electric Company Nuclear Facilities Qualified CPUC Decommissioning Master Trust Agreement for San Onofre Nuclear Generating Station dated December 23, 1996 (see Exhibit 10.68 above).		10-K	10.60	03/19/97
10.73	Fifth Amendment to the San Diego Gas & Electric Company Nuclear Facilities Qualified CPUC Decommissioning Master Trust Agreement for San Onofre Nuclear Generating Station dated December 26, 1997 (see Exhibit 10.68 above).		10-K	10.26	03/29/00
10.74	Sixth Amendment to the San Diego Gas & Electric Company Nuclear Facilities Qualified CPUC Decommissioning Master Trust Agreement for San Onofre Nuclear Generating Station dated October 1, 1999 (see Exhibit 10.68 above).		10-K	10.27	03/29/00
10.75	Seventh Amendment to the San Diego Gas & Electric Company Nuclear Facilities Qualified CPUC Decommissioning Master Trust Agreement for San Onofre Nuclear Generating Station dated December 24, 2003 (see Exhibit 10.68 above).		10-K	10.42	02/25/04
10.76	Eighth Amendment to the San Diego Gas & Electric Company Nuclear Facilities Qualified CPUC Decommissioning Master Trust Agreement for San Onofre Nuclear Generating Station dated October 12, 2011 (see Exhibit 10.68 above).		10-K	10.70	02/28/12
10.77	Ninth Amendment to the San Diego Gas & Electric Company Nuclear Facilities Qualified CPUC Decommissioning Master Trust Agreement for San Onofre Nuclear Generating Station dated January 9, 2014 (see Exhibit 10.68 above).		10-K	10.83	02/27/14
10.78	Tenth Amendment to the San Diego Gas & Electric Company Nuclear Facilities Qualified CPUC Decommissioning Master Trust Agreement for San Onofre Nuclear Generating Station dated August 27, 2014 (see Exhibit 10.68 above).		10-Q	10.1	11/04/14
10.79	Eleventh Amendment to the San Diego Gas & Electric Company Nuclear Facilities Qualified CPUC Decommissioning Master Trust Agreement for San Onofre Nuclear Generating Station dated August 27, 2014 (see Exhibit 10.68 above).		10-Q	10.2	11/04/14
10.80	Twelfth Amendment to the San Diego Gas & Electric Company Nuclear Facilities Qualified CPUC Decommissioning Master Trust Agreement for San Onofre Nuclear Generating Station dated August 27, 2014 (see Exhibit 10.68 above).		10-Q	10.3	11/04/14
10.81	Thirteenth Amendment to the San Diego Gas & Electric Company Nuclear Facilities Qualified CPUC Decommissioning Master Trust Agreement for San Onofre Nuclear Generating Station dated January 1, 2015 (see Exhibit 10.68 above).		10-K	10.78	02/26/16

(1) Exhibit is not available on the SEC's website as it was filed in paper and predates EDGAR

EXHIBIT INDEX (CONTINUED)

Exhibit Number	Exhibit Description	Filed or Furnished Herewith	Incorporated by Reference		
			Form or Registration Statement No.	Exhibit or Appendix	Filing Date
10.82	Fourteenth Amendment to the San Diego Gas & Electric Company Nuclear Facilities Qualified CPUC Decommissioning Master Trust Agreement for San Onofre Nuclear Generating Station dated February 18, 2016 (see Exhibit 10.68 above).		10-Q	10.1	11/02/16
10.83	Fifteenth Amendment to the San Diego Gas & Electric Company Nuclear Facilities Qualified CPUC Decommissioning Master Trust Agreement for San Onofre Nuclear Generating Station dated August 31, 2016 (see Exhibit 10.68 above).		10-Q	10.2	11/02/16
10.84	U. S. Department of Energy contract for disposal of spent nuclear fuel and/or high-level radioactive waste, entered into between the DOE and Southern California Edison Company, as agent for SDG&E and others; Contract DE-CR01-83NE44418, dated June 10, 1983.		10-K	10N	(1)
EXHIBIT 14 -- CODE OF ETHICS					
Sempra Energy / San Diego Gas & Electric Company / Southern California Gas Company					
14.1	Sempra Energy Code of Business Conduct and Ethics for Board of Directors and Senior Officers (also applies to directors and officers of San Diego Gas & Electric Company and Southern California Gas Company).		10-K	14.01	02/23/07

(1) Exhibit is not available on the SEC's website as it was filed in paper and predates EDGAR

EXHIBIT INDEX (CONTINUED)

Exhibit Number	Exhibit Description	Filed or Furnished Herewith
EXHIBIT 21 -- SUBSIDIARIES		
Sempra Energy		
21.1	Sempra Energy Schedule of Certain Subsidiaries at December 31, 2020.	X
EXHIBIT 23 -- CONSENTS OF EXPERTS AND COUNSEL		
Sempra Energy		
23.1	Sempra Energy Consent of Independent Registered Public Accounting Firm.	X
23.2	Oncor Electric Delivery Holdings Company LLC Consent of Independent Auditors.	X
San Diego Gas & Electric Company		
23.3	San Diego Gas & Electric Company Consent of Independent Registered Public Accounting Firm.	X
Southern California Gas Company		
23.4	Southern California Gas Company Consent of Independent Registered Public Accounting Firm.	X
EXHIBIT 31 -- SECTION 302 CERTIFICATIONS		
Sempra Energy		
31.1	Certification of Sempra Energy's Principal Executive Officer pursuant to Rules 13a-14 and 15d-14 of the Securities Exchange Act of 1934.	X
31.2	Certification of Sempra Energy's Principal Financial Officer pursuant to Rules 13a-14 and 15d-14 of the Securities Exchange Act of 1934.	X
San Diego Gas & Electric Company		
31.3	Certification of San Diego Gas & Electric Company's Principal Executive Officer pursuant to Rules 13a-14 and 15d-14 of the Securities Exchange Act of 1934.	X
31.4	Certification of San Diego Gas & Electric Company's Principal Financial Officer pursuant to Rules 13a-14 and 15d-14 of the Securities Exchange Act of 1934.	X
Southern California Gas Company		
31.5	Certification of Southern California Gas Company's Principal Executive Officer pursuant to Rules 13a-14 and 15d-14 of the Securities Exchange Act of 1934.	X
31.6	Certification of Southern California Gas Company's Principal Financial Officer pursuant to Rules 13a-14 and 15d-14 of the Securities Exchange Act of 1934.	X
EXHIBIT 32 -- SECTION 906 CERTIFICATIONS		
Sempra Energy		
32.1	Certification of Sempra Energy's Principal Executive Officer pursuant to 18 U.S.C. Sec. 1350.	X
32.2	Certification of Sempra Energy's Principal Financial Officer pursuant to 18 U.S.C. Sec. 1350.	X
San Diego Gas & Electric Company		
32.3	Certification of San Diego Gas & Electric Company's Principal Executive Officer pursuant to 18 U.S.C. Sec. 1350.	X
32.4	Certification of San Diego Gas & Electric Company's Principal Financial Officer pursuant to 18 U.S.C. Sec. 1350.	X

EXHIBIT INDEX (CONTINUED)

Exhibit Number	Exhibit Description	Filed or Furnished Herewith
	Southern California Gas Company	
32.5	Certification of Southern California Gas Company's Principal Executive Officer pursuant to 18 U.S.C. Sec. 1350.	X
32.6	Certification of Southern California Gas Company's Principal Financial Officer pursuant to 18 U.S.C. Sec. 1350.	X
	EXHIBIT 99 -- ADDITIONAL EXHIBITS	
	Sempra Energy	
99.1	Audited consolidated financial statements of Oncor Electric Delivery Holdings Company LLC and subsidiary as of December 31, 2020 and 2019 and for each of the three years ended in the period ended December 31, 2020, and the related Independent Auditors' Report.	X
	EXHIBIT 101 -- INTERACTIVE DATA FILE	
101.INS	XBRL Instance Document - the instance document does not appear in the Interactive Data file because its XBRL tags are embedded within the Inline XBRL document.	X
101.SCH	XBRL Taxonomy Extension Schema Document.	X
101.CAL	XBRL Taxonomy Extension Calculation Linkbase Document.	X
101.DEF	XBRL Taxonomy Extension Definition Linkbase Document.	X
101.LAB	XBRL Taxonomy Extension Label Linkbase Document.	X
101.PRE	XBRL Taxonomy Extension Presentation Linkbase Document.	X
	EXHIBIT 104 -- COVER PAGE	
104	Cover Page Interactive Data File (formatted as Inline XBRL and contained in Exhibit 101).	

ITEM 16. FORM 10-K SUMMARY

Not applicable.

Sempra Energy:

SIGNATURES

Pursuant to the requirements of Section 13 or 15(d) of the Securities Exchange Act of 1934, the registrant has duly caused this report to be signed on its behalf by the undersigned, thereunto duly authorized.

SEMPRA ENERGY,
(Registrant)

By: /s/ J. Walker Martin
J. Walker Martin
Chairman, Chief Executive Officer and President

Date: February 25, 2021

Pursuant to the requirements of the Securities Exchange Act of 1934 (the Act), this report has been signed below by the following persons on behalf of the Registrant in the capacities and on the dates indicated.

Name/Title	Signature	Date
Principal Executive Officer:		
J. Walker Martin Chief Executive Officer and President	/s/ J. Walker Martin	February 25, 2021
Principal Financial Officer:		
Trevor I. Mihalik Executive Vice President and Chief Financial Officer	/s/ Trevor I. Mihalik	February 25, 2021
Principal Accounting Officer:		
Peter R. Wall Senior Vice President, Controller and Chief Accounting Officer	/s/ Peter R. Wall	February 25, 2021
Directors:		
J. Walker Martin, Chairman	/s/ J. Walker Martin	February 25, 2021
Alan L. Boeckmann, Director	/s/ Alan L. Boeckmann	February 25, 2021
Kathleen L. Brown, Director	/s/ Kathleen L. Brown	February 25, 2021
Andrés Conesa, Director	/s/ Andrés Conesa	February 25, 2021
Maria Contreras-Sweet, Director	/s/ Maria Contreras-Sweet	February 25, 2021
Pablo A. Ferrero, Director	/s/ Pablo A. Ferrero	February 25, 2021
William D. Jones, Director	/s/ William D. Jones	February 25, 2021
Bethany J. Mayer, Director	/s/ Bethany J. Mayer	February 25, 2021
Michael N. Mears, Director	/s/ Michael N. Mears	February 25, 2021
Jack T. Taylor, Director	/s/ Jack T. Taylor	February 25, 2021
Cynthia L. Walker, Director	/s/ Cynthia L. Walker	February 25, 2021
Cynthia J. Warner, Director	/s/ Cynthia J. Warner	February 25, 2021
James C. Yardley, Director	/s/ James C. Yardley	February 25, 2021

San Diego Gas & Electric Company:

SIGNATURES

Pursuant to the requirements of Section 13 or 15(d) of the Securities Exchange Act of 1934, the registrant has duly caused this report to be signed on its behalf by the undersigned, thereunto duly authorized.

SAN DIEGO GAS & ELECTRIC COMPANY,
(Registrant)

By: /s/ Caroline A. Winn
Caroline A. Winn
Chief Executive Officer

Date: February 25, 2021

Pursuant to the requirements of the Securities Exchange Act of 1934 (the Act), this report has been signed below by the following persons on behalf of the Registrant in the capacities and on the dates indicated.

Name/Title	Signature	Date
Principal Executive Officer: Caroline A. Winn Chief Executive Officer	/s/ Caroline A. Winn	February 25, 2021
Principal Financial Officer: Bruce A. Folkmann President and Chief Financial Officer	/s/ Bruce A. Folkmann	February 25, 2021
Principal Accounting Officer: Valerie A. Bille Vice President, Controller and Chief Accounting Officer	/s/ Valerie A. Bille	February 25, 2021
Directors: Kevin C. Sagara, Non-Executive Chairman	/s/ Kevin C. Sagara	February 25, 2021
Robert J. Borthwick, Director	/s/ Robert J. Borthwick	February 25, 2021
Erbin B. Keith, Director	/s/ Erbin B. Keith	February 25, 2021
Trevor I. Mihalik, Director	/s/ Trevor I. Mihalik	February 25, 2021
Caroline A. Winn, Director	/s/ Caroline A. Winn	February 25, 2021

SUPPLEMENTAL INFORMATION TO BE FURNISHED WITH REPORTS FILED PURSUANT TO SECTION 15(d) OF THE ACT BY REGISTRANTS WHICH HAVE NOT REGISTERED SECURITIES PURSUANT TO SECTION 12 OF THE ACT:

No annual report, proxy statement, form of proxy or other soliciting material has been sent to security holders during the period covered by this annual report on Form 10-K, and no such materials are to be furnished to security holders subsequent to the filing of this annual report on Form 10-K.

Southern California Gas Company:

SIGNATURES

Pursuant to the requirements of Section 13 or 15(d) of the Securities Exchange Act of 1934, the registrant has duly caused this report to be signed on its behalf by the undersigned, thereunto duly authorized.

SOUTHERN CALIFORNIA GAS COMPANY,
(Registrant)

By: /s/ Scott D. Drury
Scott D. Drury
Chief Executive Officer

Date: February 25, 2021

Pursuant to the requirements of the Securities Exchange Act of 1934, this report has been signed below by the following persons on behalf of the Registrant in the capacities and on the dates indicated.

Name/Title	Signature	Date
Principal Executive Officer:		
Scott D. Drury Chief Executive Officer	/s/ Scott D. Drury	February 25, 2021
Principal Financial and Accounting Officer:		
Mia L. DeMontigny Vice President, Controller, Chief Financial Officer and Chief Accounting Officer	/s/ Mia L. DeMontigny	February 25, 2021
Directors:		
Kevin C. Sagara, Non-Executive Chairman	/s/ Kevin C. Sagara	February 25, 2021
Scott D. Drury, Director	/s/ Scott D. Drury	February 25, 2021
Lisa Larroque Alexander, Director	/s/ Lisa Larroque Alexander	February 25, 2021
Trevor I. Mihalik, Director	/s/ Trevor I. Mihalik	February 25, 2021

SEMPRA ENERGY

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REPORT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

To the Shareholders and Board of Directors of Sempra Energy:

Opinion on the Financial Statements

We have audited the accompanying consolidated balance sheets of Sempra Energy and subsidiaries ("Sempra Energy") as of December 31, 2020 and 2019, the related consolidated statements of operations, comprehensive income (loss), changes in equity, and cash flows for each of the three years in the period ended December 31, 2020, the related notes, and the schedule listed in Item 15 (collectively referred to as the "financial statements"). In our opinion, the financial statements present fairly, in all material respects, the financial position of Sempra Energy as of December 31, 2020 and 2019, and the results of its operations and its cash flows for each of the three years in the period ended December 31, 2020, in conformity with accounting principles generally accepted in the United States of America ("U.S. GAAP").

We have also audited, in accordance with the standards of the Public Company Accounting Oversight Board (United States) ("PCAOB"), Sempra Energy's internal control over financial reporting as of December 31, 2020, based on criteria established in *Internal Control – Integrated Framework (2013)* issued by the Committee of Sponsoring Organizations of the Treadway Commission, and our report dated February 25, 2021 expressed an unqualified opinion on Sempra Energy's internal control over financial reporting.

Basis for Opinion

These financial statements are the responsibility of Sempra Energy's management. Our responsibility is to express an opinion on Sempra Energy's financial statements based on our audits. We are a public accounting firm registered with the PCAOB and are required to be independent with respect to Sempra Energy in accordance with the U.S. federal securities laws and the applicable rules and regulations of the Securities and Exchange Commission and the PCAOB.

We conducted our audits in accordance with the standards of the PCAOB. Those standards require that we plan and perform the audits to obtain reasonable assurance about whether the financial statements are free of material misstatement, whether due to error or fraud. Our audits included performing procedures to assess the risks of material misstatement of the financial statements, whether due to error or fraud, and performing procedures that respond to those risks. Such procedures included examining, on a test basis, evidence regarding the amounts and disclosures in the financial statements. Our audits also included evaluating the accounting principles used and significant estimates made by management, as well as evaluating the overall presentation of the financial statements. We believe that our audits provide a reasonable basis for our opinion.

Critical Audit Matters

The critical audit matters communicated below are matters arising from the current-period audit of the financial statements that were communicated or required to be communicated to the audit committee and that (1) relate to accounts or disclosures that are material to the financial statements and (2) involved our especially challenging, subjective, or complex judgments. The communication of critical audit matters does not alter in any way our opinion on the financial statements, taken as a whole, and we are not, by communicating the critical audit matters below, providing separate opinions on the critical audit matters or on the accounts or disclosures to which they relate.

Insurance Receivable and Legal Contingencies Related to Aliso Canyon Gas Leak - Refer to Note 16 of the Notes to Consolidated Financial Statements

Critical Audit Matter Description

Sempra Energy has an insurance receivable of $445 million as of December 31, 2020 related to certain costs arising from the Aliso Canyon natural gas storage facility gas leak. Sempra Energy has determined that the insurance receivable is probable of recovery based on the nature of the insurance claims, the costs incurred, and the coverage provided by applicable insurance policies.

Additionally, Sempra Energy is named in various lawsuits related to the gas leak and the liabilities could be material. Sempra Energy's accrual for civil litigation matters associated with the gas leak, inclusive of estimated legal costs, is included within its $451 million Reserve for Aliso Canyon Costs as of December 31, 2020.

We identified the recoverability of the insurance receivable as a critical audit matter due to the management judgments required in assessing if, and to what degree, the coverage provided by applicable insurance policies would cover the types of costs included in the insurance claims submitted. Also, we identified the contingency accrual related to the civil litigation as a critical audit matter due to the management judgments required in assessing the probability and reasonable estimation of the potential liability related to the civil litigation. Auditing the probability of recovery of the insurance receivable and the contingency accrual related to the civil litigation required subjective auditor judgment and extensive audit effort.

How the Critical Audit Matter Was Addressed in the Audit

Our audit procedures related to the probability of recovery of the insurance receivable for the costs related to the Aliso Canyon natural gas storage facility gas leak included the following, among others:

- We tested the effectiveness of management's internal controls over the costs included in the related insurance receivable and the evaluation of the recoverability of this insurance receivable.
- With the assistance of an insurance specialist, we evaluated management's judgments related to the determination of the recoverability of the insurance receivable by:
  - Evaluating the coverage provided by applicable insurance policies and evaluating the potential coverage available under such policies based on the nature of the underlying costs.
  - Evaluating the probability of recovery of the insurance receivable by obtaining correspondence between Sempra Energy and the applicable insurers.
  - Evaluating the probability of recovery of the insurance receivable through inquiries with management and with external legal counsel of Sempra Energy and we evaluated whether the information provided was consistent with our other procedures.
  - Searching external sources for and considering any contradictory evidence to Sempra Energy's accounting assessment of probability of recoverability of the insurance receivable.

Our audit procedures related to civil litigation matters included the following, among others:

- We tested the effectiveness of management's internal controls over (1) Sempra Energy's determination of whether a loss was probable and reasonably estimable and (2) the financial statement disclosures related to the gas leak.
- We evaluated management's judgments related to (1) whether a loss was probable and reasonably estimable and (2) whether additional losses are reasonably possible by inquiring of management and legal counsel of Sempra Energy regarding the amounts of probable and reasonably estimable losses.
- We read a settlement offer and external information for any evidence that might contradict management's assertions.
- We read legal letters from external and internal legal counsel of Sempra Energy regarding information from settlement discussions and we evaluated whether the information therein was consistent with the information obtained in our procedures.
- We evaluated whether Sempra Energy's disclosures were appropriate and consistent with the information obtained in our procedures.

Regulatory Accounting - Impact of Rate Regulation on the Financial Statements - Refer to Note 1 of the Notes to Consolidated Financial Statements

Critical Audit Matter Description

Sempra Energy is subject to rate regulation by regulators and commissions in various jurisdictions (collectively, the "Commissions") that have jurisdiction with respect to the rates of electric and gas transmission and distribution companies in those jurisdictions. Management has determined it meets the requirements under U.S. GAAP to prepare its financial statements applying the specialized rules to account for the effects of cost-based rate regulation. Accounting for the economics of rate regulation impacts multiple financial statement line items and disclosures, such as property, plant and equipment; regulatory assets and liabilities; operating revenues; operation and maintenance expense; depreciation expense; and taxes.

We identified the impact of rate regulation as a critical audit matter due to the significant judgments made by management to support its assertions about impacted account balances and disclosures and the high degree of subjectivity involved in assessing the impact of future regulatory orders on the financial statements. Management's judgments include assessing the likelihood of (1) the recovery in future rates of incurred costs and (2) potential refunds to customers. Auditing these judgments required specialized knowledge of accounting for rate regulation and the rate setting process due to its inherent complexities.

How the Critical Audit Matter Was Addressed in the Audit

Our audit procedures related to the application of specialized rules to account for the effects of cost-based rate regulation and the uncertainty of future decisions by the Commissions included the following, among others:

- We tested the effectiveness of management's controls over the evaluation of the likelihood of (1) the recovery in future rates of costs deferred as regulatory assets, and (2) a refund or a future reduction in rates that should be reported as regulatory liabilities. We tested the effectiveness of management's controls over the initial recognition of amounts as regulatory assets or liabilities and the monitoring and evaluation of regulatory developments that may affect the likelihood of recovering costs in future rates or of a future reduction in rates.
- We read relevant regulatory orders issued by the Commissions for Sempra Energy and other publicly available information to assess the likelihood of recovery in future rates or of a future reduction in rates based on precedents of the Commissions' treatment of similar costs under similar circumstances. We evaluated the external information and compared to management's recorded regulatory asset and liability balances for completeness.
- We evaluated Sempra Energy's disclosures related to the impacts of rate regulation, including the balances recorded and regulatory developments.

/s/ DELOITTE & TOUCHE LLP

San Diego, California
February 25, 2021

We have served as Sempra Energy's auditor since 1935.

REPORT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

To the Shareholder and Board of Directors of San Diego Gas & Electric Company:

Opinion on the Financial Statements

We have audited the accompanying consolidated balance sheets of San Diego Gas & Electric Company ("SDG&E") as of December 31, 2020 and 2019, the related consolidated statements of operations, comprehensive income (loss), changes in equity, and cash flows for each of the three years in the period ended December 31, 2020, and the related notes (collectively referred to as the "financial statements"). In our opinion, the financial statements present fairly, in all material respects, the financial position of SDG&E as of December 31, 2020 and 2019, and the results of its operations and its cash flows for each of the three years in the period ended December 31, 2020, in conformity with accounting principles generally accepted in the United States of America ("U.S. GAAP").

We have also audited, in accordance with the standards of the Public Company Accounting Oversight Board (United States) ("PCAOB"), SDG&E's internal control over financial reporting as of December 31, 2020, based on criteria established in *Internal Control – Integrated Framework (2013)* issued by the Committee of Sponsoring Organizations of the Treadway Commission, and our report dated February 25, 2021 expressed an unqualified opinion on SDG&E's internal control over financial reporting.

Basis for Opinion

These financial statements are the responsibility of SDG&E's management. Our responsibility is to express an opinion on SDG&E's financial statements based on our audits. We are a public accounting firm registered with the PCAOB and are required to be independent with respect to SDG&E in accordance with the U.S. federal securities laws and the applicable rules and regulations of the Securities and Exchange Commission and the PCAOB.

We conducted our audits in accordance with the standards of the PCAOB. Those standards require that we plan and perform the audits to obtain reasonable assurance about whether the financial statements are free of material misstatement, whether due to error or fraud. Our audits included performing procedures to assess the risks of material misstatement of the financial statements, whether due to error or fraud, and performing procedures that respond to those risks. Such procedures included examining, on a test basis, evidence regarding the amounts and disclosures in the financial statements. Our audits also included evaluating the accounting principles used and significant estimates made by management, as well as evaluating the overall presentation of the financial statements. We believe that our audits provide a reasonable basis for our opinion.

Critical Audit Matter

The critical audit matter communicated below is a matter arising from the current-period audit of the financial statements that was communicated or required to be communicated to the audit committee and that (1) relates to accounts or disclosures that are material to the financial statements and (2) involved our especially challenging, subjective, or complex judgments. The communication of a critical audit matter does not alter in any way our opinion on the financial statements, taken as a whole, and we are not, by communicating the critical audit matter below, providing a separate opinion on the critical audit matter or on the accounts or disclosures to which it relates.

Regulatory Accounting - Impact of Rate Regulation on the Financial Statements - Refer to Note 1 of the Notes to Consolidated Financial Statements

Critical Audit Matter Description

SDG&E is subject to rate regulation by regulators and commissions in various jurisdictions (collectively, the "Commissions") that have jurisdiction with respect to the rates of electric and gas transmission and distribution companies in those jurisdictions. Management has determined it meets the requirements under U.S. GAAP to prepare its financial statements applying the specialized rules to account for the effects of cost-based rate regulation. Accounting for the economics of rate regulation impacts multiple financial statement line items and disclosures, such as property, plant and equipment; regulatory assets and liabilities; operating revenues; operation and maintenance expense; depreciation expense; and taxes.

We identified the impact of rate regulation as a critical audit matter due to the significant judgments made by management to support its assertions about impacted account balances and disclosures and the high degree of subjectivity involved in assessing the impact of future regulatory orders on the financial statements. Management's judgments include assessing the likelihood of (1) the recovery in future rates of incurred costs and (2) potential refunds to customers. Auditing these judgments required specialized knowledge of accounting for rate regulation and the rate setting process due to its inherent complexities.

How the Critical Audit Matter Was Addressed in the Audit

Our audit procedures related to the application of specialized rules to account for the effects of cost-based rate regulation and the uncertainty of future decisions by the Commissions included the following, among others:

- We tested the effectiveness of management's controls over the evaluation of the likelihood of (1) the recovery in future rates of costs deferred as regulatory assets, and (2) a refund or a future reduction in rates that should be reported as regulatory liabilities. We tested the effectiveness of management's controls over the initial recognition of amounts as regulatory assets or liabilities and the monitoring and evaluation of regulatory developments that may affect the likelihood of recovering costs in future rates or of a future reduction in rates.
- We read relevant regulatory orders issued by the Commissions for SDG&E and other publicly available information to assess the likelihood of recovery in future rates or of a future reduction in rates based on precedents of the Commissions' treatment of similar costs under similar circumstances. We evaluated the external information and compared to management's recorded regulatory asset and liability balances for completeness.
- We evaluated SDG&E's disclosures related to the impacts of rate regulation, including the balances recorded and regulatory developments.

/s/ DELOITTE & TOUCHE LLP

San Diego, California
February 25, 2021

We have served as SDG&E's auditor since 1935.

REPORT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

To the Shareholders and Board of Directors of Southern California Gas Company:

Opinion on the Financial Statements

We have audited the accompanying balance sheets of Southern California Gas Company ("SoCalGas") as of December 31, 2020 and 2019, the related statements of operations, comprehensive income (loss), changes in shareholders' equity, and cash flows for each of the three years in the period ended December 31, 2020, and the related notes (collectively referred to as the "financial statements"). In our opinion, the financial statements present fairly, in all material respects, the financial position of SoCalGas as of December 31, 2020 and 2019, and the results of its operations and its cash flows for each of the three years in the period ended December 31, 2020, in conformity with accounting principles generally accepted in the United States of America ("U.S. GAAP").

We have also audited, in accordance with the standards of the Public Company Accounting Oversight Board (United States) ("PCAOB"), SoCalGas' internal control over financial reporting as of December 31, 2020, based on criteria established in *Internal Control – Integrated Framework (2013)* issued by the Committee of Sponsoring Organizations of the Treadway Commission, and our report dated February 25, 2021 expressed an unqualified opinion on SoCalGas' internal control over financial reporting.

Basis for Opinion

These financial statements are the responsibility of SoCalGas' management. Our responsibility is to express an opinion on SoCalGas' financial statements based on our audits. We are a public accounting firm registered with the PCAOB and are required to be independent with respect to SoCalGas in accordance with the U.S. federal securities laws and the applicable rules and regulations of the Securities and Exchange Commission and the PCAOB.

We conducted our audits in accordance with the standards of the PCAOB. Those standards require that we plan and perform the audits to obtain reasonable assurance about whether the financial statements are free of material misstatement, whether due to error or fraud. Our audits included performing procedures to assess the risks of material misstatement of the financial statements, whether due to error or fraud, and performing procedures that respond to those risks. Such procedures included examining, on a test basis, evidence regarding the amounts and disclosures in the financial statements. Our audits also included evaluating the accounting principles used and significant estimates made by management, as well as evaluating the overall presentation of the financial statements. We believe that our audits provide a reasonable basis for our opinion.

Critical Audit Matters

The critical audit matters communicated below are matters arising from the current-period audit of the financial statements that were communicated or required to be communicated to the audit committee and that (1) relate to accounts or disclosures that are material to the financial statements and (2) involved our especially challenging, subjective, or complex judgments. The communication of critical audit matters does not alter in any way our opinion on the financial statements, taken as a whole, and we are not, by communicating the critical audit matters below, providing separate opinions on the critical audit matters or on the accounts or disclosures to which they relate.

Insurance Receivable and Legal Contingencies Related to Aliso Canyon Gas Leak - Refer to Note 16 of the Notes to Financial Statements

Critical Audit Matter Description

SoCalGas has an insurance receivable of $445 million as of December 31, 2020 related to certain costs arising from the Aliso Canyon natural gas storage facility gas leak. SoCalGas has determined that the insurance receivable is probable of recovery based on the nature of the insurance claims, the costs incurred, and the coverage provided by applicable insurance policies.

Additionally, SoCalGas is named in various lawsuits related to the gas leak and the liabilities could be material. SoCalGas' accrual for civil litigation matters associated with the gas leak, inclusive of estimated legal costs, is included within its $451 million Reserve for Aliso Canyon Costs as of December 31, 2020.

We identified the recoverability of the insurance receivable as a critical audit matter due to the management judgments required in assessing if, and to what degree, the coverage provided by applicable insurance policies would cover the types of costs included in the insurance claims submitted. Also, we identified the contingency accrual related to the civil litigation as a critical audit matter due to the management judgments required in assessing the probability and reasonable estimation of the potential liability related to the civil litigation. Auditing the probability of recovery of the insurance receivable and the contingency accrual related to the civil litigation required subjective auditor judgment and extensive audit effort.

How the Critical Audit Matter Was Addressed in the Audit

Our audit procedures related to the probability of recovery of the insurance receivable for the costs related to the Aliso Canyon natural gas storage facility gas leak included the following, among others:

- We tested the effectiveness of management's internal controls over the costs included in the related insurance receivable and the evaluation of the recoverability of this insurance receivable.
- With the assistance of an insurance specialist, we evaluated management's judgments related to the determination of the recoverability of the insurance receivable by:
  - Evaluating the coverage provided by applicable insurance policies and evaluating the potential coverage available under such policies based on the nature of the underlying costs.
  - Evaluating the probability of recovery of the insurance receivable by obtaining correspondence between SoCalGas and the applicable insurers.
  - Evaluating the probability of recovery of the insurance receivable through inquiries with management and with external legal counsel of SoCalGas and we evaluated whether the information provided was consistent with our other procedures.
  - Searching external sources for and considering any contradictory evidence to SoCalGas' accounting assessment of probability of recoverability of the insurance receivable.

Our audit procedures related to civil litigation matters included the following, among others:

- We tested the effectiveness of management's internal controls over (1) SoCalGas' determination of whether a loss was probable and reasonably estimable and (2) the financial statement disclosures related to the gas leak.
- We evaluated management's judgments related to (1) whether a loss was probable and reasonably estimable and (2) whether additional losses are reasonably possible by inquiring of management and legal counsel of Sempra Energy and SoCalGas regarding the amounts of probable and reasonably estimable losses.
- We read a settlement offer and external information for any evidence that might contradict management's assertions.
- We read legal letters from external and internal legal counsel of Sempra Energy regarding information from settlement discussions and we evaluated whether the information therein was consistent with the information obtained in our procedures.
- We evaluated whether SoCalGas' disclosures were appropriate and consistent with the information obtained in our procedures.

Regulatory Accounting - Impact of Rate Regulation on the Financial Statements - Refer to Note 1 of the Notes to Financial Statements

Critical Audit Matter Description

SoCalGas is subject to rate regulation by regulators and commissions in various jurisdictions (collectively, the "Commissions") that have jurisdiction with respect to the rates of gas transmission and distribution companies in those jurisdictions. Management has determined it meets the requirements under U.S. GAAP to prepare its financial statements applying the specialized rules to account for the effects of cost-based rate regulation. Accounting for the economics of rate regulation impacts multiple financial statement line items and disclosures, such as property, plant and equipment; regulatory assets and liabilities; operating revenues; operation and maintenance expense; depreciation expense; and taxes.

We identified the impact of rate regulation as a critical audit matter due to the significant judgments made by management to support its assertions about impacted account balances and disclosures and the high degree of subjectivity involved in assessing the impact of future regulatory orders on the financial statements. Management's judgments include assessing the likelihood of (1) the recovery in future rates of incurred costs and (2) potential refunds to customers. Auditing these judgments required specialized knowledge of accounting for rate regulation and the rate setting process due to its inherent complexities.

How the Critical Audit Matter Was Addressed in the Audit

Our audit procedures related to the application of specialized rules to account for the effects of cost-based rate regulation and the uncertainty of future decisions by the Commissions included the following, among others:

- We tested the effectiveness of management's controls over the evaluation of the likelihood of (1) the recovery in future rates of costs deferred as regulatory assets, and (2) a refund or a future reduction in rates that should be reported as regulatory liabilities. We tested the effectiveness of management's controls over the initial recognition of amounts as regulatory assets or liabilities and the monitoring and evaluation of regulatory developments that may affect the likelihood of recovering costs in future rates or of a future reduction in rates.
- We read relevant regulatory orders issued by the Commissions for SoCalGas and other publicly available information to assess the likelihood of recovery in future rates or of a future reduction in rates based on precedents of the Commissions' treatment of similar costs under similar circumstances. We evaluated the external information and compared to management's recorded regulatory asset and liability balances for completeness.

- We evaluated SoCalGas' disclosures related to the impacts of rate regulation, including the balances recorded and regulatory developments.

/s/ DELOITTE & TOUCHE LLP

San Diego, California
February 25, 2021

We have served as SoCalGas' auditor since 1937.

SEMPRA ENERGY
CONSOLIDATED STATEMENTS OF OPERATIONS
(Dollars in millions, except per share amounts; shares in thousands)

	Years ended December 31,		
	2020	2019	2018
REVENUES			
Utilities	$ 10,025	$ 9,448	$ 8,539
Energy-related businesses	1,345	1,381	1,563
Total revenues	11,370	10,829	10,102
EXPENSES AND OTHER INCOME			
Utilities:			
Cost of natural gas	(925)	(1,139)	(1,208)
Cost of electric fuel and purchased power	(1,187)	(1,188)	(1,358)
Energy-related businesses cost of sales	(276)	(344)	(357)
Operation and maintenance	(3,940)	(3,466)	(3,150)
Aliso Canyon litigation and regulatory matters	(307)	—	—
Depreciation and amortization	(1,666)	(1,569)	(1,491)
Franchise fees and other taxes	(543)	(496)	(472)
Impairment losses	(1)	(43)	(1,122)
(Loss) gain on sale of assets	(3)	63	513
Other (expense) income, net	(48)	77	58
Interest income	96	87	85
Interest expense	(1,081)	(1,077)	(886)
Income from continuing operations before income taxes and equity earnings	1,489	1,734	714
Income tax (expense) benefit	(249)	(315)	49
Equity earnings	1,015	580	175
Income from continuing operations, net of income tax	2,255	1,999	938
Income from discontinued operations, net of income tax	1,850	363	188
Net income	4,105	2,362	1,126
Earnings attributable to noncontrolling interests	(172)	(164)	(76)
Preferred dividends	(168)	(142)	(125)
Preferred dividends of subsidiary	(1)	(1)	(1)
Earnings attributable to common shares	$ 3,764	$ 2,055	$ 924
Basic EPS:			
Earnings from continuing operations	$ 6.61	$ 6.22	$ 2.86
Earnings from discontinued operations	$ 6.32	$ 1.18	$ 0.59
Earnings	$ 12.93	$ 7.40	$ 3.45
Weighted-average common shares outstanding	291,077	277,904	268,072
Diluted EPS:			
Earnings from continuing operations	$ 6.58	$ 6.13	$ 2.84
Earnings from discontinued operations	$ 6.30	$ 1.16	$ 0.58
Earnings	$ 12.88	$ 7.29	$ 3.42
Weighted-average common shares outstanding	292,252	282,033	269,852

See Notes to Consolidated Financial Statements.

SEMPRA ENERGY
CONSOLIDATED STATEMENTS OF COMPREHENSIVE INCOME (LOSS)
(Dollars in millions)

	Years ended December 31, 2020, 2019 and 2018				
	Sempra Energy shareholders' equity				
	Pretax amount	Income tax (expense) benefit	Net-of-tax amount	Noncontrolling interests (after tax)	Total
2020:					
Net income	$ 5,368	$ (1,435)	$ 3,933	$ 172	$ 4,105
Other comprehensive income (loss):					
Foreign currency translation adjustments	547	—	547	(12)	535
Financial instruments	(146)	33	(113)	(12)	(125)
Pension and other postretirement benefits	11	1	12	—	12
Total other comprehensive income (loss)	412	34	446	(24)	422
Comprehensive income	5,780	(1,401)	4,379	148	4,527
Preferred dividends of subsidiary	(1)	—	(1)	—	(1)
Comprehensive income, after preferred dividends of subsidiary	$ 5,779	$ (1,401)	$ 4,378	$ 148	$ 4,526
2019:					
Net income	$ 2,585	$ (387)	$ 2,198	$ 164	$ 2,362
Other comprehensive income (loss):					
Foreign currency translation adjustments	(43)	—	(43)	3	(40)
Financial instruments	(161)	53	(108)	(10)	(118)
Pension and other postretirement benefits	25	(7)	18	—	18
Total other comprehensive loss	(179)	46	(133)	(7)	(140)
Comprehensive income	2,406	(341)	2,065	157	2,222
Preferred dividends of subsidiary	(1)	—	(1)	—	(1)
Comprehensive income, after preferred dividends of subsidiary	$ 2,405	$ (341)	$ 2,064	$ 157	$ 2,221
2018:					
Net income	$ 1,146	$ (96)	$ 1,050	$ 76	$ 1,126
Other comprehensive income (loss):					
Foreign currency translation adjustments	(144)	—	(144)	(11)	(155)
Financial instruments	64	(21)	43	13	56
Pension and other postretirement benefits	(38)	4	(34)	—	(34)
Total other comprehensive (loss) income	(118)	(17)	(135)	2	(133)
Comprehensive income	1,028	(113)	915	78	993
Preferred dividends of subsidiary	(1)	—	(1)	—	(1)
Comprehensive income, after preferred dividends of subsidiary	$ 1,027	$ (113)	$ 914	$ 78	$ 992

See Notes to Consolidated Financial Statements.

SEMPRA ENERGY
CONSOLIDATED BALANCE SHEETS
(Dollars in millions)

	December 31, 2020	December 31, 2019
ASSETS		
Current assets:		
Cash and cash equivalents	$ 960	$ 108
Restricted cash	22	31
Accounts receivable – trade, net	1,578	1,261
Accounts receivable – other, net	403	455
Due from unconsolidated affiliates	20	32
Income taxes receivable	113	112
Inventories	308	277
Regulatory assets	190	222
Greenhouse gas allowances	553	72
Assets held for sale in discontinued operations	—	445
Other current assets	364	324
Total current assets	4,511	3,339
Other assets:		
Restricted cash	3	3
Due from unconsolidated affiliates	780	742
Regulatory assets	1,822	1,930
Nuclear decommissioning trusts	1,019	1,082
Investment in Oncor Holdings	12,440	11,519
Other investments	1,388	2,103
Goodwill	1,602	1,602
Other intangible assets	202	213
Dedicated assets in support of certain benefit plans	512	488
Insurance receivable for Aliso Canyon costs	445	339
Deferred income taxes	136	155
Greenhouse gas allowances	101	470
Right-of-use assets – operating leases	543	591
Wildfire fund	363	392
Assets held for sale in discontinued operations	—	3,513
Other long-term assets	753	732
Total other assets	22,109	25,874
Property, plant and equipment:		
Property, plant and equipment	53,928	49,329
Less accumulated depreciation and amortization	(13,925)	(12,877)
Property, plant and equipment, net	40,003	36,452
Total assets	$ 66,623	$ 65,665

See Notes to Consolidated Financial Statements.

SEMPRA ENERGY
CONSOLIDATED BALANCE SHEETS (CONTINUED)
(Dollars in millions)

	December 31, 2020	December 31, 2019
LIABILITIES AND EQUITY		
Current liabilities:		
Short-term debt	$ 885	$ 3,505
Accounts payable – trade	1,359	1,234
Accounts payable – other	154	179
Due to unconsolidated affiliates	45	5
Dividends and interest payable	551	515
Accrued compensation and benefits	446	476
Regulatory liabilities	140	319
Current portion of long-term debt and finance leases	1,540	1,526
Reserve for Aliso Canyon costs	150	9
Greenhouse gas obligations	553	72
Liabilities held for sale in discontinued operations	—	444
Other current liabilities	1,016	866
Total current liabilities	6,839	9,150
Long-term debt and finance leases	21,781	20,785
Deferred credits and other liabilities:		
Due to unconsolidated affiliates	234	195
Pension and other postretirement benefit plan obligations, net of plan assets	1,059	1,067
Deferred income taxes	2,871	2,577
Regulatory liabilities	3,372	3,741
Reserve for Aliso Canyon costs	301	7
Asset retirement obligations	3,113	2,923
Greenhouse gas obligations	—	301
Liabilities held for sale in discontinued operations	—	1,052
Deferred credits and other	2,119	2,062
Total deferred credits and other liabilities	13,069	13,925
Commitments and contingencies (Note 16)		
Equity:		
Preferred stock (50 million shares authorized):		
Mandatory convertible preferred stock, series A (17.25 million shares outstanding)	1,693	1,693
Mandatory convertible preferred stock, series B (5.75 million shares outstanding)	565	565
Preferred stock, series C (0.9 million shares outstanding)	889	—
Common stock (750 million shares authorized; 288 million and 292 million shares outstanding at December 31, 2020 and 2019, respectively; no par value)	7,053	7,480
Retained earnings	13,673	11,130
Accumulated other comprehensive income (loss)	(500)	(939)
Total Sempra Energy shareholders' equity	23,373	19,929
Preferred stock of subsidiary	20	20
Other noncontrolling interests	1,541	1,856
Total equity	24,934	21,805
Total liabilities and equity	$ 66,623	$ 65,665

See Notes to Consolidated Financial Statements.

SEMPRA ENERGY
CONSOLIDATED STATEMENTS OF CASH FLOWS
(Dollars in millions)

	Years ended December 31,		
	2020	2019	2018
CASH FLOWS FROM OPERATING ACTIVITIES			
Net income	$ 4,105	$ 2,362	$ 1,126
Less: Income from discontinued operations, net of income tax	(1,850)	(363)	(188)
Income from continuing operations, net of income tax	2,255	1,999	938
Adjustments to reconcile net income to net cash provided by operating activities:			
Depreciation and amortization	1,666	1,569	1,491
Deferred income taxes and investment tax credits	159	189	(242)
Impairment losses	1	43	1,122
Loss (gain) on sale of assets	3	(63)	(513)
Equity earnings	(1,015)	(580)	(175)
Foreign currency transaction losses (gains), net	25	(21)	6
Share-based compensation expense	71	75	83
Other	132	47	106
Net change in other working capital components:			
Accounts receivable	(315)	(91)	(145)
Income taxes receivable/payable, net	(94)	(166)	88
Inventories	(35)	(22)	32
Other current assets	38	(88)	(79)
Accounts payable	73	12	96
Regulatory balancing accounts	(231)	13	263
Reserve for Aliso Canyon costs	141	(144)	56
Other current liabilities	(127)	(99)	52
Intercompany activities with discontinued operations, net	—	378	70
Distributions from investments	651	247	202
Insurance receivable for Aliso Canyon costs	(106)	122	(43)
Wildfire fund, current and noncurrent	—	(323)	—
Reserve for Aliso Canyon costs, noncurrent	294	—	—
Changes in other noncurrent assets and liabilities, net	56	(399)	(188)
Net cash provided by continuing operations	3,642	2,698	3,220
Net cash (used in) provided by discontinued operations	(1,051)	390	296
Net cash provided by operating activities	2,591	3,088	3,516
CASH FLOWS FROM INVESTING ACTIVITIES			
Expenditures for property, plant and equipment	(4,676)	(3,708)	(3,544)
Expenditures for investments and acquisitions	(652)	(1,797)	(10,168)
Proceeds from sale of assets	19	899	1,580
Distributions from investments	761	9	10
Purchases of nuclear decommissioning trust assets	(1,439)	(914)	(890)
Proceeds from sales of nuclear decommissioning trust assets	1,439	914	890
Advances to unconsolidated affiliates	(92)	(16)	(95)
Repayments of advances to unconsolidated affiliates	7	3	3
Intercompany activities with discontinued operations, net	—	8	(22)
Other	15	21	31
Net cash used in continuing operations	(4,618)	(4,581)	(12,205)
Net cash provided by (used in) discontinued operations	5,171	(12)	(265)
Net cash provided by (used in) investing activities	553	(4,593)	(12,470)

See Notes to Consolidated Financial Statements

SEMPRA ENERGY
CONSOLIDATED STATEMENTS OF CASH FLOWS (CONTINUED)
(Dollars in millions)

	Years ended December 31,		
	2020	2019	2018
CASH FLOWS FROM FINANCING ACTIVITIES			
Common dividends paid	(1,174)	(993)	(877)
Preferred dividends paid	(157)	(142)	(89)
Issuances of preferred stock, net	891	—	2,258
Issuances of common stock, net	11	1,830	2,272
Repurchases of common stock	(566)	(26)	(21)
Issuances of debt (maturities greater than 90 days)	6,051	4,296	8,927
Payments on debt (maturities greater than 90 days) and finance leases	(5,864)	(3,667)	(3,342)
(Decrease) increase in short-term debt, net	(1,759)	656	(84)
Advances from unconsolidated affiliates	64	155	—
Proceeds from sale of noncontrolling interests, net	26	5	90
Purchases of noncontrolling interests	(248)	(30)	(7)
Contributions from (distributions to) noncontrolling interests, net	1	98	(26)
Intercompany activities with discontinued operations, net	—	(266)	(109)
Other	(50)	(49)	(117)
Net cash (used in) provided by continuing operations	(2,774)	1,867	8,875
Net cash provided by (used in) discontinued operations	401	(392)	(25)
Net cash (used in) provided by financing activities	(2,373)	1,475	8,850
Effect of exchange rate changes in continuing operations	—	—	(2)
Effect of exchange rate changes in discontinued operations	(3)	1	(12)
Effect of exchange rate changes on cash, cash equivalents and restricted cash	(3)	1	(14)
Increase (decrease) in cash, cash equivalents and restricted cash, including discontinued operations	768	(29)	(118)
Cash, cash equivalents and restricted cash, including discontinued operations, January 1	217	246	364
Cash, cash equivalents and restricted cash, including discontinued operations, December 31	$ 985	$ 217	$ 246
SUPPLEMENTAL DISCLOSURE OF CASH FLOW INFORMATION			
Interest payments, net of amounts capitalized	$ 1,046	$ 1,051	$ 773
Income tax payments, including discontinued operations, net of refunds	1,385	360	174
SUPPLEMENTAL DISCLOSURE OF NONCASH INVESTING AND FINANCING ACTIVITIES			
Acquisitions:			
Assets acquired	$ —	$ —	$ 9,670
Liabilities assumed	—	—	(102)
Cash paid	$ —	$ —	$ 9,568
Accrued interest receivable from unconsolidated affiliate	$ —	$ 55	$ 62
Accrued capital expenditures	535	515	425
Accrued commercial paper proceeds	—	67	—
Increase in finance lease obligations for investment in property, plant and equipment	77	38	556
Increase in ARO for investment in PP&E	142	36	78
Equitization of long-term debt for deficit held by NCI	22	—	—
Contribution to Cameron LNG JV	50	—	—
Distribution from Cameron LNG JV	50	—	—
Preferred dividends declared but not paid	47	36	36
Common dividends issued in stock	22	55	54
Common dividends declared but not paid	301	283	245

See Notes to Consolidated Financial Statements

SEMPRA ENERGY

CONSOLIDATED STATEMENTS OF CHANGES IN EQUITY

(Dollars in millions)

	Years ended December 31, 2020, 2019 and 2018						
	Preferred stock	Common stock	Retained earnings	Accumulated other comprehensive income (loss)	**Sempra Energy shareholders' equity**	Non-controlling interests	**Total equity**
Balance at December 31, 2017	$ —	$ 3,149	$ 10,147	$ (626)	**$ 12,670**	$ 2,470	**$ 15,140**
Adoption of ASU 2017-12			2	(3)	**(1)**		**(1)**
Adjusted balance as of December 31, 2017	—	3,149	10,149	(629)	**12,669**	2,470	**15,139**
Net income			1,050		**1,050**	76	**1,126**
Other comprehensive (loss) income				(135)	**(135)**	2	**(133)**
Share-based compensation expense		83			**83**		**83**
Dividends declared:							
Series A preferred stock ($6.10/share)			(105)		**(105)**		**(105)**
Series B preferred stock ($3.41/share)			(20)		**(20)**		**(20)**
Common stock ($3.58/share)			(969)		**(969)**		**(969)**
Preferred dividends of subsidiary			(1)		**(1)**		**(1)**
Issuance of series A preferred stock	1,693				**1,693**		**1,693**
Issuance of series B preferred stock	565				**565**		**565**
Issuances of common stock		2,326			**2,326**		**2,326**
Repurchases of common stock		(21)			**(21)**		**(21)**
Noncontrolling interest activities:							
Contributions						66	**66**
Distributions						(110)	**(110)**
Purchases		(1)			**(1)**	(7)	**(8)**
Sales, net of offering costs		4			**4**	86	**90**
Acquisition						13	**13**
Deconsolidations						(486)	**(486)**
Balance at December 31, 2018	2,258	5,540	10,104	(764)	**17,138**	2,110	**19,248**
Adoption of ASU 2016-02			17		**17**		**17**
Adoption of ASU 2018-02			40	(42)	**(2)**		**(2)**
Adjusted balance as of December 31, 2018	2,258	5,540	10,161	(806)	**17,153**	2,110	**19,263**
Net income			2,198		**2,198**	164	**2,362**
Other comprehensive loss				(133)	**(133)**	(7)	**(140)**
Share-based compensation expense		75			**75**		**75**
Dividends declared:							
Series A preferred stock ($6.00/share)			(103)		**(103)**		**(103)**
Series B preferred stock ($6.75/share)			(39)		**(39)**		**(39)**
Common stock ($3.87/share)			(1,086)		**(1,086)**		**(1,086)**
Preferred dividends of subsidiary			(1)		**(1)**		**(1)**
Issuances of common stock		1,885			**1,885**		**1,885**
Repurchases of common stock		(26)			**(26)**		**(26)**
Noncontrolling interest activities:							
Contributions						175	**175**
Distributions		5			**5**	(103)	**(98)**
Purchases		(3)			**(3)**	(27)	**(30)**
Sale		4			**4**	1	**5**
Acquisition						3	**3**
Deconsolidations						(440)	**(440)**
Balance at December 31, 2019	2,258	7,480	11,130	(939)	**19,929**	1,876	**21,805**

See Notes to Consolidated Financial Statements.

SEMPRA ENERGY

CONSOLIDATED STATEMENTS OF CHANGES IN EQUITY (CONTINUED)

(Dollars in millions)

	Years ended December 31, 2020, 2019 and 2018						
	Preferred stock	Common stock	Retained earnings	Accumulated other comprehensive income (loss)	**Sempra Energy shareholders' equity**	Non-controlling interests	**Total equity**
Balance at December 31, 2019	2,258	7,480	11,130	(939)	**19,929**	1,876	**21,805**
Adoption of ASU 2016-13			(7)		**(7)**	(2)	**(9)**
Adjusted balance as of December 31, 2019	2,258	7,480	11,123	(939)	**19,922**	1,874	**21,796**
Net income			3,933		**3,933**	172	**4,105**
Other comprehensive income (loss)				446	**446**	(24)	**422**
Share-based compensation expense		71			**71**		**71**
Dividends declared:							
Series A preferred stock ($6.00/share)			(104)		**(104)**		**(104)**
Series B preferred stock ($6.75/share)			(39)		**(39)**		**(39)**
Series C preferred stock ($27.90/share)			(25)		**(25)**		**(25)**
Common stock ($4.18/share)			(1,214)		**(1,214)**		**(1,214)**
Preferred dividends of subsidiary			(1)		**(1)**		**(1)**
Issuances of series C preferred stock	889				**889**		**889**
Issuances of common stock		33			**33**		**33**
Repurchases of common stock		(566)			**(566)**		**(566)**
Noncontrolling interest activities:							
Contributions						1	**1**
Distributions						(1)	**(1)**
Purchases		34		(7)	**27**	(275)	**(248)**
Sale		1			**1**	27	**28**
Acquisition						1	**1**
Equitization of long-term debt for deficit held by NCI						22	**22**
Deconsolidation						(236)	**(236)**
Balance at December 31, 2020	$ 3,147	$ 7,053	$ 13,673	$ (500)	**$ 23,373**	$ 1,561	**$ 24,934**

See Notes to Consolidated Financial Statements.

SAN DIEGO GAS & ELECTRIC COMPANY
CONSOLIDATED STATEMENTS OF OPERATIONS
(Dollars in millions)

	Years ended December 31,		
	2020	2019	2018
Operating revenues			
Electric	$ 4,619	$ 4,267	$ 4,003
Natural gas	694	658	565
Total operating revenues	5,313	4,925	4,568
Operating expenses			
Cost of electric fuel and purchased power	1,191	1,194	1,370
Cost of natural gas	162	176	152
Operation and maintenance	1,455	1,181	1,058
Depreciation and amortization	801	760	688
Franchise fees and other taxes	331	301	290
Total operating expenses	3,940	3,612	3,558
Operating income	1,373	1,313	1,010
Other income, net	52	39	56
Interest income	2	4	4
Interest expense	(413)	(411)	(221)
Income before income taxes	1,014	945	849
Income tax expense	(190)	(171)	(173)
Net income	824	774	676
Earnings attributable to noncontrolling interest	—	(7)	(7)
Earnings attributable to common shares	$ 824	$ 767	$ 669

See Notes to Consolidated Financial Statements.

SAN DIEGO GAS & ELECTRIC COMPANY
CONSOLIDATED STATEMENTS OF COMPREHENSIVE INCOME (LOSS)
(Dollars in millions)

	Years ended December 31, 2020, 2019 and 2018				
	SDG&E shareholder's equity				
	Pretax amount	Income tax (expense) benefit	Net-of-tax amount	Noncontrolling interest (after tax)	Total
2020:					
Net income	$ 1,014	$ (190)	$ 824	$ —	$ 824
Other comprehensive income (loss):					
Pension and other postretirement benefits	8	(2)	6	—	6
Total other comprehensive income	8	(2)	6	—	6
Comprehensive income	$ 1,022	$ (192)	$ 830	$ —	$ 830
2019:					
Net income	$ 938	$ (171)	$ 767	$ 7	$ 774
Other comprehensive income (loss):					
Financial instruments	—	—	—	2	2
Pension and other postretirement benefits	(6)	2	(4)	—	(4)
Total other comprehensive (loss) income	(6)	2	(4)	2	(2)
Comprehensive income	$ 932	$ (169)	$ 763	$ 9	$ 772
2018:					
Net income	$ 842	$ (173)	$ 669	$ 7	$ 676
Other comprehensive income (loss):					
Financial instruments	—	—	—	8	8
Pension and other postretirement benefits	(2)	—	(2)	—	(2)
Total other comprehensive (loss) income	(2)	—	(2)	8	6
Comprehensive income	$ 840	$ (173)	$ 667	$ 15	$ 682

See Notes to Consolidated Financial Statements.

SAN DIEGO GAS & ELECTRIC COMPANY
CONSOLIDATED BALANCE SHEETS
(Dollars in millions)

	December 31,	
	2020	2019
ASSETS		
Current assets:		
Cash and cash equivalents	$ 262	$ 10
Accounts receivable – trade, net	573	398
Accounts receivable – other, net	143	119
Income taxes receivable, net	—	128
Inventories	104	94
Prepaid expenses	153	120
Regulatory assets	174	209
Fixed-price contracts and other derivatives	56	43
Greenhouse gas allowances	113	13
Other current assets	22	24
Total current assets	1,600	1,158
Other assets:		
Regulatory assets	534	440
Nuclear decommissioning trusts	1,019	1,082
Greenhouse gas allowances	83	189
Right-of-use assets – operating leases	102	130
Wildfire fund	363	392
Other long-term assets	189	202
Total other assets	2,290	2,435
Property, plant and equipment:		
Property, plant and equipment	24,436	22,504
Less accumulated depreciation and amortization	(6,015)	(5,537)
Property, plant and equipment, net	18,421	16,967
Total assets	$ 22,311	$ 20,560

See Notes to Consolidated Financial Statements.

SAN DIEGO GAS & ELECTRIC COMPANY
CONSOLIDATED BALANCE SHEETS (CONTINUED)
(Dollars in millions)

	December 31, 2020	December 31, 2019
LIABILITIES AND EQUITY		
Current liabilities:		
Short-term debt	$ —	$ 80
Accounts payable	553	496
Due to unconsolidated affiliates	64	53
Interest payable	46	43
Accrued compensation and benefits	135	138
Accrued franchise fees	56	53
Regulatory liabilities	61	76
Current portion of long-term debt and finance leases	611	56
Customer deposits	56	74
Greenhouse gas obligations	113	13
Asset retirement obligations	117	95
Other current liabilities	199	133
Total current liabilities	2,011	1,310
Long-term debt and finance leases	6,866	6,306
Deferred credits and other liabilities:		
Pension obligation, net of plan assets	92	153
Deferred income taxes	2,019	1,848
Deferred investment tax credits	13	14
Regulatory liabilities	2,195	2,319
Asset retirement obligations	759	771
Greenhouse gas obligations	—	62
Deferred credits and other	626	677
Total deferred credits and other liabilities	5,704	5,844
Commitments and contingencies (Note 16)		
Shareholder's Equity:		
Preferred stock (45 million shares authorized; none issued)	—	—
Common stock (255 million shares authorized; 117 million shares outstanding; no par value)	1,660	1,660
Retained earnings	6,080	5,456
Accumulated other comprehensive income (loss)	(10)	(16)
Total shareholder's equity	7,730	7,100
Total liabilities and shareholder's equity	$ 22,311	$ 20,560

See Notes to Consolidated Financial Statements.

SAN DIEGO GAS & ELECTRIC COMPANY
CONSOLIDATED STATEMENTS OF CASH FLOWS
(Dollars in millions)

	Years ended December 31,		
	2020	2019	2018
CASH FLOWS FROM OPERATING ACTIVITIES			
Net income	$ 824	$ 774	$ 676
Adjustments to reconcile net income to net cash provided by operating activities:			
Depreciation and amortization	801	760	688
Deferred income taxes and investment tax credits	35	105	39
Other	27	13	(17)
Net change in other working capital components:			
Accounts receivable	(134)	(15)	30
Due to/from affiliates, net	11	(8)	(2)
Income taxes receivable/payable, net	129	(126)	23
Inventories	(10)	4	3
Other current assets	4	(19)	(6)
Accounts payable	31	32	(1)
Regulatory balancing accounts	(71)	(101)	138
Other current liabilities	(100)	4	4
Wildfire fund, current and noncurrent	—	(323)	—
Changes in other noncurrent assets and liabilities, net	(158)	(10)	9
Net cash provided by operating activities	1,389	1,090	1,584
CASH FLOWS FROM INVESTING ACTIVITIES			
Expenditures for property, plant and equipment	(1,942)	(1,522)	(1,542)
Decrease in cash from deconsolidation of Otay Mesa VIE	—	(8)	—
Purchases of nuclear decommissioning trust assets	(1,439)	(914)	(890)
Proceeds from sales of nuclear decommissioning trust assets	1,439	914	890
Other	8	8	—
Net cash used in investing activities	(1,934)	(1,522)	(1,542)
CASH FLOWS FROM FINANCING ACTIVITIES			
Common dividends paid	(200)	—	(250)
Equity contribution from Sempra Energy	—	322	—
Issuances of debt (maturities greater than 90 days)	1,598	400	618
Payments on debt (maturities greater than 90 days) and finance leases	(510)	(274)	(492)
(Decrease) increase in short-term debt, net	(80)	(211)	38
Contributions from noncontrolling interest, net	—	172	57
Debt issuance costs	(11)	(4)	(5)
Net cash provided by (used in) financing activities	797	405	(34)
Increase (decrease) in cash, cash equivalents and restricted cash	252	(27)	8
Cash, cash equivalents and restricted cash, January 1	10	37	29
Cash, cash equivalents and restricted cash, December 31	$ 262	$ 10	$ 37
SUPPLEMENTAL DISCLOSURE OF CASH FLOW INFORMATION			
Interest payments, net of amounts capitalized	$ 404	$ 405	$ 214
Income tax payments, net of refunds	25	191	112
SUPPLEMENTAL DISCLOSURE OF NONCASH INVESTING AND FINANCING ACTIVITIES			
Accrued capital expenditures	$ 199	$ 174	$ 159
Increase in finance lease obligations for investment in property, plant and equipment	30	16	550
Increase (decrease) in ARO for investment in PP&E	31	(1)	35

See Notes to Consolidated Financial Statements

SAN DIEGO GAS & ELECTRIC COMPANY
CONSOLIDATED STATEMENTS OF CHANGES IN EQUITY
(Dollars in millions)

	Years ended December 31, 2020, 2019 and 2018					
	Common stock	Retained earnings	Accumulated other comprehensive income (loss)	**SDG&E shareholder's equity**	Noncontrolling interest	**Total equity**
Balance at December 31, 2017	$ 1,338	$ 4,268	$ (8)	**$ 5,598**	$ 28	**$ 5,626**
Net income		669		**669**	7	**676**
Other comprehensive (loss) income			(2)	**(2)**	8	**6**
Common stock dividends declared ($2.14/share)		(250)		**(250)**		**(250)**
Noncontrolling interest activities:						
Contributions					65	**65**
Distributions					(8)	**(8)**
Balance at December 31, 2018	1,338	4,687	(10)	**6,015**	100	**6,115**
Adoption of ASU 2018-02		2	(2)	**—**		**—**
Adjusted balance at December 31, 2018	1,338	4,689	(12)	**6,015**	**100**	**6,115**
Net income		767		**767**	7	**774**
Other comprehensive (loss) income			(4)	**(4)**	2	**(2)**
Equity contribution from Sempra Energy	322			**322**		**322**
Noncontrolling interest activities:						
Contributions					175	**175**
Distributions					(3)	**(3)**
Deconsolidation					(281)	**(281)**
Balance at December 31, 2019	1,660	5,456	(16)	**7,100**	—	**7,100**
Net income		824		**824**	—	**824**
Other comprehensive income			6	**6**	—	**6**
Common stock dividends declared ($1.72/share)		(200)		**(200)**		**(200)**
Balance at December 31, 2020	$ 1,660	$ 6,080	$ (10)	**$ 7,730**	$ —	**$ 7,730**

See Notes to Consolidated Financial Statements.

SOUTHERN CALIFORNIA GAS COMPANY
STATEMENTS OF OPERATIONS
(Dollars in millions)

	Years ended December 31,		
	2020	2019	2018
Operating revenues	$ 4,748	$ 4,525	$ 3,962
Operating expenses			
Cost of natural gas	783	977	1,048
Operation and maintenance	2,029	1,780	1,613
Aliso Canyon litigation and regulatory matters	307	—	—
Depreciation and amortization	654	602	556
Franchise fees and other taxes	190	173	154
Impairment losses	—	37	—
Total operating expenses	3,963	3,569	3,371
Operating income	785	956	591
Other (expense) income, net	(28)	(55)	15
Interest income	2	2	2
Interest expense	(158)	(141)	(115)
Income before income taxes	601	762	493
Income tax expense	(96)	(120)	(92)
Net income	505	642	401
Preferred dividends	(1)	(1)	(1)
Earnings attributable to common shares	$ 504	$ 641	$ 400

See Notes to Financial Statements.

SOUTHERN CALIFORNIA GAS COMPANY
STATEMENTS OF COMPREHENSIVE INCOME (LOSS)
(Dollars in millions)

	Years ended December 31, 2020, 2019 and 2018		
	Pretax amount	Income tax (expense) benefit	Net-of-tax amount
2020:			
Net income	$ 601	$ (96)	$ 505
Other comprehensive income (loss):			
Pension and other postretirement benefits	(12)	4	(8)
Total other comprehensive loss	(12)	4	(8)
Comprehensive income	$ 589	$ (92)	$ 497
2019:			
Net income	$ 762	$ (120)	$ 642
Other comprehensive income (loss):			
Financial instruments	1	—	1
Pension and other postretirement benefits	1	(1)	—
Total other comprehensive income	2	(1)	1
Comprehensive income	$ 764	$ (121)	$ 643
2018:			
Net income	$ 493	$ (92)	$ 401
Other comprehensive income (loss):			
Financial instruments	1	—	1
Total other comprehensive income	1	—	1
Comprehensive income	$ 494	$ (92)	$ 402

See Notes to Financial Statements

SOUTHERN CALIFORNIA GAS COMPANY
BALANCE SHEETS
(Dollars in millions)

	December 31,	
	2020	2019
ASSETS		
Current assets:		
Cash and cash equivalents	$ 4	$ 10
Accounts receivable – trade, net	786	710
Accounts receivable – other, net	64	87
Due from unconsolidated affiliates	22	11
Income taxes receivable, net	—	161
Inventories	153	136
Regulatory assets	16	7
Greenhouse gas allowances	390	52
Other current assets	47	44
Total current assets	1,482	1,218
Other assets:		
Regulatory assets	1,208	1,407
Insurance receivable for Aliso Canyon costs	445	339
Greenhouse gas allowances	9	248
Right-of-use assets – operating leases	74	94
Other long-term assets	499	447
Total other assets	2,235	2,535
Property, plant and equipment:		
Property, plant and equipment	21,180	19,362
Less accumulated depreciation and amortization	(6,437)	(6,038)
Property, plant and equipment, net	14,743	13,324
Total assets	$ 18,460	$ 17,077

See Notes to Financial Statements.

SOUTHERN CALIFORNIA GAS COMPANY
BALANCE SHEETS (CONTINUED)
(Dollars in millions)

	December 31, 2020	December 31, 2019
LIABILITIES AND SHAREHOLDERS' EQUITY		
Current liabilities:		
Short-term debt	$ 113	$ 630
Accounts payable – trade	600	545
Accounts payable – other	122	110
Due to unconsolidated affiliates	31	47
Accrued compensation and benefits	189	182
Regulatory liabilities	79	243
Current portion of long-term debt and finance leases	10	6
Customer deposits	48	71
Reserve for Aliso Canyon costs	150	9
Greenhouse gas obligations	390	52
Asset retirement obligations	59	65
Other current liabilities	291	222
Total current liabilities	2,082	2,182
Long-term debt and finance leases	4,763	3,788
Deferred credits and other liabilities:		
Pension obligation, net of plan assets	853	785
Deferred income taxes	1,406	1,403
Deferred investment tax credits	8	7
Regulatory liabilities	1,177	1,422
Reserve for Aliso Canyon costs	301	7
Asset retirement obligations	2,309	2,112
Greenhouse gas obligations	—	208
Deferred credits and other	417	415
Total deferred credits and other liabilities	6,471	6,359
Commitments and contingencies (Note 16)		
Shareholders' equity:		
Preferred stock (11 million shares authorized; 1 million shares outstanding)	22	22
Common stock (100 million shares authorized; 91 million shares outstanding; no par value)	866	866
Retained earnings	4,287	3,883
Accumulated other comprehensive income (loss)	(31)	(23)
Total shareholders' equity	5,144	4,748
Total liabilities and shareholders' equity	$ 18,460	$ 17,077

See Notes to Financial Statements.

SOUTHERN CALIFORNIA GAS COMPANY
STATEMENTS OF CASH FLOWS
(Dollars in millions)

	Years ended December 31,		
	2020	2019	2018
CASH FLOWS FROM OPERATING ACTIVITIES			
Net income	$ 505	$ 642	$ 401
Adjustments to reconcile net income to net cash provided by operating activities:			
Depreciation and amortization	654	602	556
Deferred income taxes and investment tax credits	(112)	88	78
Impairment losses	—	37	—
Other	59	(5)	(7)
Net change in working capital components:			
Accounts receivable	(101)	(73)	(87)
Due to/from affiliates, net	(27)	(1)	(10)
Income taxes receivable/payable, net	189	(156)	14
Inventories	(19)	1	(2)
Other current assets	(12)	(9)	11
Accounts payable	64	(7)	71
Regulatory balancing accounts	(160)	114	125
Reserve for Aliso Canyon costs	141	(144)	56
Other current liabilities	(21)	(21)	(6)
Insurance receivable for Aliso Canyon costs	(106)	122	(43)
Reserve for Aliso Canyon costs, noncurrent	294	—	—
Changes in other noncurrent assets and liabilities, net	178	(322)	(144)
Net cash provided by operating activities	1,526	868	1,013
CASH FLOWS FROM INVESTING ACTIVITIES			
Expenditures for property, plant and equipment	(1,843)	(1,439)	(1,538)
Other	—	1	7
Net cash used in investing activities	(1,843)	(1,438)	(1,531)
CASH FLOWS FROM FINANCING ACTIVITIES			
Common dividends paid	(100)	(150)	(50)
Preferred dividends paid	(1)	(1)	(1)
Issuances of debt (maturities greater than 90 days)	949	349	949
Payments on debt (maturities greater than 90 days) and finance leases	(12)	(6)	(500)
(Decrease) increase in short-term debt, net	(517)	374	140
Debt issuance costs	(8)	(4)	(10)
Net cash provided by financing activities	311	562	528
(Decrease) increase in cash and cash equivalents	(6)	(8)	10
Cash and cash equivalents, January 1	10	18	8
Cash and cash equivalents, December 31	$ 4	$ 10	$ 18
SUPPLEMENTAL DISCLOSURE OF CASH FLOW INFORMATION			
Interest payments, net of amounts capitalized	$ 146	$ 126	$ 105
Income tax payments, net of refunds	19	188	—
SUPPLEMENTAL DISCLOSURE OF NONCASH INVESTING AND FINANCING ACTIVITIES			
Accrued capital expenditures	$ 208	$ 205	$ 191
Increase in finance lease obligations for investment in property, plant and equipment	47	22	6
Increase in ARO for investment in PP&E	107	35	35

See Notes to Financial Statements

SOUTHERN CALIFORNIA GAS COMPANY
STATEMENTS OF CHANGES IN SHAREHOLDERS' EQUITY
(Dollars in millions)

	Years ended December 31, 2020, 2019 and 2018				
	Preferred stock	Common stock	Retained earnings	Accumulated other comprehensive income (loss)	**Total shareholders' equity**
Balance at December 31, 2017	$ 22	$ 866	$ 3,040	$ (21)	**$ 3,907**
Net income			401		**401**
Other comprehensive income				1	**1**
Dividends declared:					
Preferred stock ($1.50/share)			(1)		**(1)**
Common stock ($0.55/share)			(50)		**(50)**
Balance at December 31, 2018	22	866	3,390	(20)	**4,258**
Adoption of ASU 2018-02			2	(4)	**(2)**
Adjusted balance as of December 31, 2018	22	866	3,392	(24)	**4,256**
Net income			642		**642**
Other comprehensive income				1	**1**
Dividends declared:					
Preferred stock ($1.50/share)			(1)		**(1)**
Common stock ($1.64/share)			(150)		**(150)**
Balance at December 31, 2019	22	866	3,883	(23)	**4,748**
Net income			505		**505**
Other comprehensive loss				(8)	**(8)**
Dividends declared:					
Preferred stock ($1.50/share)			(1)		**(1)**
Common stock ($1.10/share)			(100)		**(100)**
Balance at December 31, 2020	$ 22	$ 866	$ 4,287	$ (31)	**$ 5,144**

See Notes to Financial Statements

NOTE 1. SIGNIFICANT ACCOUNTING POLICIES AND OTHER FINANCIAL DATA

PRINCIPLES OF CONSOLIDATION

Sempra Energy

Sempra Energy's Consolidated Financial Statements include the accounts of Sempra Energy, a California-based energy-services holding company, and its consolidated subsidiaries and VIEs. Sempra Global is the holding company for our subsidiaries that are not subject to California or Texas utility regulation. Sempra Energy's businesses were managed within six separate reportable segments until April 2019 and five separate reportable segments thereafter, which we discuss in Note 17. All references in these Notes to our reportable segments are not intended to refer to any legal entity with the same or similar name.

SDG&E

SDG&E's Consolidated Financial Statements include its accounts and the accounts of a VIE of which SDG&E was the primary beneficiary until August 23, 2019, at which time SDG&E deconsolidated the VIE, as we discuss below in "Variable Interest Entities." SDG&E's common stock is wholly owned by Enova, which is a wholly owned subsidiary of Sempra Energy.

SoCalGas

SoCalGas' common stock is wholly owned by PE, which is a wholly owned subsidiary of Sempra Energy.

In this report, we refer to SDG&E and SoCalGas collectively as the California Utilities.

BASIS OF PRESENTATION

This is a combined report of Sempra Energy, SDG&E and SoCalGas. We provide separate information for SDG&E and SoCalGas as required. References in this report to "we," "our," "us" and "Sempra Energy Consolidated" are to Sempra Energy and its consolidated entities, unless otherwise indicated by the context. We have eliminated intercompany accounts and transactions within the consolidated financial statements of each reporting entity.

Throughout these Notes, we refer to the following as Consolidated Financial Statements and Notes to Consolidated Financial Statements when discussed together or collectively:

- the Consolidated Financial Statements and related Notes of Sempra Energy and its subsidiaries and VIEs;
- the Consolidated Financial Statements and related Notes of SDG&E and its VIE (until deconsolidation of the VIE in August 2019); and
- the Financial Statements and related Notes of SoCalGas.

Use of Estimates in the Preparation of the Financial Statements

We have prepared our Consolidated Financial Statements in conformity with U.S. GAAP. This requires us to make estimates and assumptions that affect the amounts reported in the financial statements and accompanying notes, including the disclosure of contingent assets and liabilities at the date of the financial statements. Although we believe the estimates and assumptions are reasonable, actual amounts ultimately may differ significantly from those estimates.

Discontinued Operations

In January 2019, our board of directors approved a plan to sell our South American businesses based on our strategic focus on North America. We determined that these businesses, which previously constituted the Sempra South American Utilities segment, and certain activities associated with these businesses, met the held-for-sale criteria. These businesses are presented as discontinued operations, which we discuss further in Note 5. We completed the sales in the second quarter of 2020. Our discussions in the Notes below relate only to our continuing operations unless otherwise noted.

Subsequent Events

We evaluated events and transactions that occurred after December 31, 2020 through the date the financial statements were issued, and in the opinion of management, the accompanying statements reflect all adjustments and disclosures necessary for a fair presentation.

EFFECTS OF REGULATION

The California Utilities' accounting policies and financial statements reflect the application of U.S. GAAP provisions governing rate-regulated operations and the policies of the CPUC and the FERC. Under these provisions, a regulated utility records regulatory assets, which are generally costs that would otherwise be charged to expense, if it is probable that, through the ratemaking process, the utility will recover those assets from customers. To the extent that recovery is no longer probable, the related regulatory assets are written off. Regulatory liabilities generally represent amounts collected from customers in advance of the actual expenditure by the utility. If the actual expenditures are less than amounts previously collected from ratepayers, the excess would be refunded to customers, generally by reducing future rates. Regulatory liabilities may also arise from other transactions such as unrealized gains on fixed price contracts and other derivatives or certain deferred income tax benefits that are passed through to customers in future rates. In addition, the California Utilities record regulatory liabilities when the CPUC or the FERC requires a refund to be made to customers or has required that a gain or other transaction of net allowable costs be given to customers over future periods.

Determining probability of recovery of regulatory assets requires significant judgment by management and may include, but is not limited to, consideration of:

- the nature of the event giving rise to the assessment
- existing statutes and regulatory code
- legal precedents
- regulatory principles and analogous regulatory actions
- testimony presented in regulatory hearings
- regulatory orders
- a commission-authorized mechanism established for the accumulation of costs
- status of applications for rehearings or state court appeals
- specific approval from a commission
- historical experience

Sempra Mexico's natural gas distribution utility, Ecogas, also applies U.S. GAAP for rate-regulated utilities to its operations, including the same evaluation of probability of recovery of regulatory assets described above.

We provide information concerning regulatory assets and liabilities in Note 4.

Our Sempra Texas Utilities segment is comprised of our equity method investments in Oncor Holdings, which, at December 31, 2020, owns an 80.25% interest in Oncor, and Sharyland Holdings, which owns 100% of Sharyland Utilities. Oncor and Sharyland Utilities are regulated electric transmission and distribution utilities in Texas and their rates are regulated by the PUCT and certain cities and are subject to regulatory rate-setting processes and annual earnings oversight. Oncor and Sharyland Utilities prepare their financial statements in accordance with the provisions of U.S. GAAP governing rate-regulated operations.

Our Sempra Mexico segment includes the operating companies of our subsidiary, IEnova, as well as certain holding companies and risk management activity. Certain business activities at IEnova are regulated by the CRE and meet the regulatory accounting requirements of U.S. GAAP. Pipeline projects currently under construction at IEnova that meet the regulatory accounting requirements of U.S. GAAP record the impact of AFUDC related to equity. We discuss AFUDC below in "Property, Plant and Equipment."

FAIR VALUE MEASUREMENTS

We measure certain assets and liabilities at fair value on a recurring basis, primarily NDT and benefit plan trust assets and derivatives. We also measure certain assets at fair value on a non-recurring basis in certain circumstances.

A fair value measurement reflects the assumptions market participants would use in pricing an asset or liability based on the best available information. These assumptions include the risk inherent in a particular valuation technique (such as a pricing model) and the risks inherent in the inputs to the model. Also, we consider an issuer's credit standing when measuring its liabilities at fair value.

We establish a fair value hierarchy that prioritizes the inputs used to measure fair value. The hierarchy gives the highest priority to unadjusted quoted prices in active markets for identical assets or liabilities (Level 1 measurement) and the lowest priority to unobservable inputs (Level 3 measurement). The three levels of the fair value hierarchy are as follows:

Level 1 – Pricing inputs are unadjusted quoted prices available in active markets for identical assets or liabilities as of the reporting date. Active markets are those in which transactions for the asset or liability occur in sufficient frequency and volume to provide pricing information on an ongoing basis. Our Level 1 financial instruments primarily consist of listed equities and U.S. government treasury securities, primarily in the NDT and benefit plan trusts, and exchange-traded derivatives.

Level 2 – Pricing inputs are other than quoted prices in active markets included in Level 1, which are either directly or indirectly observable as of the reporting date. Level 2 includes those financial instruments that are valued using models or other valuation methodologies. These models are primarily industry-standard models that consider various assumptions, including:

- quoted forward prices for commodities
- time value
- current market and contractual prices for the underlying instruments
- volatility factors
- other relevant economic measures

Substantially all of these assumptions are observable in the marketplace throughout the full term of the instrument and can be derived from observable data or are supported by observable levels at which transactions are executed in the marketplace. Our financial instruments in this category include listed equities, domestic corporate bonds, municipal bonds and other foreign bonds, primarily in the NDT and benefit plan trusts, and non-exchange-traded derivatives such as interest rate instruments and over-the-counter forwards and options.

Level 3 – Pricing inputs include significant inputs that are generally less observable from objective sources. These inputs may be used with internally developed methodologies that result in management's best estimate of fair value from the perspective of a market participant. Our Level 3 financial instruments consist of CRRs and fixed-price electricity positions at SDG&E and the Support Agreement at Sempra LNG.

CASH, CASH EQUIVALENTS AND RESTRICTED CASH

Cash equivalents are highly liquid investments with original maturities of three months or less at the date of purchase.

Restricted cash includes funds primarily denominated in Mexican pesos to pay for rights-of-way, license fees, permits, topographic surveys and other costs pursuant to trust and debt agreements related to pipeline projects at Sempra Mexico.

The following table provides a reconciliation of cash, cash equivalents and restricted cash reported on the Consolidated Balance Sheets to the sum of such amounts reported on the Consolidated Statements of Cash Flows.

RECONCILIATION OF CASH, CASH EQUIVALENTS AND RESTRICTED CASH
(Dollars in millions)

	At December 31,	
	2020	2019
Sempra Energy Consolidated:		
Cash and cash equivalents	$ 960	$ 108
Restricted cash, current	22	31
Restricted cash, noncurrent	3	3
Cash, cash equivalents and restricted cash in discontinued operations	—	75
Total cash, cash equivalents and restricted cash on the Consolidated Statements of Cash Flows	$ 985	$ 217

In the Sempra Energy Consolidated Statement of Cash Flows for the year ended December 31, 2020, the ending cash, cash equivalents and restricted cash balance in discontinued operations of $4.6 billion is considered to be cash, cash equivalents and restricted cash for continuing operations following the sales of the South American businesses.

CREDIT LOSSES

We are exposed to credit losses from financial assets measured at amortized cost, including trade and other accounts receivable and amounts due from unconsolidated affiliates. We are also exposed to credit losses from off-balance sheet arrangements through our guarantees of Cameron LNG JV's debt.

We regularly monitor and evaluate credit losses and record allowances for expected credit losses, if necessary, for trade and other accounts receivable using a combination of factors, including past-due status based on contractual terms, trends in write-offs, the age of the receivable, historical and industry trends, counterparty creditworthiness, economic conditions and specific events, such as bankruptcies. We write off financial assets measured at amortized cost in the period in which we determine they are not recoverable. We record recoveries of amounts previously written off when it is known that they will be recovered.

In connection with the COVID-19 pandemic, the California Utilities have implemented certain measures to assist customers, including suspending service disconnections due to nonpayment for residential and small business customers, waiving late payment fees for business customers, and offering flexible payment plans to customers experiencing difficulty paying their electric or gas bills. As we discuss in Note 4, the CPUC authorized each of the California Utilities to track and request recovery of incremental costs, including uncollectible expenses, associated with complying with residential and small business customer protection measures implemented by the CPUC related to the COVID-19 pandemic.

In June 2020, the CPUC issued a decision in a separate proceeding addressing service disconnections that, among other things, allows each of the California Utilities to establish a two-way balancing account to record the uncollectible expenses associated with residential customers' inability to pay their electric or gas bills. This decision also directs the California Utilities to establish an AMP that provides successfully participating, income-qualified residential customers with relief from outstanding utility bill amounts. Refer to Note 4 for further discussion.

The California Utilities have recorded increases in their allowances for expected credit losses as of December 31, 2020 primarily related to expected forgiveness of outstanding utility bill amounts, including increases due to the effect of the COVID-19 pandemic, for residential customers eligible under the AMP. Our businesses will continue to monitor macroeconomic factors and customer payment patterns when evaluating their allowances for credit losses in future reporting periods, which may increase significantly due to the effects of the COVID-19 pandemic or other factors.

We provide below allowances and changes in allowances for credit losses for trade and other accounts receivable, excluding allowances related to amounts due from unconsolidated affiliates and off-balance sheet arrangements, which we discuss separately below the table. The California Utilities record changes in the allowances for credit losses related to Accounts Receivable – Trade in regulatory accounts.

TRADE AND OTHER ACCOUNTS RECEIVABLE – ALLOWANCES FOR CREDIT LOSSES

(Dollars in millions)

	Years ended December 31,		
	2020	2019	2018
Sempra Energy Consolidated:			
Allowances for credit losses at January 1	$ 29	$ 21	$ 25
Incremental allowance upon adoption of ASU 2016-13	1	—	—
Provisions for expected credit losses	124	22	10
Write-offs	(16)	(14)	(14)
Allowances for credit losses at December 31[(1)]	$ 138	$ 29	$ 21
SDG&E:			
Allowances for credit losses at January 1	$ 14	$ 11	$ 9
Provisions for expected credit losses	65	10	9
Write-offs	(10)	(7)	(7)
Allowances for credit losses at December 31[(2)]	$ 69	$ 14	$ 11
SoCalGas:			
Allowances for credit losses at January 1	$ 15	$ 10	$ 16
Provisions for expected credit losses	59	12	1
Write-offs	(6)	(7)	(7)
Allowances for credit losses at December 31[(3)]	$ 68	$ 15	$ 10

(1) *Balances at December 31, 2020 and 2019 include $111 million and $7 million, respectively, in Accounts Receivable – Trade, Net and $27 million and $22 million, respectively, in Accounts Receivable – Other, Net.*

(2) *Balances at December 31, 2020 and 2019 include $55 million and $4 million, respectively, in Accounts Receivable – Trade, Net and $14 million and $10 million, respectively, in Accounts Receivable – Other, Net.*

(3) *Balances at December 31, 2020 and 2019 include $55 million and $3 million, respectively, in Accounts Receivable – Trade, Net and $13 million and $12 million, respectively, in Accounts Receivable – Other, Net.*

For amounts due from unconsolidated affiliates and off-balance sheet arrangements, on a quarterly basis, we evaluate credit losses and record allowances for expected credit losses, if necessary, based on credit quality indicators such as external credit ratings, published default rate studies, the maturity date of the instrument and past delinquencies. However, we do not record allowances for expected credit losses related to accrued interest receivable on loans due from unconsolidated affiliates because we write off such amounts, if any, through a reversal of interest income in the period we determine such amounts are uncollectible. In the absence of external credit ratings, we may utilize an internally developed credit rating based on our analysis of a counterparty's financial statements to determine our expected credit losses.

As we discuss below in "Transactions with Affiliates," we have loans due from unconsolidated affiliates with varying tenors, interest rates and currencies. We provide below the changes in allowances for credit losses for loans and other amounts due from unconsolidated affiliates.

AMOUNTS DUE FROM UNCONSOLIDATED AFFILIATES – ALLOWANCES FOR CREDIT LOSSES

(Dollars in millions)

	Sempra Energy Consolidated[1]
Allowances for credit losses at January 1, 2020	$ —
Allowance established upon adoption of ASU 2016-13	6
Reduction to expected credit losses	(3)
Allowances for credit losses at December 31, 2020	$ 3

(1) *Balance at December 31, 2020 includes negligible amounts and $3 million in Due from Unconsolidated Affiliates – Current and Due from Unconsolidated Affiliates – Noncurrent, respectively.*

As we discuss in Note 6, Sempra Energy has provided guarantees for the benefit of Cameron LNG JV related to its debt obligations for a maximum aggregate amount of $4.0 billion. We established a liability for credit losses of $6 million for this off-balance sheet arrangement upon adoption of ASU 2016-13 on January 1, 2020 and we subsequently reduced this liability by $4 million in the year ended December 31, 2020 through a reduction to credit loss expense, which is included in O&M on the Sempra Energy Consolidated Statement of Operations. At December 31, 2020, expected credit losses of $2 million are included in Other Current Liabilities on the Sempra Energy Consolidated Balance Sheet.

CONCENTRATION OF CREDIT RISK

Credit risk is the risk of loss that would be incurred as a result of nonperformance by our counterparties on their contractual obligations. We have policies governing the management of credit risk that are administered by the respective credit departments at each of our segments and overseen by their separate risk management committees.

This oversight includes calculating current and potential credit risk on a regular basis and monitoring actual balances in comparison to approved limits. We establish credit limits based on risk and return considerations under terms customarily available in the industry. We avoid concentration of counterparties whenever possible, and we believe our credit policies significantly reduce overall credit risk. These policies include an evaluation of:

- prospective counterparties' financial condition (including credit ratings)
- collateral requirements
- the use of standardized agreements that allow for the netting of positive and negative exposures associated with a single counterparty
- downgrade triggers

We believe that we have provided adequate reserves for counterparty nonperformance in our allowances for credit losses.

When our development projects become operational, we rely significantly on the ability of suppliers to perform under long-term agreements and on our ability to enforce contract terms in the event of nonperformance. Also, the factors that we consider in evaluating a development project include negotiating customer and supplier agreements and, therefore, we rely on these agreements for future performance. We also may condition our decision to go forward on development projects on first obtaining these customer and supplier agreements.

INVENTORIES

The California Utilities value natural gas inventory using the last-in first-out method. As inventories are sold, differences between the last-in first-out valuation and the estimated replacement cost are reflected in customer rates. These differences are generally temporary, but may become permanent if the natural gas inventory withdrawn from storage during the year is not replaced by year end. The California Utilities generally value materials and supplies at the lower of average cost or net realizable value.

Sempra Mexico and Sempra LNG value natural gas inventory and materials and supplies at the lower of average cost or net realizable value. Sempra Mexico and Sempra LNG value LNG inventory using the first-in first-out method.

The components of inventories are as follows:

INVENTORY BALANCES AT DECEMBER 31
(Dollars in millions)

	Natural gas		LNG		Materials and supplies		Total	
	2020	2019	2020	2019	2020	2019	2020	2019
Sempra Energy Consolidated	$ 118	$ 110	$ 7	$ 9	$ 183	$ 158	$ 308	$ 277
SDG&E	—	1	—	—	104	93	104	94
SoCalGas	94	90	—	—	59	46	153	136

WILDFIRE FUND

In July 2019, the Wildfire Legislation was signed into law. The Wildfire Legislation addresses certain issues related to catastrophic wildfires in the State of California and their impact on electric IOUs. Investor-owned gas distribution utilities such as SoCalGas are not covered by this legislation. The issues addressed include wildfire mitigation, cost recovery standards and requirements, a wildfire fund, a cap on liability, and the establishment of a wildfire safety board.

The Wildfire Legislation provided that SDG&E would not recover the ROE on its first $215 million of fire risk mitigation capital expenditures.

The Wildfire Legislation established a revised legal standard for the recovery of wildfire costs (Revised Prudent Manager Standard) and established a fund (the Wildfire Fund) designed to provide liquidity to SDG&E, PG&E and Edison to pay IOU wildfire-related claims in the event that the governmental agency responsible for determining causation determines the applicable IOU's equipment caused the ignition of a wildfire, primary insurance coverage is exceeded and certain other conditions are satisfied. A primary purpose of the Wildfire Fund is to pool resources provided by shareholders and ratepayers of the IOUs and make those resources available to reimburse the IOUs for third-party wildfire claims incurred after July 12, 2019, the effective date of the Wildfire Legislation, subject to certain limitations.

An IOU may seek payment from the Wildfire Fund for settled or adjudicated third-party damage claims arising from certain wildfires that exceed, in aggregate in a calendar year, the greater of $1 billion or the IOU's required amount of insurance coverage as recommended by the Wildfire Fund's administrator. Wildfire claims approved by the Wildfire Fund's administrator will be paid by the Wildfire Fund to the IOU to the extent funds are available. These utilized funds will be subject to review by the CPUC, which will make a determination as to the degree an IOU's conduct related to an ignition of a wildfire was prudent or imprudent. The Revised Prudent Manager Standard requires that the CPUC apply clear standards when reviewing wildfire liability losses paid when determining the reasonableness of an IOU's conduct related to an ignition. Under this standard, the conduct under review related to the ignition may include factors within and beyond the IOU's control, including humidity, temperature and winds. Costs and expenses may be allocated for cost recovery in full or in part. Also, under this standard, an IOU's conduct will be deemed reasonable if a valid annual safety certification is in place at the time of the ignition, unless a serious doubt is raised, in which case the burden shifts to the utility to dispel that doubt. The IOUs will receive an annual safety certification from the CPUC if they meet various requirements.

If an IOU has maintained a valid annual safety certification, to the extent it is found to be imprudent, claims will be reimbursable by the IOU to the Wildfire Fund up to a cap based on the IOU's rate base. The aggregate requirement to reimburse the Wildfire Fund over a trailing three calendar year period is capped at 20% of the equity portion of an IOU's electric transmission and distribution rate base in the year of the prudency determination. Based on its 2020 rate base, the liability cap for SDG&E is approximately $950 million, which is adjusted annually. The liability cap will apply on a rolling three-year basis so long as future annual safety certifications are received and the Wildfire Fund has not been terminated, which could occur if funds are exhausted. Amounts in excess of the liability cap and amounts that are determined to be prudently incurred do not need to be reimbursed by an IOU to the Wildfire Fund. The Wildfire Fund does not have a specified term and coverage will continue until the assets of the

Wildfire Fund are exhausted and the Wildfire Fund is terminated, in which case, the remaining funds, if any, will be transferred to California's general fund to be used for fire risk mitigation programs.

In June 2020, the CPUC approved SDG&E's 2020 wildfire mitigation plan, which is effective until the CPUC approves a new plan. In addition, on September 14, 2020, SDG&E received its 2020 safety certification from the Wildfire Safety Division of the CPUC. The certificate is valid for 12 months from the issue date.

The Wildfire Fund has been initially funded up to $10.5 billion by a loan from the State of California Surplus Money Investment Fund. The loan is financed through a DWR bond, which was put in place on October 1, 2020 and is securitized through a dedicated surcharge on ratepayers' bills attributable to the DWR. In October 2019, the CPUC adopted a decision authorizing a non-bypassable charge to be collected by the IOUs to support the anticipated DWR bond issuance authorized by AB 1054. The CPUC decision also determined that ratepayers of non-participating electrical corporations shall not pay the non-bypassable charge.

The Wildfire Fund has also been funded $7.5 billion from initial shareholder contributions from the IOUs (SDG&E's share was $322.5 million, PG&E's share was $4.8 billion and Edison's share was $2.4 billion). The IOUs are also required to make annual shareholder contributions to the Wildfire Fund with an aggregate value of $3 billion over a 10-year period starting in 2019 (SDG&E's share is $129 million, PG&E's share is $1.9 billion and Edison's share is $945 million). The contributions are not subject to rate recovery.

In a complaint filed in U.S. District Court for the Northern District of California in July 2019, plaintiffs seek to invalidate AB 1054 based on allegations that the legislation violates federal law. That court dismissed the complaint and the plaintiffs have petitioned the U.S. Court of Appeals for the Ninth Circuit to review the dismissal.

Wildfire Fund Asset and Obligation

In the third quarter of 2019, SDG&E recorded both a Wildfire Fund asset and a related obligation of $451.5 million for its commitment to make shareholder contributions to the Wildfire Fund, measured at present value as of July 25, 2019 (the date by which both Edison and SDG&E opted to contribute to the Wildfire Fund). SDG&E paid its initial shareholder contribution of $322.5 million to the Wildfire Fund in September 2019. SDG&E funded this contribution with proceeds from an equity contribution from Sempra Energy. Sempra Energy funded the equity contribution to SDG&E with proceeds from settling forward sale agreements through physical delivery of shares of Sempra Energy common stock in exchange for cash, which we discuss in Note 14. Edison paid its initial shareholder contribution in September 2019 and PG&E paid its initial shareholder contribution in July 2020 after receiving bankruptcy court approval to participate in the Wildfire Fund. SDG&E expects to make annual shareholder contributions of $12.9 million through December 31, 2028. SDG&E accretes the present value of the Wildfire Fund obligation until the liability is settled.

SDG&E is amortizing the Wildfire Fund asset on a straight-line basis over the estimated period of benefit, as adjusted for utilization by the IOUs. The estimated period of benefit of the Wildfire Fund asset is 15 years and is based on several assumptions, including, but not limited to:

- historical wildfire experience of each IOU in the State of California, including frequency and severity of the wildfires
- the value of property potentially damaged by wildfires
- the effectiveness of wildfire risk mitigation efforts by each IOU
- liability cap of each IOU
- IOU prudency determination levels
- FERC jurisdictional allocation levels
- insurance coverage levels

The use of different assumptions, or changes to the assumptions used, could have a significant impact on the estimated period of benefit of the Wildfire Fund asset. SDG&E periodically evaluates the estimated period of benefit of the Wildfire Fund asset based on actual experience and changes in these assumptions. SDG&E may recognize a reduction of its Wildfire Fund asset and record a charge against earnings in the period when there is a reduction of the available coverage due to recoverable claims from any of the participating IOUs. Wildfire claims that are recoverable from the Wildfire Fund, net of anticipated or actual reimbursement to the Wildfire Fund by the responsible IOU, would decrease the Wildfire Fund asset and remaining available coverage. Although California experienced some of the largest wildfires in its history in 2020 (measured by acres burned), including fires in each participating IOU's service territory, SDG&E is not aware of any claims made by any participating IOU requiring a reduction of the Wildfire Fund asset as of December 31, 2020.

The following table summarizes the location of balances related to the Wildfire Fund on Sempra Energy's and SDG&E's Consolidated Balance Sheets and Consolidated Statements of Operations.

WILDFIRE FUND
(Dollars in millions)

		December 31,	
	Location	2020	2019
Wildfire Fund asset:			
Current	Other Current Assets[1]	$ 29	$ 29
Noncurrent	Wildfire Fund	363	392
Wildfire Fund obligation:			
Current	Other Current Liabilities	$ 13	$ 13
Noncurrent	Deferred Credits and Other	75	86

		Years ended December 31,	
		2020	2019
Amortization of Wildfire Fund asset	Operation and Maintenance	$ 29	$ 12
Accretion of Wildfire Fund obligation	Operation and Maintenance	2	1

(1) *Included in Prepaid Expenses for SDG&E.*

INCOME TAXES

Income tax expense includes current and deferred income taxes. We record deferred income taxes for temporary differences between the book and the tax basis of assets and liabilities. Investment tax credits from prior years are amortized to income by the California Utilities over the estimated service lives of the properties as required by the CPUC.

Under the regulatory accounting treatment required for flow-through temporary differences, the California Utilities and Sempra Mexico recognize:

- regulatory assets to offset deferred income tax liabilities if it is probable that the amounts will be recovered from customers; and
- regulatory liabilities to offset deferred income tax assets if it is probable that the amounts will be returned to customers.

When there are uncertainties related to potential income tax benefits, in order to qualify for recognition, the position we take has to have at least a more-likely-than-not chance of being sustained (based on the position's technical merits) upon challenge by the respective authorities. The term "more-likely-than-not" means a likelihood of more than 50%. Otherwise, we may not recognize any of the potential tax benefit associated with the position. We recognize a benefit for a tax position that meets the more-likely-than-not criterion at the largest amount of tax benefit that is greater than 50% likely of being realized upon its effective resolution.

Unrecognized income tax benefits involve management's judgment regarding the likelihood of the benefit being sustained. The final resolution of uncertain tax positions could result in adjustments to recorded amounts and may affect our ETR.

We accrue income tax to the extent we intend to repatriate cash to the U.S. from our continuing international operations. We currently do not record deferred income taxes for other basis differences between financial statement and income tax investment amounts in non-U.S. subsidiaries to the extent the related cumulative undistributed earnings are indefinitely reinvested. We recognize income tax expense for basis differences related to global intangible low-taxed income as a period cost if and when incurred.

We provide additional information about income taxes in Note 8.

GREENHOUSE GAS ALLOWANCES AND OBLIGATIONS

The California Utilities, Sempra Mexico and Sempra LNG are required by AB 32 to acquire GHG allowances for every metric ton of carbon dioxide equivalent emitted into the atmosphere during electric generation and natural gas transportation. At the California Utilities, many GHG allowances are allocated to us on behalf of our customers at no cost. We record purchased and allocated GHG allowances at the lower of weighted-average cost or market. We measure the compliance obligation, which is based on emissions, at the carrying value of allowances held plus the fair value of additional allowances necessary to satisfy the obligation. The California Utilities balance costs and revenues associated with the GHG program through regulatory balancing accounts. Sempra Mexico and Sempra LNG record the cost of GHG obligations in cost of sales. We remove the assets and liabilities from the balance sheets as the allowances are surrendered.

RENEWABLE ENERGY CERTIFICATES

RECs are energy rights established by governmental agencies for the environmental and social promotion of renewable electricity generation. A REC, and its associated attributes and benefits, can be sold separately from the underlying physical electricity associated with a renewable-based generation source in certain markets.

Retail sellers of electricity obtain RECs through renewable energy PPAs, internal generation or separate purchases in the market to comply with the RPS Program established by the governmental agencies. RECs provide documentation for the generation of a unit of renewable energy that is used to verify compliance with the RPS Program. The cost of RECs at SDG&E, which is recoverable in rates, is recorded in Cost of Electric Fuel and Purchased Power on the Consolidated Statements of Operations.

PROPERTY, PLANT AND EQUIPMENT

PP&E is recorded at cost and primarily represents the buildings, equipment and other facilities used by the California Utilities to provide natural gas and electric utility services, and by the Sempra Global businesses in their operations, including construction work in progress. PP&E also includes lease improvements and other equipment at Parent and Other. Our plant costs include labor, materials and contract services and expenditures for replacement parts incurred during a major maintenance outage of a plant. In addition, the cost of utility plant at our rate-regulated businesses and PP&E under regulated projects that meet the regulatory accounting requirements of U.S. GAAP includes AFUDC. The cost of PP&E includes capitalized interest. Maintenance costs are expensed as incurred. The cost of most retired depreciable utility plant assets less salvage value is charged to accumulated depreciation.

We discuss assets collateralized as security for certain indebtedness in Note 7.

PROPERTY, PLANT AND EQUIPMENT BY MAJOR FUNCTIONAL CATEGORY

(Dollars in millions)

	December 31,		Depreciation rates for years ended December 31,		
	2020	2019	2020	2019	2018
SDG&E:					
Natural gas operations	$ 2,805	$ 2,534	2.51 %	2.47 %	2.44 %
Electric distribution	8,592	7,985	3.90	3.94	3.91
Electric transmission[1]	7,156	6,577	3.10	2.79	2.76
Electric generation	2,440	2,415	4.56	4.50	4.12
Other electric	1,743	1,492	6.92	6.61	6.43
Construction work in progress[1]	1,700	1,501	NA	NA	NA
Total SDG&E	24,436	22,504			
SoCalGas:					
Natural gas operations	19,961	18,370	3.63	3.60	3.60
Other non-utility	45	34	3.80	5.08	5.39
Construction work in progress	1,174	958	NA	NA	NA
Total SoCalGas	21,180	19,362			
Other operating units and parent[2]:			Estimated useful lives		Weighted-average useful life
Land and land rights	283	278	16 to 50 years[3]		31
Machinery and equipment:					
Generating plants	1,288	1,154	11 to 25 years		22
LNG terminals	1,138	1,134	43 years		43
Pipelines and storage	3,482	3,596	5 to 50 years		44
Other	359	180	1 to 50 years		14
Construction work in progress	1,514	895	NA		NA
Other	248	226	4 to 50 years		23
	8,312	7,463			
Total Sempra Energy Consolidated	$ 53,928	$ 49,329			

(1) *At December 31, 2020, includes $505 million in electric transmission assets and $9 million in construction work in progress related to SDG&E's 88% interest in the Southwest Powerlink transmission line, jointly owned by SDG&E with other utilities. SDG&E, and each of the other owners, holds its undivided interest as a tenant in common in the property. Each owner is responsible for its share of the project and participates in decisions concerning operations and capital expenditures. SDG&E's share of operating expenses is included in Sempra Energy's and SDG&E's Consolidated Statements of Operations.*

(2) *Includes $191 million and $178 million at December 31, 2020 and 2019, respectively, of utility plant, primarily pipelines and other distribution assets at Ecogas.*

(3) *Estimated useful lives are for land rights.*

Depreciation expense is computed using the straight-line method over the asset's estimated composite useful life, the CPUC-prescribed period for the California Utilities, or the remaining term of the site leases, whichever is shortest.

DEPRECIATION EXPENSE

(Dollars in millions)

	Years ended December 31,		
	2020	2019	2018
Sempra Energy Consolidated	$ 1,646	$ 1,551	$ 1,470
SDG&E	797	757	686
SoCalGas	649	598	553

ACCUMULATED DEPRECIATION AND AMORTIZATION
(Dollars in millions)

	December 31, 2020	December 31, 2019
SDG&E:		
Accumulated depreciation:		
Natural gas operations	$ 870	$ 832
Electric transmission, distribution and generation[1]	5,145	4,705
Total SDG&E	6,015	5,537
SoCalGas:		
Accumulated depreciation:		
Natural gas operations	6,422	6,023
Other non-utility	15	15
Total SoCalGas	6,437	6,038
Other operating units and parent and other:		
Accumulated depreciation – other[2]	1,473	1,302
Total Sempra Energy Consolidated	$ 13,925	$ 12,877

(1) *Includes $277 million at December 31, 2020 related to SDG&E's 88% interest in the Southwest Powerlink transmission line, jointly owned by SDG&E and other utilities.*
(2) *Includes $51 million and $49 million at December 31, 2020 and 2019, respectively, of accumulated depreciation for utility plant at Ecogas.*

The California Utilities finance their construction projects with debt and equity funds. The CPUC and the FERC allow the recovery of the cost of these funds by the capitalization of AFUDC, calculated using rates authorized by the CPUC and the FERC, as a cost component of PP&E. The California Utilities earn a return on the capitalized AFUDC after the utility property is placed in service and recover the AFUDC from their customers over the expected useful lives of the assets.

Pipeline projects currently under construction by Sempra Mexico that are both subject to certain regulation and meet U.S. GAAP regulatory accounting requirements record the impact of AFUDC.

We capitalize interest costs incurred to finance capital projects and interest at equity method investments that have not commenced planned principal operations.

The table below summarizes capitalized interest and AFUDC.

CAPITALIZED FINANCING COSTS
(Dollars in millions)

	Years ended December 31, 2020	2019	2018
Sempra Energy Consolidated	$ 202	$ 183	$ 193
SDG&E	104	75	82
SoCalGas	55	47	48

GOODWILL AND OTHER INTANGIBLE ASSETS

Goodwill

Goodwill is the excess of the purchase price over the fair value of the identifiable net assets of acquired companies measured at the time of acquisition. Goodwill is not amortized, but we test it for impairment annually on October 1 or whenever events or changes in circumstances necessitate an evaluation. If the carrying value of the reporting unit, including goodwill, exceeds its fair value, we record a goodwill impairment loss as the excess of a reporting unit's carrying amount over its fair value, not to exceed the carrying amount of goodwill.

For our annual goodwill impairment testing, under current U.S. GAAP guidance we have the option to first make a qualitative assessment of whether it is more-likely-than-not that the fair value of a reporting unit is less than its carrying amount before applying the quantitative goodwill impairment test. If we elect to perform the qualitative assessment, we evaluate relevant events and circumstances, including but not limited to, macroeconomic conditions, industry and market considerations, cost factors, changes in key personnel and the overall financial performance of the reporting unit. If, after assessing these qualitative factors, we determine that it is more-likely-than-not that the fair value of a reporting unit is less than its carrying amount, then we perform the quantitative goodwill impairment test. If, after performing the quantitative goodwill impairment test, we determine that goodwill is impaired, we record the amount of goodwill impairment as the excess of a reporting unit's carrying amount over its fair value, not to exceed the carrying amount of goodwill.

Goodwill of $1,602 million at December 31, 2020 and 2019 relates to the 2016 acquisitions of IEnova Pipelines and Ventika wind power generation facilities at Sempra Mexico.

Other Intangible Assets

Other Intangible Assets included on the Sempra Energy Consolidated Balance Sheets are as follows:

OTHER INTANGIBLE ASSETS
(Dollars in millions)

	Amortization period (years)	December 31, 2020	December 31, 2019
Renewable energy transmission and consumption permit	19	$ 154	$ 154
O&M agreement	23	66	66
Other	10 years to indefinite	30	30
		250	250
Less accumulated amortization:			
Renewable energy transmission and consumption permit		(32)	(24)
O&M agreement		(9)	(6)
Other		(7)	(7)
		(48)	(37)
		$ 202	$ 213

Other Intangible Assets at December 31, 2020 primarily includes:

- a renewable energy transmission and consumption permit previously granted by the CRE that was acquired in connection with the acquisition of the Ventika wind power generation facilities; and
- a favorable O&M agreement acquired in connection with the acquisition of DEN.

Intangible assets subject to amortization are amortized over their estimated useful lives. Amortization expense for intangible assets in 2020, 2019 and 2018 was $11 million, $11 million and $16 million, respectively. We estimate the amortization expense for the next five years to be $12 million per year.

LONG-LIVED ASSETS

We test long-lived assets for recoverability whenever events or changes in circumstances have occurred that may affect the recoverability or the estimated useful lives of long-lived assets. Long-lived assets include intangible assets subject to amortization, but do not include investments in unconsolidated entities. A long-lived asset may be impaired when the estimated future undiscounted cash flows are less than the carrying amount of the asset. If that comparison indicates that the asset's carrying value may not be recoverable, the impairment is measured based on the difference between the carrying amount and the fair value of the asset. This evaluation is performed at the lowest level for which separately identifiable cash flows exist.

VARIABLE INTEREST ENTITIES

We consolidate a VIE if we are the primary beneficiary of the VIE. Our determination of whether we are the primary beneficiary is based on qualitative and quantitative analyses, which assess:

- the purpose and design of the VIE;
- the nature of the VIE's risks and the risks we absorb;
- the power to direct activities that most significantly impact the economic performance of the VIE; and
- the obligation to absorb losses or the right to receive benefits that could be significant to the VIE.

We will continue to evaluate our VIEs for any changes that may impact our determination of whether an entity is a VIE and if we are the primary beneficiary.

SDG&E

SDG&E's power procurement is subject to reliability requirements that may require SDG&E to enter into various PPAs that include variable interests. SDG&E evaluates the respective entities to determine if variable interests exist and, based on the qualitative and quantitative analyses described above, if SDG&E, and thereby Sempra Energy, is the primary beneficiary.

SDG&E has agreements under which it purchases power generated by facilities for which it supplies all of the natural gas to fuel the power plant (i.e., tolling agreements). SDG&E's obligation to absorb natural gas costs may be a significant variable interest. In addition, SDG&E has the power to direct the dispatch of electricity generated by these facilities. Based on our analysis, the ability to direct the dispatch of electricity may have the most significant impact on the economic performance of the entity owning the generating facility because of the associated exposure to the cost of natural gas, which fuels the plants, and the value of electricity produced. To the extent that SDG&E (1) is obligated to purchase and provide fuel to operate the facility, (2) has the power to direct the dispatch, and (3) purchases all of the output from the facility for a substantial portion of the facility's useful life, SDG&E may be the primary beneficiary of the entity owning the generating facility. SDG&E determines if it is the primary beneficiary in these cases based on a qualitative approach in which it considers the operational characteristics of the facility, including its expected power generation output relative to its capacity to generate and the financial structure of the entity, among other factors. If SDG&E determines that it is the primary beneficiary, SDG&E and Sempra Energy consolidate the entity that owns the facility as a VIE.

In addition to tolling agreements, other variable interests involve various elements of fuel and power costs, and other components of cash flows expected to be paid to or received by our counterparties. In most of these cases, the expectation of variability is not substantial, and SDG&E generally does not have the power to direct activities, including the operation and maintenance activities of the generating facility, that most significantly impact the economic performance of the other VIEs. If our ongoing evaluation of these VIEs were to conclude that SDG&E becomes the primary beneficiary and consolidation by SDG&E becomes necessary, the effects could be significant to the financial position and liquidity of SDG&E and Sempra Energy.

SDG&E determined that none of its PPAs and tolling agreements resulted in SDG&E being the primary beneficiary of a VIE at December 31, 2020 and 2019. PPAs and tolling agreements that relate to SDG&E's involvement with VIEs are primarily accounted for as finance leases. The carrying amounts of the assets and liabilities under these contracts are included in PP&E and finance lease liabilities with balances of $1,237 million and $1,255 million at December 31, 2020 and 2019, respectively. SDG&E recovers costs incurred on PPAs, tolling agreements and other variable interests through CPUC-approved long-term power procurement plans. SDG&E has no residual interest in the respective entities and has not provided or guaranteed any debt or equity support, liquidity arrangements, performance guarantees or other commitments associated with these contracts other than the purchase commitments described in Note 16. As a result, SDG&E's potential exposure to loss from its variable interest in these VIEs is not significant.

Otay Mesa VIE

Through October 3, 2019, SDG&E had a tolling agreement to purchase power generated at OMEC, a 605-MW generating facility owned by OMEC LLC, which is a VIE that we refer to as Otay Mesa VIE. SDG&E determined that it was the primary beneficiary of Otay Mesa VIE, and therefore, SDG&E and Sempra Energy consolidated Otay Mesa VIE. On August 23, 2019, SDG&E and OMEC LLC executed an amended resource adequacy capacity agreement that resulted in SDG&E and Sempra Energy deconsolidating Otay Mesa VIE. No gain or loss was recognized upon deconsolidation.

Sempra Texas Utilities

Our 100% interest in Oncor Holdings is a VIE that owns an 80.25% interest in Oncor. Sempra Energy is not the primary beneficiary of the VIE because of the structural and operational ring-fencing and governance measures in place that prevent us

from having the power to direct the significant activities of Oncor Holdings. As a result, we do not consolidate Oncor Holdings and instead account for our ownership interest as an equity method investment. See Notes 5 and 6 for additional information about our equity method investment in Oncor Holdings and restrictions on our ability to influence its activities. Our maximum exposure to loss, which fluctuates over time, from our interest in Oncor Holdings does not exceed the carrying value of our investment, which was $12,440 million and $11,519 million at December 31, 2020 and 2019, respectively.

Sempra Mexico

Sempra Mexico's businesses also enter into arrangements that could include variable interests. We evaluate these arrangements and applicable entities based on the qualitative and quantitative analyses described above. Certain of these entities are service or project companies that are VIEs because the total equity at risk is not sufficient for the entities to finance their activities without additional subordinated financial support. As the primary beneficiary of these companies, we consolidate them. At December 31, 2019, Sempra Mexico consolidated such a VIE with assets totaling approximately $126 million, which consisted primarily of PP&E and other long-term assets.

Sempra LNG

Cameron LNG JV

Cameron LNG JV is a VIE principally due to contractual provisions that transfer certain risks to customers. Sempra Energy is not the primary beneficiary of the VIE because we do not have the power to direct the most significant activities of Cameron LNG JV, including LNG production and operation and maintenance activities at the liquefaction facility. Therefore, we account for our investment in Cameron LNG JV under the equity method. The carrying value of our investment, including amounts recognized in AOCI related to interest-rate cash flow hedges at Cameron LNG JV, was $433 million at December 31, 2020 and $1,256 million at December 31, 2019. Our maximum exposure to loss, which fluctuates over time, includes the carrying value of our investment and guarantees that we discuss in Note 6.

CFIN

As we discuss in Note 6, in July 2020, Sempra Energy entered into a Support Agreement for the benefit of CFIN, which is a VIE. Since we do not have the power to direct the most significant activities of the VIE, we are not the primary beneficiary. The conditional obligations of the Support Agreement represent a variable interest that we measure at fair value on a recurring basis (see Note 12). Sempra Energy's maximum exposure to loss under the terms of the Support Agreement is $979 million.

ECA LNG Phase 1

ECA LNG Phase 1 is a VIE because its total equity at risk is not sufficient to finance its activities without additional subordinated financial support. We expect that ECA LNG Phase 1 will require future capital contributions or other financial support to finance the construction of the facility. Sempra Energy is the primary beneficiary of the VIE because we have the power to direct the development activities related to the construction of the facility, which we consider to be the most significant activities of ECA LNG Phase 1 during the construction phase of the project. As a result, we consolidate ECA LNG Phase 1. At December 31, 2020, Sempra LNG consolidated $207 million of assets, consisting primarily of PP&E, attributable to ECA LNG Phase 1 that could be used only to settle obligations of the VIE and that are not available to settle obligations of Sempra Energy and $49 million of liabilities, consisting primarily of accounts payable, attributable to ECA LNG Phase 1 for which creditors do not have recourse to the general credit of Sempra Energy. Additionally, as we discuss in Note 7, Sempra Energy, IEnova and TOTAL SE have provided guarantees for the loan facility based on their respective proportionate ownership interest in ECA LNG Phase 1.

ASSET RETIREMENT OBLIGATIONS

For tangible long-lived assets, we record AROs for the present value of liabilities of future costs expected to be incurred when assets are retired from service, if the retirement process is legally required and if a reasonable estimate of fair value can be made. We also record a liability if a legal obligation to perform an asset retirement exists and can be reasonably estimated, but performance is conditional upon a future event. We record the estimated retirement cost over the life of the related asset by depreciating the asset retirement cost (measured as the present value of the obligation at the time the asset is placed into service), and accreting the obligation until the liability is settled. Our rate-regulated entities, including the California Utilities, record regulatory assets or liabilities as a result of the timing difference between the recognition of costs in accordance with U.S. GAAP and costs recovered through the rate-making process.

We have recorded AROs related to various assets, including:

SDG&E and SoCalGas

- fuel and storage tanks
- natural gas transmission and distribution systems
- hazardous waste storage facilities
- asbestos-containing construction materials

SDG&E

- nuclear power facilities
- electric transmission and distribution systems
- energy storage systems
- power generation plants

SoCalGas

- underground natural gas storage facilities and wells

All Other Sempra Energy Businesses

- natural gas transportation and distribution systems
- power generation plants
- LNG facility
- LPG terminal

The changes in AROs are as follows:

CHANGES IN ASSET RETIREMENT OBLIGATIONS
(Dollars in millions)

	Sempra Energy Consolidated		SDG&E		SoCalGas	
	2020	2019	2020	2019	2020	2019
Balance as of January 1[(1)]	$ 3,083	$ 2,972	$ 866	$ 874	$ 2,177	$ 2,063
Accretion expense	127	123	39	39	86	81
Liabilities incurred	2	2	—	—	—	—
Deconsolidation	—	(2)	—	(2)	—	—
Payments	(63)	(46)	(60)	(44)	(2)	(2)
Revisions	140	34	31	(1)	107	35
Balance at December 31[(1)]	$ 3,289	$ 3,083	$ 876	$ 866	$ 2,368	$ 2,177

(1) *Current portion of the ARO for Sempra Energy Consolidated is included in Other Current Liabilities on the Consolidated Balance Sheets.*

CONTINGENCIES

We accrue losses for the estimated impacts of various conditions, situations or circumstances involving uncertain outcomes. For loss contingencies, we accrue the loss if an event has occurred on or before the balance sheet date and:

- information available through the date we file our financial statements indicates it is probable that a loss has been incurred, given the likelihood of uncertain future events; and
- the amount of the loss can be reasonably estimated.

We do not accrue contingencies that might result in gains. We continuously assess contingencies for litigation claims, environmental remediation and other events.

LEGAL FEES

Legal fees that are associated with a past event for which a liability has been recorded are accrued when it is probable that fees also will be incurred and amounts are estimable.

COMPREHENSIVE INCOME

Comprehensive income includes all changes in the equity of a business enterprise (except those resulting from investments by owners and distributions to owners), including:

- foreign currency translation adjustments
- certain hedging activities
- changes in unamortized net actuarial gain or loss and prior service cost related to pension and other postretirement benefits plans
- unrealized gains or losses on available-for-sale securities

The Consolidated Statements of Comprehensive Income (Loss) show the changes in the components of OCI, including the amounts attributable to NCI. The following tables present the changes in AOCI by component and amounts reclassified out of AOCI to net income, excluding amounts attributable to NCI:

CHANGES IN ACCUMULATED OTHER COMPREHENSIVE INCOME (LOSS) BY COMPONENT[1]

(Dollars in millions)

	Foreign currency translation adjustments	Financial instruments	Pension and other postretirement benefits	Total accumulated other comprehensive income (loss)
Sempra Energy Consolidated[2]:				
Balance as of December 31, 2017	**$ (420)**	**$ (122)**	**$ (84)**	**$ (626)**
Adoption of ASU 2017-12	—	(3)	—	(3)
OCI before reclassifications	(144)	40	(52)	(156)
Amounts reclassified from AOCI	—	3	18	21
Net OCI	(144)	43	(34)	(135)
Balance as of December 31, 2018	**(564)**	**(82)**	**(118)**	**(764)**
Adoption of ASU 2018-02	—	(25)	(17)	(42)
OCI before reclassifications[3]	(43)	(116)	(18)	(177)
Amounts reclassified from AOCI[3]	—	8	36	44
Net OCI	(43)	(108)	18	(133)
Balance as of December 31, 2019	**(607)**	**(215)**	**(117)**	**(939)**
OCI before reclassifications[3]	(102)	(163)	(26)	(291)
Amounts reclassified from AOCI[3]	645	47	38	730
Net OCI[4]	543	(116)	12	439
Balance as of December 31, 2020	**$ (64)**	**$ (331)**	**$ (105)**	**$ (500)**
SDG&E:				
Balance as of December 31, 2017			**$ (8)**	**$ (8)**
OCI before reclassifications			(6)	(6)
Amounts reclassified from AOCI			4	4
Net OCI			(2)	(2)
Balance as of December 31, 2018			**(10)**	**(10)**
Adoption of ASU 2018-02			(2)	(2)
OCI before reclassifications			(5)	(5)
Amounts reclassified from AOCI			1	1
Net OCI			(4)	(4)
Balance as of December 31, 2019			**(16)**	**(16)**
OCI before reclassifications[3]			(4)	(4)
Amounts reclassified from AOCI[3]			10	10
Net OCI			6	6
Balance as of December 31, 2020			**$ (10)**	**$ (10)**
SoCalGas:				
Balance as of December 31, 2017		**$ (13)**	**$ (8)**	**$ (21)**
OCI before reclassifications		—	(1)	(1)
Amounts reclassified from AOCI		1	1	2
Net OCI		1	—	1
Balance as of December 31, 2018		**(12)**	**(8)**	**(20)**
Adoption of ASU 2018-02		(2)	(2)	(4)
OCI before reclassifications[3]		—	(4)	(4)
Amounts reclassified from AOCI[3]		1	4	5
Net OCI		1	—	1
Balance as of December 31, 2019		**(13)**	**(10)**	**(23)**
OCI before reclassifications[3]		—	(10)	(10)
Amounts reclassified from AOCI		—	2	2
Net OCI		—	(8)	(8)
Balance as of December 31, 2020		**$ (13)**	**$ (18)**	**$ (31)**

(1) *All amounts are net of income tax, if subject to tax, and exclude NCI.*

(2) *Includes discontinued operations.*

(3) *Pension and Other Postretirement Benefits and Total AOCI include $6 million in transfers of liabilities from SDG&E to SoCalGas and $3 million in transfers of liabilities from SDG&E to Sempra Energy in 2020 and $4 million in transfers of liabilities from SoCalGas to Sempra Energy in 2019 related to the nonqualified pension plans.*

(4) *Total AOCI includes $4 million of foreign currency translation adjustments and $3 million of financial instruments associated with purchases of NCI, which we discuss below in "Other Noncontrolling Interests – Sempra Mexico," and which does not impact the Consolidated Statement of Comprehensive Income (Loss).*

RECLASSIFICATIONS OUT OF ACCUMULATED OTHER COMPREHENSIVE INCOME (LOSS)

(Dollars in millions)

Details about accumulated other comprehensive income (loss) components	Amounts reclassified from accumulated other comprehensive income (loss)			Affected line item on Consolidated Statements of Operations
	Years ended December 31,			
	2020	2019	2018	
Sempra Energy Consolidated:				
Foreign currency translation adjustments	$ 645	$ —	$ —	Income from Discontinued Operations, Net of Income Tax
Financial instruments:				
Interest rate instruments	$ —	$ 10	$ 9	(Loss) Gain on Sale of Assets
Interest rate instruments[1]	10	3	1	Interest Expense
Interest rate instruments	46	3	9	Equity Earnings
Foreign exchange instruments	(1)	2	(1)	Revenues: Energy-Related Businesses
Interest rate and foreign exchange instruments	1	—	(1)	Interest Expense
	11	(9)	(2)	Other (Expense) Income, Net
Foreign exchange instruments	—	2	(2)	Equity Earnings
Total before income tax	67	11	13	
	(19)	(2)	(4)	Income Tax (Expense) Benefit
Net of income tax	48	9	9	
	(1)	(1)	(6)	Earnings Attributable to Noncontrolling Interests
	$ 47	$ 8	$ 3	
Pension and other postretirement benefits[2]:				
Amortization of actuarial loss	$ 8	$ 12	$ 11	Other (Expense) Income, Net
Amortization of actuarial loss	6	1	1	Income from Discontinued Operations, Net of Income Tax
Amortization of prior service cost	4	3	2	Other (Expense) Income, Net
Settlement charges	22	28	12	Other (Expense) Income, Net
Total before income tax	40	44	26	
	(2)	—	—	Income from Discontinued Operations, Net of Income Tax
	(9)	(12)	(8)	Income Tax (Expense) Benefit
Net of income tax	$ 29	$ 32	$ 18	
Total reclassifications for the period, net of tax	**$ 721**	**$ 40**	**$ 21**	
SDG&E:				
Financial instruments:				
Interest rate instruments[1]	$ —	$ 3	$ 7	Interest Expense
	—	(3)	(7)	Earnings Attributable to Noncontrolling Interest
	$ —	$ —	$ —	
Pension and other postretirement benefits[2]:				
Amortization of actuarial loss	$ 1	$ —	$ 1	Other Income, Net
Amortization of prior service cost	1	1	—	Other Income, Net
Settlement charges	—	—	4	Other Income, Net
Total before income tax	2	1	5	
	(1)	—	(1)	Income Tax Expense
Net of income tax	$ 1	$ 1	$ 4	
Total reclassifications for the period, net of tax	**$ 1**	**$ 1**	**$ 4**	
SoCalGas:				
Financial instruments:				
Interest rate instruments	$ —	$ 1	$ 1	Interest Expense
Pension and other postretirement benefits[2]:				
Amortization of actuarial loss	$ 1	$ 1	$ —	Other (Expense) Income, Net
Amortization of prior service cost	1	—	1	Other (Expense) Income, Net
Total before income tax	2	1	1	
	—	(1)	—	Income Tax Expense
Net of income tax	$ 2	$ —	$ 1	
Total reclassifications for the period, net of tax	**$ 2**	**$ 1**	**$ 2**	

(1) *Amounts in 2019 and 2018 include Otay Mesa VIE. All of SDG&E's interest rate derivative activity relates to Otay Mesa VIE.*

(2) *Amounts are included in the computation of net periodic benefit cost (see "Net Periodic Benefit Cost" in Note 9).*

NONCONTROLLING INTERESTS

Ownership interests in a consolidated entity that are held by unconsolidated owners are accounted for and reported as NCI.

SoCalGas Preferred Stock

The preferred stock at SoCalGas is presented at Sempra Energy as NCI. Sempra Energy records charges against income related to NCI for preferred dividends declared by SoCalGas. We provide additional information regarding SoCalGas' preferred stock in Note 13.

Other Noncontrolling Interests

SDG&E

As we discuss in "Variable Interest Entities" above, in August 2019, SDG&E and Sempra Energy deconsolidated Otay Mesa VIE after SDG&E determined that it was no longer the primary beneficiary of the VIE.

Sempra Mexico

On December 2, 2020, we announced a non-binding offer to acquire up to 100% of the publicly held shares of IEnova in exchange for shares of our common stock at an exchange ratio of 0.0313 shares of our common stock for each one IEnova ordinary share. This exchange ratio is non-binding and remains subject to approval by Sempra Energy's board of directors. We expect to complete this transaction in the second quarter of 2021, subject to authorization by the SEC, CNBV and Mexican Stock Exchange and other closing conditions.

In the first quarter of 2020, IEnova purchased additional shares in ICM Ventures Holdings B.V. for $9 million, increasing its ownership interest from 53.7% to 82.5%. ICM Ventures Holdings B.V. owns certain permits and land where IEnova is building terminals for the receipt, storage and delivery of liquid fuels.

In 2020, IEnova repurchased 77,122,780 shares of its outstanding common stock held by NCI for approximately $231 million, resulting in an increase in Sempra Energy's ownership interest in IEnova from 66.6% to 70.2%.

In 2019, IEnova repurchased 2,620,000 shares of its outstanding common stock held by NCI for approximately $10 million, resulting in an increase in Sempra Energy's ownership interest in IEnova from 66.5% to 66.6%.

Sempra LNG

In December 2020, an affiliate of TOTAL SE acquired a 16.6% ownership interest in ECA LNG Phase 1, with Sempra LNG and IEnova each retaining a 41.7% ownership interest. Sempra LNG consolidates ECA LNG Phase 1 and Sempra Energy's NCI in IEnova's 41.7% ownership interest is reported at Sempra LNG.

In March 2020, Sempra LNG purchased for $7 million the 24.6% minority interest in Liberty Gas Storage LLC, which owns 100% of LA Storage, LLC, increasing Sempra LNG's ownership in Liberty Gas Storage LLC to 100%. Prior to the purchase, the minority partner converted $22 million in notes payable due from Sempra LNG to equity. As a result of the purchase, we recorded an increase in Sempra Energy's shareholders' equity of $2 million for the difference between the carrying value and fair value related to the change in ownership.

In February 2019, Sempra LNG purchased for $20 million the 9.1% minority interest in Bay Gas immediately prior to the sale of 100% of Bay Gas.

Sempra Renewables

As we discuss in Note 5, in April 2019, Sempra Renewables sold its remaining wind assets and investments, which included its wind tax equity arrangements. The remaining interest in PXiSE Energy Solutions, LLC was subsumed into Parent and other.

Discontinued Operations

As we discuss in Note 5, we completed the sales of our equity interests in our Peruvian and Chilean businesses in the second quarter of 2020. The minority interests in Luz del Sur and Tecsur were deconsolidated upon sale of our Peruvian businesses in April 2020, and the minority interests in the Chilquinta Energía subsidiaries were deconsolidated upon sale of our Chilean businesses in June 2020.

The following table provides information about NCI held by others in subsidiaries or entities consolidated by us and recorded in Other Noncontrolling Interests in Total Equity on Sempra Energy's Consolidated Balance Sheets.

OTHER NONCONTROLLING INTERESTS
(Dollars in millions)

	Percent ownership held by noncontrolling interests		Equity (deficit) held by noncontrolling interests	
	December 31,		December 31,	
	2020	2019	2020	2019
Sempra Mexico:				
IEnova	29.8 %	33.4 %	$ 1,487	$ 1,608
IEnova subsidiaries[1]	17.5	10.0 - 46.3	7	15
Sempra LNG:				
Liberty Gas Storage, LLC	—	24.6	—	(13)
ECA LNG Phase 1	29.0	16.7	46	12
Parent and other:				
PXiSE Energy Solutions, LLC	20.0	20.0	1	1
Discontinued Operations:				
Chilquinta Energía subsidiaries[1]	—	19.7 - 43.4	—	23
Luz del Sur	—	16.4	—	205
Tecsur	—	9.8	—	5
Total Sempra Energy			$ 1,541	$ 1,856

[1] *IEnova and Chilquinta Energía have subsidiaries with NCI held by others. Percentage range reflects the highest and lowest ownership percentages among these subsidiaries.*

REVENUES

See Note 3 for a description of significant accounting policies for revenues.

OPERATION AND MAINTENANCE EXPENSES

Operation and Maintenance includes O&M and general and administrative costs, consisting primarily of personnel costs, purchased materials and services, insurance, rent and litigation expense (except for litigation expense included in Aliso Canyon Litigation and Regulatory Matters).

FOREIGN CURRENCY TRANSLATION AND TRANSACTIONS

Our natural gas distribution utility in Mexico, Ecogas, and the majority of our former operations in South America (until our sale of these operations in the second quarter of 2020) use their local currency as their functional currency. The assets and liabilities of their foreign operations are translated into U.S. dollars at current exchange rates at the end of the reporting period, and revenues and expenses are translated at average exchange rates for the year. The resulting noncash translation adjustments do not enter into the calculation of earnings or retained earnings, but are reflected in OCI and in AOCI.

Cash flows of these consolidated foreign subsidiaries are translated into U.S. dollars using average exchange rates for the period. We report the effect of exchange rate changes on cash balances held in foreign currencies in Effect of Exchange Rate Changes on Cash, Cash Equivalents and Restricted Cash on the Sempra Energy Consolidated Statements of Cash Flows.

Foreign currency transaction (losses) gains in a currency other than Sempra Mexico’s functional currency were $(25) million, $21 million and $(6) million for the years ended December 31, 2020, 2019 and 2018, respectively, and are included in Other Income, Net, on the Sempra Energy Consolidated Statements of Operations. Foreign currency transaction gains (losses) in a currency other than the functional currencies of our operations in South America are included in discontinued operations.

TRANSACTIONS WITH AFFILIATES

We summarize amounts due from and to unconsolidated affiliates at Sempra Energy Consolidated, SDG&E and SoCalGas in the following table.

AMOUNTS DUE FROM (TO) UNCONSOLIDATED AFFILIATES
(Dollars in millions)

	December 31, 2020	December 31, 2019
Sempra Energy Consolidated:		
Total due from various unconsolidated affiliates – current	$ 20	$ 32
Sempra Mexico[1]:		
ESJ – Note due December 31, 2022, net of negligible allowance for credit losses at December 31, 2020[2]	$ 85	$ —
IMG JV – Note due March 15, 2022, net of allowance for credit losses of $3 at December 31, 2020[3]	695	742
Total due from unconsolidated affiliates – noncurrent	$ 780	$ 742
Sempra Mexico – TAG Pipelines Norte, S. de R.L. de C.V. – Note due December 20, 2021[1][4]	$ (41)	$ —
Various affiliates	(4)	(5)
Total due to unconsolidated affiliates – current	$ (45)	$ (5)
Sempra Mexico[1]:		
TAG Pipelines Norte, S. de R.L. de C.V.		
Note due December 20, 2021[4]	$ —	$ (39)
5.5% Note due January 9, 2024[5]	(68)	—
TAG JV – 5.74% Note due December 17, 2029[5]	(166)	(156)
Total due to unconsolidated affiliates – noncurrent	$ (234)	$ (195)
SDG&E:		
Sempra Energy	$ (38)	$ (37)
SoCalGas	(21)	(10)
Various affiliates	(5)	(6)
Total due to unconsolidated affiliates – current	$ (64)	$ (53)
Income taxes due from Sempra Energy[6]	$ —	$ 130
SoCalGas:		
SDG&E	$ 21	$ 10
Various affiliates	1	1
Total due from unconsolidated affiliates – current	$ 22	$ 11
Sempra Energy	$ (31)	$ (45)
Various affiliates	—	(2)
Total due to unconsolidated affiliates – current	$ (31)	$ (47)
Income taxes due (to) from Sempra Energy[6]	$ (37)	$ 152

(1) *Amounts include principal balances plus accumulated interest outstanding.*

(2) *U.S. dollar-denominated loan at a variable interest rate based on 1-month LIBOR plus 196 bps (2.11% at December 31, 2020). At December 31, 2020, $1 million of accrued interest receivable is included in Due from Unconsolidated Affiliates – Current.*

(3) *Mexican peso-denominated revolving line of credit for up to 14.2 billion Mexican pesos or approximately $712 million U.S. dollar-equivalent, at a variable interest rate based on the 91-day Interbank Equilibrium Interest Rate plus 220 bps (6.66% at December 31, 2020), to finance construction of the natural gas marine pipeline. At December 31, 2020, $2 million of accrued interest receivable is included in Due from Unconsolidated Affiliates – Current.*

(4) *U.S. dollar-denominated loan at a variable interest rate based on 6-month LIBOR plus 290 bps (3.16% at December 31, 2020).*

(5) *U.S. dollar-denominated loan at a fixed interest rate.*

(6) *SDG&E and SoCalGas are included in the consolidated income tax return of Sempra Energy and their respective income tax expense is computed as an amount equal to that which would result from each company having always filed a separate return.*

The following table summarizes income statement information from unconsolidated affiliates.

INCOME STATEMENT IMPACT FROM UNCONSOLIDATED AFFILIATES
(Dollars in millions)

	Years ended December 31,		
	2020	2019	2018
Sempra Energy Consolidated			
Revenue	$ 37	$ 52	$ 64
Cost of Sales	45	50	46
Interest Income	56	74	62
Interest Expense	14	2	2
SDG&E:			
Revenue	$ 6	$ 6	$ 5
Cost of Sales	79	74	73
SoCalGas:			
Revenue	$ 88	$ 69	$ 64
Cost of Sales	—	8	—

California Utilities

Sempra Energy, SDG&E and SoCalGas provide certain services to each other and are charged an allocable share of the cost of such services. Also, from time-to-time, SDG&E and SoCalGas may make short-term advances of surplus cash to Sempra Energy at interest rates based on the federal funds effective rate plus a margin of 13 to 20 bps, depending on the loan balance.

SoCalGas provides natural gas transportation and storage services for SDG&E and charges SDG&E for such services monthly. SoCalGas records revenues and SDG&E records a corresponding amount to cost of sales.

SDG&E and SoCalGas charge one another, as well as other Sempra Energy affiliates, for shared asset depreciation. SoCalGas and SDG&E record revenues and the affiliates record corresponding amounts to O&M.

The natural gas supply for SDG&E's and SoCalGas' core natural gas customers is purchased by SoCalGas as a combined procurement portfolio managed by SoCalGas. Core customers are primarily residential and small commercial and industrial customers. This core gas procurement function is considered a shared service; therefore, revenues and costs related to SDG&E are presented net in SoCalGas' Statements of Operations.

SDG&E has a 20-year contract for up to 155 MW of renewable power supplied from the ESJ wind power generation facility. ESJ is a 50% owned and unconsolidated JV of Sempra Mexico.

Sempra Mexico

Sempra Mexico, through its wholly owned subsidiaries, DEN and IEnova Pipelines, provides operating and maintenance services to TAG Pipelines Norte, S. de. R.L. de C.V., and also provides personnel under an administrative services arrangement to TAG Pipelines Norte, S. de. R.L. de C.V. and TAG JV.

Sempra LNG

Sempra LNG provides certain business services to Cameron LNG JV. Sempra LNG had an agreement to provide transportation services to Cameron LNG JV for capacity on the Cameron Interstate Pipeline through August 2020, when Cameron LNG JV achieved commercial operations of Train 3 of its Phase 1 project. Sempra Energy has provided guarantees to Cameron LNG JV and to CFIN, as we discuss in Note 6.

RESTRICTED NET ASSETS

Sempra Energy Consolidated

As we discuss below, the California Utilities and certain other Sempra Energy subsidiaries have restrictions on the amount of funds that can be transferred to Sempra Energy by dividend, advance or loan as a result of conditions imposed by various regulators. Additionally, certain other Sempra Energy subsidiaries are subject to various financial and other covenants and other restrictions contained in debt and credit agreements (described in Note 7) and in other agreements that limit the amount of funds that can be transferred to Sempra Energy. At December 31, 2020, Sempra Energy was in compliance with all covenants related to its debt agreements.

At December 31, 2020, the amount of restricted net assets of consolidated entities of Sempra Energy, including the California Utilities discussed below, that may not be distributed to Sempra Energy in the form of a loan or dividend is $12.2 billion. Additionally, the amount of restricted net assets of our unconsolidated entities is $12.6 billion. Although the restrictions cap the amount of funding that the various operating subsidiaries can provide to Sempra Energy, we do not believe these restrictions will have a significant impact on our ability to access cash to pay dividends and fund operating needs.

As we discuss in Note 6, $1.1 billion of Sempra Energy's consolidated retained earnings represents undistributed earnings of equity method investments at December 31, 2020.

California Utilities

The CPUC's regulation of the California Utilities' capital structures limits the amounts available for dividends and loans to Sempra Energy. At December 31, 2020, Sempra Energy could have received combined loans and dividends of approximately $717 million from SDG&E and approximately $148 million from SoCalGas.

The payment and amount of future dividends by SDG&E and SoCalGas are at the discretion of their respective boards of directors. The following restrictions limit the amount of retained earnings that may be paid as common stock dividends or loaned to Sempra Energy from either utility:

- The CPUC requires that SDG&E's and SoCalGas' common equity ratios be no lower than one percentage point below the CPUC-authorized percentage of each entity's authorized capital structure. The authorized percentage at December 31, 2020 is 52% at both SDG&E and SoCalGas.
- SDG&E and SoCalGas each have a revolving credit line that requires it to maintain a ratio of consolidated indebtedness to consolidated capitalization (as defined in the agreements) of no more than 65%, as we discuss in Note 7.

Based on these restrictions, at December 31, 2020, SDG&E's restricted net assets were $7.0 billion and SoCalGas' restricted net assets were $5.0 billion, which could not be transferred to Sempra Energy.

Sempra Texas Utilities

Sempra Energy owns an indirect, 100% interest in Oncor Holdings, which owns an 80.25% interest in Oncor. As we discuss in Note 6, we account for our investment in Oncor Holdings under the equity method. Significant restrictions at Oncor that limit the amount that may be paid as dividends to Sempra Energy include:

- In connection with ring-fencing measures, governance mechanisms and commitments, Oncor may not pay any dividends or make any other distributions (except for contractual tax payments) if a majority of its independent directors or a minority member director determines that it is in the best interests of Oncor to retain such amounts to meet expected future requirements.
- Oncor must remain in compliance with its debt-to-equity ratio established by the PUCT for ratemaking purposes and may not pay dividends or other distributions (except for contractual tax payments) if that payment would cause it to exceed its PUCT authorized debt-to-equity ratio. Oncor's authorized regulatory capital structure is 57.5% debt to 42.5% equity at December 31, 2020.
- If the credit rating on Oncor's senior secured debt by any of the three major credit rating agencies falls below BBB (or the equivalent), Oncor will suspend dividends and other distributions (except for contractual tax payments), unless otherwise allowed by the PUCT. At December 31, 2020, all of Oncor's senior secured ratings were above BBB.
- Oncor's revolving credit line and certain of its other debt agreements require it to maintain a consolidated senior debt-to-capitalization ratio of no more than 65% and observe certain affirmative covenants. At December 31, 2020, Oncor was in compliance with these covenants.

Based on these restrictions, at December 31, 2020, Oncor's restricted net assets were $11.9 billion, which could not be transferred to Sempra Energy.

Sempra Energy owns an indirect, 50% interest in Sharyland Holdings, which owns a 100% interest in Sharyland Utilities. Significant restrictions related to this equity method investment include:

- Sharyland Utilities may not pay dividends or make other distributions (except for contractual payments) without the consent of the JV partner.
- Sharyland Utilities must remain in compliance with the capital structure established by the PUCT for ratemaking purposes and may not pay dividends or other distributions (except for contractual tax payments) if that payment would cause its debt to exceed 55% of its capital structure.
- Sharyland Utilities has a revolving credit line and a term loan credit agreement that require it to maintain a consolidated debt-to-capitalization ratio of no more than 70% and observe certain customary reporting requirements and other affirmative covenants. At December 31, 2020, Sharyland Utilities was in compliance with these and all other covenants.

Based on these restrictions, at December 31, 2020, Sharyland Utilities' restricted net assets were $114 million, which could not be transferred to its owners.

Sempra Mexico

Significant restrictions at Sempra Mexico include:

- Mexico requires domestic corporations to maintain minimum legal reserves as a percentage of capital stock, resulting in restricted net assets of $185 million at Sempra Energy's consolidated Mexican subsidiaries at December 31, 2020.
- Wholly owned IEnova Pipelines has a long-term debt agreement that requires it to maintain a reserve account to pay the projects' debt. Under this restriction, net assets totaling $12 million are restricted at December 31, 2020.
- Wholly owned Ventika has long-term debt agreements that require it to maintain reserve accounts to pay the projects' debt. The debt agreements may limit the project companies' ability to incur liens, incur additional indebtedness, make investments, pay cash dividends and undertake certain additional actions. Under these restrictions, net assets totaling $9 million are restricted at December 31, 2020.
- ESJ, a 50% owned and unconsolidated JV of Sempra Mexico, has long-term debt agreements that require the establishment and funding of project and reserve accounts to which the proceeds of loans, letter of credit borrowings, project revenues and other amounts are deposited and applied in accordance with the debt agreements. The long-term debt agreements also limit the JV's ability to incur liens, incur additional indebtedness, make acquisitions and undertake certain actions. Under these restrictions, net assets totaling $7 million are restricted at December 31, 2020.
- TAG JV, a 50% owned and unconsolidated JV of Sempra Mexico, has a long-term debt agreement that requires it to maintain a reserve account to pay the projects' debt. Under these restrictions, net assets totaling $73 million are restricted at December 31, 2020.

Sempra LNG

Sempra LNG has an equity method investment in Cameron LNG JV, which has debt agreements that require the establishment and funding of project accounts to which the proceeds of loans, project revenues and other amounts are deposited and applied in accordance with the debt agreements. The debt agreements require the JV to maintain reserve accounts in order to pay the project debt service, and also contain restrictions related to the payment of dividends and other distributions to the members of the JV. We discuss Cameron LNG JV's debt agreements and the associated Sempra Energy guarantees in Note 6. Under these restrictions, net assets of Cameron LNG JV of approximately $452 million are restricted at December 31, 2020.

OTHER (EXPENSE) INCOME, NET

Other (Expense) Income, Net on the Consolidated Statements of Operations consists of the following:

OTHER (EXPENSE) INCOME, NET

(Dollars in millions)

	Years ended December 31,		
	2020	2019	2018
Sempra Energy Consolidated:			
Allowance for equity funds used during construction	$ 128	$ 94	$ 98
Investment gains (losses)[1]	41	61	(6)
(Losses) gains on interest rate and foreign exchange instruments, net	(67)	34	7
Foreign currency transaction (losses) gains, net[2]	(25)	21	(6)
Non-service component of net periodic benefit cost	(102)	(132)	(35)
Fine related to Energy Efficiency Program Inquiry	(6)	—	—
Penalties related to billing practices OII	—	(8)	—
Interest on regulatory balancing accounts, net	14	14	2
Sundry, net	(31)	(7)	(2)
Total	$ (48)	$ 77	$ 58
SDG&E:			
Allowance for equity funds used during construction	$ 79	$ 56	$ 61
Non-service component of net periodic benefit cost	(20)	(20)	(6)
Fine related to Energy Efficiency Program Inquiry	(6)	—	—
Interest on regulatory balancing accounts, net	9	13	4
Sundry, net	(10)	(10)	(3)
Total	$ 52	$ 39	$ 56
SoCalGas:			
Allowance for equity funds used during construction	$ 41	$ 34	$ 36
Non-service component of net periodic benefit cost	(54)	(72)	(10)
Penalties related to billing practices OII	—	(8)	—
Interest on regulatory balancing accounts, net	5	1	(2)
Sundry, net	(20)	(10)	(9)
Total	$ (28)	$ (55)	$ 15

(1) *Represents investment gains (losses) on dedicated assets in support of our executive retirement and deferred compensation plans. These amounts are offset by corresponding changes in compensation expense related to the plans, recorded in O&M on the Consolidated Statements of Operations.*

(2) *Includes losses of $42 million in 2020, gains of $30 million in 2019 and losses of $3 million in 2018 from translation to U.S. dollars of a Mexican peso-denominated loan to IMG JV, which are offset by corresponding amounts included in Equity Earnings on the Consolidated Statements of Operations.*

NOTE 2. NEW ACCOUNTING STANDARDS

We describe below recent accounting pronouncements that have had or may have a significant effect on our financial condition, results of operations, cash flows or disclosures.

ASU 2016-13, "Measurement of Credit Losses on Financial Instruments": ASU 2016-13, as amended by subsequently issued ASUs, changes how entities measure credit losses for most financial assets and certain other instruments. The standard introduces an "expected credit loss" impairment model that requires immediate recognition of estimated credit losses expected to occur over the remaining life of most financial assets measured at amortized cost, including trade and other receivables, loan receivables and commitments and financial guarantees. ASU 2016-13 also requires use of an allowance to record estimated credit losses on available-for-sale debt securities and expands disclosure requirements regarding an entity's assumptions, models and methods for estimating the credit losses. We adopted the standard on January 1, 2020 using a modified retrospective approach through a cumulative-effect adjustment to retained earnings. The adoption primarily impacted the expected credit losses associated with accounts receivable balances, amounts due from unconsolidated affiliates and off-balance sheet financial guarantees. There was an insignificant impact to SDG&E's and SoCalGas' balance sheets from adoption. The following table shows the initial (decreases) increases on Sempra Energy's balance sheet at January 1, 2020 from adoption of ASU 2016-13.

IMPACT FROM ADOPTION OF ASU 2016-13

(Dollars in millions)

	Sempra Energy Consolidated
Accounts receivable – trade, net	$ (1)
Due from unconsolidated affiliates – noncurrent	(6)
Deferred income tax assets	4
Other current liabilities	4
Deferred credits and other	2
Retained earnings	(7)
Other noncontrolling interests	(2)

ASU 2017-04, "Simplifying the Test for Goodwill Impairment": ASU 2017-04 removes the second step of the goodwill impairment test, which requires a hypothetical purchase price allocation. An entity will be required to apply a one-step quantitative test and record the amount of goodwill impairment as the excess of a reporting unit's carrying amount over its fair value, not to exceed the carrying amount of goodwill. We adopted ASU 2017-04 on January 1, 2020 and are applying the standard on a prospective basis to our goodwill impairment tests.

ASU 2020-04, "Facilitation of the Effects of Reference Rate Reform on Financial Reporting": ASU 2020-04 provides optional expedients and exceptions for applying U.S. GAAP to contract modifications that replace LIBOR or another reference rate affected by reference rate reform and to hedging relationships that reference LIBOR or another reference rate affected or expected to be affected by reference rate reform. ASU 2020-04 was effective March 12, 2020 and can be applied through December 31, 2022, with certain exceptions for hedging relationships that continue to exist after this date, and may be applied from January 1, 2020. For contract modifications, the standard allows entities to account for modifications as an event that does not require reassessment or remeasurement (i.e., as a continuation of the existing contract). The standard also allows entities to amend their formal designation and documentation of hedging relationships affected or expected to be affected by reference rate reform, without having to de-designate the hedging relationship. Entities may elect the optional expedients and exceptions on an individual hedging relationship basis and independently from one another. We elected the optional expedients for contract modifications. We elected the cash flow hedging expedients to disregard the potential discontinuation of a reference rate when assessing whether a hedged forecasted interest payment is probable and to disregard certain mismatches between the designated hedging instrument and the hedged item when assessing the hedge effectiveness. We are applying these expedients prospectively from January 1, 2020. Application of these expedients preserves the presentation of derivatives consistent with the past presentation.

ASU 2020-06, "Accounting for Convertible Instruments and Contracts in an Entity's Own Equity": ASU 2020-06 simplifies the accounting for certain financial instruments with characteristics of liabilities and equity, including convertible instruments and contracts on an entity's own equity. In addition to other changes, this standard amends ASC 470-20, "Debt with Conversion and Other Options," by removing the accounting models for instruments with beneficial conversion features and cash conversion features. The standard also amends ASC 260, "Earnings Per Share," as follows:

- requires an entity to apply the if-converted method when calculating diluted EPS for convertible instruments and no longer use the treasury stock method, which was previously allowed for certain convertible instruments;
- requires an entity to include the effect of potential share settlement in the diluted EPS calculation when an instrument may be settled in cash or shares, and no longer allows an entity to rebut the presumption of share settlement if it has a history or policy of cash settlement;
- requires an entity to include equity-classified convertible preferred stock that contains down-round features whereby, if the down-round feature is triggered, its effect is treated as a dividend and as a reduction of income available to common shareholders in basic EPS;
- clarifies that the average market price should be used to calculate the diluted EPS denominator when the exercise price or the number of shares that may be issued is variable, except for certain contingently issuable shares; and
- clarifies that the weighted-average share count from each quarter should be used when calculating the year-to-date weighted-average share count.

For public entities, ASU 2020-06 is effective for fiscal years beginning after December 15, 2021, including interim periods therein, with early adoption permitted for fiscal years beginning after December 15, 2020. An entity can use either a full or modified retrospective approach to adopt ASU 2020-06 and must disclose, in the period of adoption, EPS transition information about the effect of the change on affected per-share amounts. We plan to adopt the standard on January 1, 2022 and are currently evaluating the effect of the standard on our ongoing financial reporting.

NOTE 3. REVENUES

The following table disaggregates our revenues from contracts with customers by major service line and market and provides a reconciliation to total revenues by segment. The majority of our revenue is recognized over time.

DISAGGREGATED REVENUES

(Dollars in millions)

	SDG&E	SoCalGas	Sempra Mexico	Sempra LNG	Sempra Renewables	Consolidating adjustments and Parent and other	Sempra Energy Consolidated
				Year ended December 31, 2020			
By major service line:							
Utilities	$ 4,920	$ 4,571	$ 58	$ —	$ —	$ (94)	$ 9,455
Energy-related businesses	—	—	834	92	—	(71)	855
Revenues from contracts with customers	$ 4,920	$ 4,571	$ 892	$ 92	$ —	$ (165)	$ 10,310
By market:							
Gas	$ 692	$ 4,571	$ 603	$ 86	$ —	$ (156)	$ 5,796
Electric	4,228	—	289	6	—	(9)	4,514
Revenues from contracts with customers	$ 4,920	$ 4,571	$ 892	$ 92	$ —	$ (165)	$ 10,310
Revenues from contracts with customers	$ 4,920	$ 4,571	$ 892	$ 92	$ —	$ (165)	$ 10,310
Utilities regulatory revenues	393	177	—	—	—	—	570
Other revenues	—	—	364	282	—	(156)	490
Total revenues	$ 5,313	$ 4,748	$ 1,256	$ 374	$ —	$ (321)	$ 11,370
				Year ended December 31, 2019			
By major service line:							
Utilities	$ 4,819	$ 4,367	$ 73	$ —	$ —	$ (75)	$ 9,184
Energy-related businesses	—	—	919	176	5	(143)	957
Revenues from contracts with customers	$ 4,819	$ 4,367	$ 992	$ 176	$ 5	$ (218)	$ 10,141
By market:							
Gas	$ 587	$ 4,367	$ 680	$ 170	$ —	$ (208)	$ 5,596
Electric	4,232	—	312	6	5	(10)	4,545
Revenues from contracts with customers	$ 4,819	$ 4,367	$ 992	$ 176	$ 5	$ (218)	$ 10,141
Revenues from contracts with customers	$ 4,819	$ 4,367	$ 992	$ 176	$ 5	$ (218)	$ 10,141
Utilities regulatory revenues	106	158	—	—	—	—	264
Other revenues	—	—	383	234	5	(198)	424
Total revenues	$ 4,925	$ 4,525	$ 1,375	$ 410	$ 10	$ (416)	$ 10,829
				Year ended December 31, 2018			
By major service line:							
Utilities	$ 4,788	$ 3,577	$ 78	$ —	$ —	$ (69)	$ 8,374
Energy-related businesses	—	—	941	232	46	(146)	1,073
Revenues from contracts with customers	$ 4,788	$ 3,577	$ 1,019	$ 232	$ 46	$ (215)	$ 9,447
By market:							
Gas	$ 491	$ 3,577	$ 711	$ 224	$ —	$ (203)	$ 4,800
Electric	4,297	—	308	8	46	(12)	4,647
Revenues from contracts with customers	$ 4,788	$ 3,577	$ 1,019	$ 232	$ 46	$ (215)	$ 9,447
Revenues from contracts with customers	$ 4,788	$ 3,577	$ 1,019	$ 232	$ 46	$ (215)	$ 9,447
Utilities regulatory revenues	(220)	385	—	—	—	—	165
Other revenues	—	—	357	240	78	(185)	490
Total revenues	$ 4,568	$ 3,962	$ 1,376	$ 472	$ 124	$ (400)	$ 10,102

REVENUES FROM CONTRACTS WITH CUSTOMERS

Our revenues from contracts with customers are primarily related to the transmission, distribution and storage of natural gas and the generation, transmission and distribution of electricity through our regulated utilities. We also provide other midstream and renewable energy-related services. We assess our revenues on a contract-by-contract basis as well as a portfolio basis to determine the nature, amount, timing and uncertainty, if any, of revenues being recognized.

We generally recognize revenues when performance of the promised commodity service is provided to our customers and we invoice our customers for an amount that reflects the consideration we are entitled to in exchange for those services. We consider the delivery and transmission of natural gas and electricity and providing of natural gas storage services as ongoing and integrated services. Generally, natural gas or electricity services are received and consumed by the customer simultaneously. Our performance obligations related to these services are satisfied over time and represent a series of distinct services that are substantially the same and that have the same pattern of transfer to the customers. We recognize revenue based on units delivered, as the satisfaction of our performance obligations can be directly measured by the amount of natural gas or electricity delivered to the customer. In most cases, the right to consideration from the customer directly corresponds to the value transferred to the customer and we recognize revenue in the amount that we have the right to invoice.

The payment terms in our customer contracts vary. Typically, we have an unconditional right to customer payments, which are due after the performance obligation to the customer is satisfied. The term between invoicing and when payment is due is typically between 10 and 90 days.

We exclude sales and usage-based taxes from revenues. In addition, the California Utilities pay franchise fees to operate in various municipalities. The California Utilities bill these franchise fees to their customers based on a CPUC-authorized rate. These franchise fees, which are required to be paid regardless of the California Utilities' ability to collect from the customer, are accounted for on a gross basis and reflected in utilities revenues from contracts with customers and operating expense.

Utilities Revenues

Utilities revenues represent the majority of our consolidated revenues from contracts with customers and include:

- The transmission, distribution and storage of natural gas at:
  - SDG&E
  - SoCalGas
  - Sempra Mexico's Ecogas
- The generation, transmission and distribution of electricity at SDG&E.

Utilities revenues are derived from and recognized upon the delivery of natural gas or electricity services to customers. Amounts that we bill our customers are based on tariffs set by regulators within the respective state or country. For SDG&E and SoCalGas, which follow the provisions of U.S. GAAP governing rate-regulated operations as we discuss in Note 1, amounts that we bill to customers also include adjustments for previously recognized regulatory revenues.

The California Utilities and Ecogas recognize revenues based on regulator-approved revenue requirements, which allows the utilities to recover their reasonable operating costs and provides the opportunity to realize their authorized rates of return on their investments. While the California Utilities' revenues are not affected by actual sales volumes, the pattern of their revenue recognition during the year is affected by seasonality. SoCalGas recognizes annual authorized revenue for core natural gas customers using seasonal factors established in the Triennial Cost Allocation Proceeding, resulting in a significant portion of earnings being recognized in the first and fourth quarters of each year. SDG&E's authorized revenue recognition is also impacted by seasonal factors, resulting in higher earnings in the third quarter when electric loads are typically higher than in the other three quarters of the year.

SDG&E has an arrangement to provide the California ISO with the ability to control its high-voltage transmission lines for prices approved by the FERC. Revenue is recognized over time as access is provided to the California ISO.

Factors that can affect the amount, timing and uncertainty of revenues and cash flows include weather, seasonality and timing of customer billings, which may result in unbilled revenues that can vary significantly from month to month and generally approximate one-half month's deliveries.

The California Utilities recognize revenues from the sale of allocated California GHG emissions allowances at quarterly auctions administered by CARB. GHG allowances are delivered to CARB in advance of the quarterly auctions, and the California Utilities have the right to payment when the GHG allowances are sold at auction. GHG revenue is recognized on a point in time basis

within the quarter the auction is held. The California Utilities balance costs and revenues associated with the GHG program through regulatory balancing accounts.

In connection with the COVID-19 pandemic, the California Utilities and the CPUC have implemented certain measures to assist customers, including suspending service disconnections due to nonpayment for residential and small business customers, waiving late payment fees for business customers, and offering flexible payment plans to customers experiencing difficulty paying their electric or gas bills. Additional measures could be mandated or voluntarily implemented in the future. Under the regulatory compact applicable to the California Utilities, including decoupling of rates, recovery of uncollectible expenses, and other recovery mechanisms potentially available, which we discuss in Note 4, the California Utilities have continued to recognize revenues under ASC 606, "Revenue from Contracts with Customers," in the year ended December 31, 2020.

Energy-Related Businesses Revenues

Midstream Revenues

Midstream revenues at Sempra Mexico and Sempra LNG typically represent revenues from long-term, U.S. dollar-based contracts with customers for the sale of natural gas and LNG, as well as storage and transportation of natural gas. Invoiced amounts are based on the volume of natural gas delivered and contracted prices.

Sempra Mexico's marketing operations sell natural gas to the CFE and other customers under supply agreements. Sempra Mexico recognizes the revenue from the sale of natural gas upon transfer of the natural gas via pipelines to customers at the agreed upon delivery points, and in the case of the CFE, at its thermoelectric power plants.

Through its marketing operations, Sempra LNG has contracts to sell natural gas and LNG to Sempra Mexico that allow Sempra Mexico to satisfy its obligations under supply agreements with the CFE and other customers, and to supply Sempra Mexico's TdM power plant. Because Sempra Mexico either immediately delivers the natural gas to its customers or consumes the benefits simultaneously (by using the gas to supply TdM), revenues from Sempra LNG's sale of natural gas to Sempra Mexico are generally recognized over time as delivered. Revenues from LNG sales are recognized at the point when the cargo is delivered to Sempra Mexico.

Revenues from the sale of LNG and natural gas by Sempra LNG to Sempra Mexico are adjusted for indemnity payments and profit sharing. We consider these adjustments to be forms of variable consideration that are associated with the sale of LNG and natural gas to Sempra Mexico, and therefore, Sempra LNG records the related costs as an offset to revenues, with no impact to Sempra Energy's consolidated revenues.

We recognize storage revenue from firm capacity reservation agreements, under which we collect a fee for reserving storage capacity for customers in our storage facilities. Under these firm agreements, customers pay a monthly fixed reservation fee based on the storage capacity reserved rather than the actual volumes stored. For the fixed-fee component, revenue is recognized on a straight-line basis over the term of the contract. We bill customers for any capacity used in excess of the contracted capacity and such revenues are recognized in the month of occurrence. We also recognize revenue for interruptible storage services. As we discuss in Note 5, in February 2019, Sempra LNG completed the sale of its non-utility natural gas storage assets in the southeast U.S. (comprised of Mississippi Hub and Bay Gas).

We generate pipeline transportation revenues from firm agreements, under which customers pay a fee for reserving transportation capacity. Revenue is recognized when the volumes are delivered to the customers' agreed upon delivery point. We recognize revenues for our stand-ready obligation to provide capacity and transportation services throughout the contractual delivery period, as the benefits are received and consumed simultaneously as customers utilize pipeline capacity for the transport and receipt of natural gas and LPG. Invoiced amounts are based on a variable usage fee and a fixed capacity charge, adjusted for the Consumer Price Index, the effects of any foreign currency translation and the actual quantity of commodity transported.

Renewables Revenues

Sempra Mexico and, previously, Sempra Renewables develop, invest in and operate solar and wind facilities that have long-term PPAs to sell the electricity and the related green energy attributes they generate to customers, generally load serving entities, and also for Sempra Mexico, industrial and other customers. Load serving entities will sell electric service to their end-users and wholesale customers immediately upon receipt of our power delivery, and industrial and other customers immediately consume the electricity to run their facilities, and thus, we recognize the revenue under the PPAs as the electricity is generated and delivered. We invoice customers based on the volume of energy delivered at rates pursuant to the PPAs. As we discuss in Note 5, in December 2018, Sempra Renewables completed the sale of its U.S. operating solar assets, solar and battery storage development projects and its 50% ownership interest in a wind power generation facility. In April 2019, Sempra Renewables completed the sale of its remaining wind assets and investments.

Sempra LNG has a contractual agreement to provide scheduling and marketing of renewable power for Sempra Mexico's ESJ JV. Invoiced amounts are based on a fixed fee per MWh scheduled.

Other Revenues from Contracts with Customers

TdM is a natural gas-fired power plant that generates revenues from selling electricity and/or resource adequacy to the California ISO and to governmental, public utility and wholesale power marketing entities, as the power is delivered at the interconnection point.

Remaining Performance Obligations

We do not disclose information about remaining performance obligations for (a) contracts with an original expected length of one year or less, (b) variable consideration recognized at the amount at which we have the right to invoice for services performed, or (c) variable consideration allocated to wholly unsatisfied performance obligations.

For contracts greater than one year, at December 31, 2020, we expect to recognize revenue related to the fixed fee component of the consideration as shown below. Sempra Energy's remaining performance obligations primarily relate to capacity agreements for natural gas storage and transportation at Sempra Mexico. SoCalGas did not have any remaining performance obligations at December 31, 2020.

REMAINING PERFORMANCE OBLIGATIONS[1]

(Dollars in millions)

	Sempra Energy Consolidated	SDG&E
2021	$ 387	$ 4
2022	406	4
2023	407	4
2024	348	4
2025	351	4
Thereafter	4,361	67
Total revenues to be recognized	$ 6,260	$ 87

(1) *Excludes intercompany transactions.*

Contract Balances from Revenues from Contracts with Customers

From time to time, we receive payments in advance of satisfying the performance obligations associated with customer contracts. We defer such revenues as contract liabilities and recognize them in earnings as the performance obligations are satisfied.

Activities within Sempra Energy's and SDG&E's contract liabilities are presented below. There were no contract liabilities at SDG&E in 2018 or at SoCalGas in 2020, 2019 or 2018.

CONTRACT LIABILITIES

(Dollars in millions)

	2020	2019	2018
Sempra Energy Consolidated:			
Contract liabilities at January 1	$ (163)	$ (70)	$ —
Adoption of ASC 606	—	—	(61)
Revenue from performance obligations satisfied during reporting period	4	2	7
Payments received in advance	(48)	(95)	(16)
Contract liabilities at December 31[1]	$ (207)	$ (163)	$ (70)
SDG&E:			
Contract liabilities at January 1	$ (91)	$ —	
Revenue from performance obligations satisfied during reporting period	4	1	
Payments received in advance	—	(92)	
Contract liabilities at December 31[2]	$ (87)	$ (91)	

(1) *Balances at December 31, 2020 and 2019 include $52 million and $4 million, respectively, in Other Current Liabilities and $155 million and $159 million, respectively, in Deferred Credits and Other.*

(2) *Balances at December 31, 2020 and 2019 include $4 million and $4 million, respectively, in Other Current Liabilities and $83 million and $87 million, respectively, in Deferred Credits and Other.*

Receivables from Revenues from Contracts with Customers

The table below shows receivable balances associated with revenues from contracts with customers on the Consolidated Balance Sheets.

RECEIVABLES FROM REVENUES FROM CONTRACTS WITH CUSTOMERS
(Dollars in millions)

	December 31, 2020	December 31, 2019
Sempra Energy Consolidated:		
Accounts receivable – trade, net	$ 1,447	$ 1,163
Accounts receivable – other, net	12	16
Due from unconsolidated affiliates – current[(1)]	3	5
Total	$ 1,462	$ 1,184
SDG&E:		
Accounts receivable – trade, net	$ 573	$ 398
Accounts receivable – other, net	8	5
Due from unconsolidated affiliates – current[(1)]	2	2
Total	$ 583	$ 405
SoCalGas:		
Accounts receivable – trade, net	$ 786	$ 710
Accounts receivable – other, net	4	11
Total	$ 790	$ 721

(1) Amount is presented net of amounts due to unconsolidated affiliates on the Consolidated Balance Sheets, when right of offset exists.

REVENUES FROM SOURCES OTHER THAN CONTRACTS WITH CUSTOMERS

Certain of our revenues are derived from sources other than contracts with customers and are accounted for under other accounting standards outside the scope of ASC 606.

Utilities Regulatory Revenues

Alternative Revenue Programs

We recognize revenues from alternative revenue programs when the regulator-specified conditions for recognition have been met and adjust these revenues as they are recovered or refunded through future utility service.

Decoupled revenues. As discussed earlier, the regulatory framework requires the California Utilities to recover authorized revenue based on estimated annual demand forecasts approved in regular proceedings before the CPUC. However, actual demand for natural gas and electricity will generally vary from CPUC-approved forecasted demand due to the impacts from weather volatility, energy efficiency programs, rooftop solar and other factors affecting consumption. The CPUC regulatory framework provides for the California Utilities to use a “decoupling” mechanism, which allows the California Utilities to record revenue shortfalls or excess revenues resulting from any difference between actual and forecasted demand to be recovered or refunded in authorized revenue in a subsequent period based on the nature of the account.

Incentive mechanisms. The CPUC applies performance-based measures and incentive mechanisms to all California IOUs, under which the California Utilities have earnings potential above authorized base margins if they achieve or exceed specific performance and operating goals. Generally, for performance-based awards, if performance is above or below specific benchmarks, the utility is eligible for financial awards or subject to financial penalties.

Incentive awards are included in revenues when we receive required CPUC approval of the award, the timing of which may not be consistent from year to year. We would record penalties for results below the specified benchmarks against revenues when we believe it is probable that the CPUC would assess a penalty.

Other Cost-Based Regulatory Recovery

The CPUC, and the FERC as it relates to SDG&E, authorize the California Utilities to collect revenue requirements for operating costs and capital related costs (such as depreciation, taxes and return on rate base) from customers, including:

- costs to purchase natural gas and electricity;
- costs associated with administering public purpose, demand response, and customer energy efficiency programs;

- other programmatic activities, such as gas distribution, gas transmission, gas storage integrity management and wildfire mitigation; and
- costs associated with third party liability insurance premiums.

Authorized costs are recovered as the commodity or service is delivered. To the extent authorized amounts collected vary from actual costs, the differences are generally recovered or refunded within a subsequent period based on the nature of the balancing account mechanism. In general, the revenue recognition criteria for balanced costs billed to customers are met at the time the costs are incurred. Because these costs are substantially recovered in rates through a balancing account mechanism, changes in these costs are reflected as changes in revenues. The CPUC and the FERC may impose various review procedures before authorizing recovery or refund for programs authorized, including limitations on the total cost of the program, revenue requirement limits or reviews of costs for reasonableness. These procedures could result in disallowances of recovery from ratepayers.

We discuss balancing accounts and their effects further in Note 4.

Other Revenues

Sempra Mexico generates lease revenues from operating lease agreements with PEMEX and CENAGAS for the use of natural gas and ethane pipelines and LPG storage facilities. Certain PPAs at Sempra Renewables were also accounted for as operating leases prior to sale of its solar and wind assets in December 2018 and April 2019.

Sempra LNG has an agreement to supply LNG to Sempra Mexico's ECA Regas Facility. Although the LNG sale and purchase agreement specifies a number of cargoes to be delivered annually, actual cargoes delivered by the supplier have traditionally been significantly lower than the maximum specified under the agreement. As a result, Sempra LNG is contractually required to make monthly indemnity payments to Sempra Mexico for failure to deliver the contracted LNG.

Sempra LNG also recognizes other revenues from:

- fees related to contractual counterparty obligations for non-delivery of LNG cargoes, as described above; and
- sales of natural gas and electricity under short-term and long-term contracts and into the spot market and other competitive markets. Revenues include the net realized gains and losses on physical and derivative settlements and net unrealized gains and losses from the change in fair values of the derivatives.

NOTE 4. REGULATORY MATTERS

REGULATORY ASSETS AND LIABILITIES

We show the details of regulatory assets and liabilities in the following table and discuss them below.

REGULATORY ASSETS (LIABILITIES)
(Dollars in millions)

	December 31, 2020	December 31, 2019
SDG&E:		
Fixed-price contracts and other derivatives	$ (53)	$ 8
Deferred income taxes recoverable (refundable) in rates	22	(108)
Pension and other postretirement benefit plan obligations	50	103
Removal obligations	(2,121)	(2,056)
Environmental costs	56	45
Sunrise Powerlink fire mitigation	121	121
Regulatory balancing accounts[1][2]		
Commodity – electric	72	102
Gas transportation	35	22
Safety and reliability	67	77
Public purpose programs	(158)	(124)
2019 GRC retroactive impacts	56	111
Other balancing accounts	233	106
Other regulatory assets (liabilities), net[2]	72	(153)
Total SDG&E	(1,548)	(1,746)
SoCalGas:		
Deferred income taxes refundable in rates	(82)	(203)
Pension and other postretirement benefit plan obligations	417	400
Employee benefit costs	37	44
Removal obligations	(685)	(728)
Environmental costs	36	40
Regulatory balancing accounts[1][2]		
Commodity – gas, including transportation	(56)	(118)
Safety and reliability	335	295
Public purpose programs	(253)	(273)
2019 GRC retroactive impacts	202	400
Other balancing accounts	(58)	(7)
Other regulatory assets (liabilities), net[2]	75	(101)
Total SoCalGas	(32)	(251)
Sempra Mexico:		
Deferred income taxes recoverable in rates	80	83
Other regulatory assets	—	6
Total Sempra Energy Consolidated	$ (1,500)	$ (1,908)

(1) *At December 31, 2020 and 2019, the noncurrent portion of regulatory balancing accounts – net undercollected for SDG&E was $139 million and $108 million, respectively, and for SoCalGas was $218 million and $500 million, respectively.*

(2) *Includes regulatory assets earning a return.*

In the table above:

- Regulatory assets arising from fixed-price contracts and other derivatives are offset by corresponding liabilities arising from purchased power and natural gas commodity and transportation contracts. The regulatory asset is increased/decreased based on changes in the fair market value of the contracts. It is also reduced as payments are made for commodities and services under these contracts.
- Deferred income taxes refundable/recoverable in rates are based on current regulatory ratemaking and income tax laws. SDG&E, SoCalGas and Sempra Mexico expect to refund/recover net regulatory liabilities/assets related to deferred income

taxes over the lives of the assets that give rise to the related accumulated deferred income tax balances. Regulatory assets and liabilities include excess deferred income taxes resulting from statutory income tax rate changes and certain income tax benefits and expenses associated with flow-through items, which we discuss in Note 8.

- Regulatory assets/liabilities related to pension and other postretirement benefit plan obligations are offset by corresponding liabilities/assets and are being recovered in rates as the plans are funded.
- The regulatory asset related to employee benefit costs represents our liability associated with long-term disability insurance that will be recovered from customers in future rates as expenditures are made.
- Regulatory liabilities from removal obligations represent cumulative amounts collected in rates for future asset removal costs in excess of cumulative amounts incurred (or paid).
- Regulatory assets related to environmental costs represent the portion of our environmental liability recognized at the end of the period in excess of the amount that has been recovered through rates charged to customers. We expect this amount to be recovered in future rates as expenditures are made.
- The regulatory asset related to Sunrise Powerlink fire mitigation is offset by a corresponding liability for the funding of a trust to cover the mitigation costs. SDG&E expects to recover the regulatory asset in rates as the trust is funded over a remaining 49-year period.
- Over- and undercollected regulatory balancing accounts reflect the difference between customer billings and recorded or CPUC-authorized costs, including commodity costs. Depreciation, taxes and return on rate base may also be included in certain accounts. Amounts in the balancing accounts are recoverable (receivable) or refundable (payable) in future rates, subject to CPUC approval. The adopted revenue requirements in the 2019 GRC FD associated with the period from January 1, 2019 through December 31, 2019 are being recovered in rates over a 24-month period that began in January 2020.

Amortization expense on regulatory assets for the years ended December 31, 2020, 2019 and 2018 was $9 million, $7 million and $5 million, respectively, at Sempra Energy Consolidated, $4 million, $3 million and $2 million, respectively, at SDG&E, and $5 million, $4 million and $3 million, respectively, at SoCalGas.

CALIFORNIA UTILITIES

COVID-19 Pandemic Protections

In March 2020, the CPUC required that all energy companies under its jurisdiction, including the California Utilities, take action to implement several emergency customer protection measures to support California customers in light of the COVID-19 pandemic for up to one year. Currently, the customer protection measures are mandatory for all residential and small business customers. In February 2021, the CPUC extended the customer protection measures through June 2021 and may extend them further. Each of the California Utilities was authorized to track and request recovery of incremental costs associated with complying with residential and small business customer protection measures implemented by the CPUC related to the COVID-19 pandemic, including costs associated with suspending service disconnections and uncollectible expenses that arise from these customers' failure to pay. The California Utilities expect to pursue recovery of tracked costs in rates in a future CPUC proceeding, which recovery is not assured.

Disconnection OIR

In June 2020, the CPUC issued a decision to adopt certain customer protections to reduce residential customer disconnections and improve reconnection processes, including, among other things, imposing limitations on service disconnections, elimination of deposit requirements and reconnection fees, establishment of the AMP that provides successfully participating, income-qualified residential customers with relief from outstanding utility bill amounts, and increased outreach and marketing efforts. The decision allows each of the California Utilities to establish a two-way balancing account to record the uncollectible expenses associated with residential customers' inability to pay their electric or gas bills, including as a result of the relief from outstanding utility bill amounts provided under the AMP.

CPUC General Rate Case

The CPUC uses GRC proceedings to set rates designed to allow the California Utilities to recover their reasonable operating costs and to provide the opportunity to realize their authorized rates of return on their investments.

2019 General Rate Case

In September 2019, the CPUC issued a final decision in the 2019 GRC approving SDG&E's and SoCalGas' test year revenues for 2019 and attrition year adjustments for 2020 and 2021, which was effective retroactively to January 1, 2019. This is the first GRC that includes revenues authorized for risk assessment mitigation phase activities.

The 2019 GRC FD approved a test year 2019 revenue requirement of $1,990 million for SDG&E's combined operations ($1,590 million for its electric operations and $400 million for its natural gas operations) and $2,770 million for SoCalGas.

The increases include separately authorized components for O&M and capital-related costs, as follows:

AUTHORIZED REVENUE REQUIREMENT INCREASES FOR 2020 AND 2021

(Dollars in millions)

	2020 increase from 2019		2021 increase from 2020	
	Revenue increase	Percent increase	Revenue increase	Percent increase
SDG&E:				
O&M	$ 20	2.64 %	$ 19	2.47 %
Capital-related costs	114	9.74	83	6.47
Total increase	$ 134	6.74	$ 102	4.83
SoCalGas:				
O&M	$ 36	2.64 %	$ 34	2.40 %
Capital-related costs	184	14.36	116	7.93
Total increase	$ 220	7.92	$ 150	5.00

In January 2020, the CPUC issued a final decision implementing a four-year GRC cycle for California IOUs. The California Utilities were directed to file a petition for modification to revise their 2019 GRC to add two additional attrition years, resulting in a transitional five-year GRC period (2019-2023). The California Utilities filed the petition in April 2020 and requested authorization of their post-test year ratemaking mechanism for two additional years. We subsequently requested an updated increase in the revenue requirement for SDG&E and SoCalGas of approximately $91 million and $150 million, respectively, for 2022, and $104 million and $131 million, respectively, for 2023, reflecting certain adjustments. These amounts include revenues for both O&M and capital cost attrition. In June 2020, the CPUC issued a ruling to further clarify the issues for review in the California Utilities' petition, which are mainly whether the proposed revenue requirements and mechanisms for the two proposed additional attrition years are just and reasonable. In September 2020, the California Utilities filed a status report to summarize positions on how impacts of the COVID-19 pandemic should be incorporated into the proposed attrition rates. The California Utilities proposed to continue with the adopted attrition mechanism using the second quarter 2020 Global Insight utility cost forecast, which incorporates impacts of the COVID-19 pandemic. Intervenors have proposed other alternatives, including using escalation factors based on the Consumer Price Index. We expect a proposed decision in the first quarter of 2021.

The 2019 GRC FD approved the California Utilities' establishment of two-way liability insurance premium balancing accounts, including wildfire insurance premium costs based on a specific level of coverage. The 2019 GRC FD also permits the California Utilities to seek recovery of additional liability insurance coverage.

The 2019 GRC FD clarified that differences between incurred and forecasted income tax expense due to forecasting differences are not subject to tracking in the income tax expense memorandum account beginning in 2019. SDG&E and SoCalGas previously recorded regulatory liabilities, inclusive of interest, associated with the 2016 through 2018 tracked forecasting differences of $86 million and $89 million, respectively. In April 2020, the CPUC confirmed treatment of the two-way income tax expense memorandum account for these 2016 through 2018 balances, at which time the California Utilities released these regulatory liability balances to revenues and regulatory interest.

CPUC Cost of Capital

In December 2019, the CPUC approved the cost of capital and rate structures (shown in the table below) for SDG&E and SoCalGas that became effective on January 1, 2020 and will remain in effect through December 31, 2022. SDG&E did not propose a 2020 cost of preferred equity in this proceeding. In January 2020, SDG&E filed an advice letter to continue the cost of preferred equity for test year 2020 at 6.22%, which the CPUC approved in March 2020.

CPUC AUTHORIZED COST OF CAPITAL AND RATE STRUCTURE

SDG&E				SoCalGas		
Authorized weighting	Return on rate base	Weighted return on rate base		Authorized weighting	Return on rate base	Weighted return on rate base
45.25 %	4.59 %	2.08 %	**Long-Term Debt**	45.60 %	4.23 %	1.93 %
2.75	6.22	0.17	**Preferred Equity**	2.40	6.00	0.14
52.00	10.20	5.30	**Common Equity**	52.00	10.05	5.23
100.00 %		**7.55 %**		**100.00 %**		**7.30 %**

The CCM was reauthorized in the 2020 cost of capital proceeding to continue through 2022. SDG&E's CCM benchmark rate is 4.498%, based on Moody's Baa- utility bond index, and SoCalGas' CCM benchmark rate is 4.029%, based on Moody's A- utility bond index. The index applicable to each utility is based on each utility's credit rating. The CCM benchmark rates for SDG&E and SoCalGas are the basis of comparison to determine if future measurement periods "trigger" the CCM. For the 12 months ended September 2020, the first "CCM Period," the trigger did not occur for SDG&E or SoCalGas. The next CCM Period is from October 2020 to September 2021. The CCM, if triggered in 2021, would be effective January 1, 2022, and would automatically update the authorized cost of debt based on actual costs and update the authorized ROE upward or downward by one-half of the difference between the CCM benchmark and the applicable 12-month average Moody's utility bond index.

SDG&E

FERC Rate Matters and Cost of Capital

SDG&E files separately with the FERC for its authorized ROE on FERC-regulated electric transmission operations and assets.

SDG&E's TO4 ROE of 10.05% was the basis of SDG&E's FERC-related revenue recognition until March 2020, when the FERC approved the settlement terms that SDG&E and all settling parties reached in October 2019 on SDG&E's TO5 filing. The settlement agreement provided for a ROE of 10.60%, consisting of a base ROE of 10.10% plus an additional 50 bps for participation in the California ISO. If the FERC issues an order ruling that California IOUs are no longer eligible for the additional California ISO ROE, SDG&E would refund the additional 50 bps of ROE associated with the California ISO as of the refund effective date (June 1, 2019) in this proceeding. The TO5 term is effective June 1, 2019 and shall remain in effect indefinitely, with parties having the annual right to terminate the agreement beginning in 2022. In 2020, SDG&E recorded retroactive revenues of $12 million related to 2019, and additional FERC revenues of $17 million to conclude a rate base matter, net of certain refunds to be paid to CPUC-jurisdictional customers.

Energy Efficiency Program Inquiry

In January 2020, the CPUC issued a ruling seeking comments on a report prepared by its consultant regarding SDG&E's Upstream Lighting Program for the program year 2017. The CPUC subsequently expanded the scope of the comments to cover the program year 2018. The Upstream Lighting Program was one of SDG&E's Energy Efficiency programs designed to produce energy efficiency savings for which SDG&E could earn a performance-based incentive.

Pursuant to the CPUC ruling, intervenors representing ratepayers have questioned SDG&E's management of the program and alleged that certain program expenditures did not benefit the purpose of the program. As a result of the inquiry, SDG&E voluntarily expanded its review to include the program year 2019. Based on this review and discussions with intervenors, SDG&E concluded that some concessions were appropriate, which include refunding certain costs and certain performance-based incentives to customers and incurring a fine. Accordingly, in the year ended December 31, 2020, SDG&E reduced revenues by $51 million and recorded a fine of $6 million in Other (Expense) Income, Net, on the SDG&E and Sempra Energy Consolidated Statements of Operations. The after-tax impact for the year ended December 31, 2020 was $44 million. In October 2020, SDG&E executed a settlement agreement with intervenors consistent with these concessions. We expect CPUC approval of the settlement agreement in 2021.

SOCALGAS

OSCs – Energy Efficiency and Advocacy

In October 2019, the CPUC issued an OSC to determine whether SoCalGas should be sanctioned for violation of certain CPUC code sections and orders. The OSC stemmed from approximately 40 days and $9,000 of transitional energy efficiency (EE) codes

and standards advocacy activities undertaken by SoCalGas in 2018, following a CPUC decision disallowing SoCalGas' future engagement in EE statewide codes and standards advocacy.

In December 2019, the CPUC issued a second OSC to determine whether SoCalGas is entitled to the EE program's shareholder incentives for codes and standards advocacy in 2016 and 2017, whether its shareholders should bear the costs of those advocacy activities, and to address whether any other remedies are appropriate. The scope of this OSC was later expanded to include EE program years 2014 and 2015, and SoCalGas' engagement with local governments on proposed reach codes.

Intervenors in these OSCs have suggested the CPUC order various financial and non-financial penalties. If the CPUC were to assess fines or penalties on SoCalGas associated with these OSCs, they could be material. We expect CPUC decisions on these OSCs in the first half of 2021.

Billing Practices OII

In May 2017, the CPUC issued an OII to determine whether SoCalGas violated any provisions of the California Public Utilities Code, General Orders, CPUC decisions, or other requirements pertaining to billing practices from 2014 through 2016. The CPUC examined the timeliness of monthly bills, extending the billing period for customers, and issuing estimated bills, including an examination of SoCalGas' gas tariff rules. In January 2019, the CPUC ordered SoCalGas to pay $8 million in penalties, including $3 million that was paid in July 2019 to California's general fund and $5 million to be credited to customers that received delayed bills (greater than 45 days) in the form of a $100 bill credit.

NOTE 5. ACQUISITIONS, DIVESTITURES AND DISCONTINUED OPERATIONS

We consolidate assets acquired and liabilities assumed as of the purchase date and include earnings from acquisitions in consolidated earnings after the purchase date.

ACQUISITIONS

Sempra Texas Utilities

TTHC

In February 2020, STIH acquired an additional indirect, 0.1975% interest in Oncor through its acquisition of a 1% interest in TTHC from Hunt Strategic Utility Investment, L.L.C. (Hunt), including notes receivable due from TTHC with an aggregate outstanding balance of approximately $6 million, for a total purchase price of approximately $23 million in cash, bringing Sempra Energy's indirect ownership interest in Oncor to approximately 80.45%. TTHC indirectly owns 100% of TTI, which owns 19.75% of Oncor's outstanding membership interests. At the acquisition date, we determined the fair value of the notes receivable was $7 million based on a discounted cash flow model, and attributed $16 million to the investment in TTHC, which we recorded as an equity method investment.

STIH's acquisition of the 1% interest was the subject of a lawsuit filed in the Delaware Court of Chancery by the owners of the remaining 99% ownership interest in TTHC. STIH purchased its 1% interest in TTHC in February 2020 after the Delaware Court of Chancery decided, among other things, that STIH's right to purchase the 1% interest was superior to that of the remaining owners of TTHC. The remaining owners appealed that decision and, in May 2020, the Delaware Supreme Court reversed the Delaware Court of Chancery's ruling and remanded the case back to the Delaware Court of Chancery. In September 2020, the Delaware Court of Chancery ordered, among other things, the rescission of STIH's purchase of the 1% interest in TTHC. The parties have complied with the court's order and Sempra Energy's indirect ownership in Oncor has returned to 80.25%. We received a full refund of the purchase price from Hunt in September 2020 and have fully unwound the acquisition.

Oncor Holdings

In March 2018, Sempra Energy completed the acquisition of an indirect, 100% interest in Oncor Holdings, which owned 80.03% of Oncor, and other EFH assets and liabilities unrelated to Oncor. We paid consideration of $9.45 billion in cash and an additional $31 million representing an adjustment for dividends and payments pursuant to a tax sharing agreement with Oncor and Oncor Holdings. Also in March 2018, in a separate transaction, Sempra Energy, through its interest in Oncor Holdings, acquired an additional 0.22% of the outstanding membership interests in Oncor from Oncor Management Investment LLC for $26 million in

cash, bringing Sempra Energy's indirect ownership in Oncor to 80.25%. TTI continues to own 19.75% of Oncor's outstanding membership interest.

Due to ring-fencing measures, existing governance mechanisms and commitments in effect, we do not have the power to direct the significant activities of Oncor Holdings and Oncor. Consequently, we account for our 100% ownership interest in Oncor Holdings as an equity method investment. See Note 6 for additional information about our equity method investment in Oncor Holdings and related ring-fencing measures.

The total purchase price paid was comprised of the following:

- $9,450 million of merger consideration;
- $31 million adjustment for dividends and payments pursuant to a tax sharing agreement with Oncor and Oncor Holdings;
- $26 million paid in a separate transaction to acquire an additional 0.22% of the outstanding membership interests in Oncor from Oncor Management Investment LLC; and
- $59 million of transaction costs included in the basis of our investment in Oncor Holdings.

We accounted for the merger as an asset acquisition, as the equity method investment in Oncor Holdings represents substantially all of the fair value of the gross assets acquired. Other EFH assets and liabilities unrelated to Oncor that were acquired have been subsumed into our parent organization, Parent and other. The following table sets forth the allocation of the total purchase price paid to the identifiable assets acquired and liabilities assumed.

PURCHASE PRICE ALLOCATION
(Dollars in millions)

	At March 9, 2018[1]
Assets acquired:	
Accounts receivable – other, net	$ 1
Due from unconsolidated affiliates	46
Investment in Oncor Holdings	9,227
Deferred income tax assets	287
Other noncurrent assets	109
Total assets acquired	9,670
Liabilities assumed:	
Other current liabilities	23
Pension and other postretirement benefit plan obligations	21
Deferred credits and other	58
Total liabilities assumed	102
Net assets acquired	$ 9,568
Total purchase price paid	$ 9,568

(1) *As adjusted for post-closing items.*

The fair value of the equity method investment in Oncor Holdings is primarily attributable to Oncor's business. Therefore, we considered the underlying assets and liabilities of Oncor when determining the fair value of our equity method investment. As a regulated entity, Oncor's rates are set and approved by the PUCT, and are designed to recover the cost of providing service and the opportunity to earn a reasonable return on its investments. Accordingly, Oncor applies the guidance under the provisions of U.S. GAAP governing rate-regulated operations. Under U.S. GAAP, regulation is viewed as being a characteristic (restriction) of a regulated entity's assets and liabilities, and the impact of regulation is considered a fundamental input to measuring the fair value of Oncor's assets and liabilities. Under this premise, we concluded that the carrying values of all assets and liabilities recoverable through rates are representative of their fair values.

In May 2019, Oncor completed the acquisition of 100% of the issued and outstanding shares of InfraREIT and 100% of the limited partnership units of its subsidiary, InfraREIT Partners, LP. Oncor paid consideration of $1,275 million, or $21 per share, plus certain transaction costs incurred by InfraREIT and its subsidiaries and paid by Oncor on their behalf, including $40 million for a management agreement termination fee. Oncor received a total of $1,330 million in capital contributions from Sempra Energy and certain indirect equity holders of TTI, proportionate to their respective ownership interest in Oncor, to fund the purchase price and certain expenses.

As part of Oncor's acquisition of interests in InfraREIT, immediately prior to closing the InfraREIT acquisition, SDTS accepted and assumed certain assets and liabilities of Sharyland Utilities, LP in exchange for certain SDTS assets. SDTS received real

property and other assets used in the electric transmission and distribution business in Central, North and West Texas, as well as the equity interests in GS Project Entity, LLC (a wholly owned subsidiary of Sharyland Utilities, LP), and Sharyland Utilities, LP received real property and other assets used in the electric transmission and distribution business near the Texas-Mexico border. Immediately prior to the completion of the exchange, SDTS became a wholly owned, indirect subsidiary of InfraREIT Partners, LP.

Sharyland Holdings

In May 2019, Sempra Energy acquired an indirect, 50% interest in Sharyland Holdings for $95 million (net of $7 million in post-closing adjustments). In connection with and prior to the consummation of the acquisition, Sharyland Holdings owned 100% of the membership interests in Sharyland Utilities, LP and Sharyland Utilities, LP converted into a limited liability company, named Sharyland Utilities, L.L.C. We account for our indirect, 50% interest in Sharyland Holdings as an equity method investment.

Sempra South American Utilities

Compañía Transmisora del Norte Grande S.A.

In December 2018, Chilquinta Energía acquired a 100% interest in Compañía Transmisora del Norte Grande S.A. through a sales and purchase agreement with AES Gener S.A. and its subsidiary Sociedad Eléctrica Angamos S.A. We completed the acquisition for a purchase price of $226 million and paid $208 million (net of $18 million cash acquired) with available cash on hand at our former Sempra South American Utilities segment, which is presented in and was included as part of the sale of discontinued operations.

We accounted for this business combination using the acquisition method of accounting. At the acquisition date, we allocated the $208 million in cash paid to the identifiable assets acquired ($231 million) and liabilities assumed ($43 million) based on their respective fair values, with the excess recognized as goodwill ($38 million), which are included below in the “Assets Held for Sale in Discontinued Operations” table.

PENDING ACQUISITION

Sempra Mexico

ESJ

In February 2021, IEnova agreed to acquire Saavi Energía’s 50% interest in ESJ for approximately $83 million. At December 31, 2020, IEnova owned a 50% interest in ESJ, which is accounted for as an equity method investment. Upon completion of the acquisition, IEnova will own 100% of ESJ and will consolidate it. ESJ owns a fully operating wind power generation facility with a nameplate capacity of 155 MW that is fully contracted by SDG&E. ESJ is constructing a second wind power generation facility, which we expect will be completed in late 2021 or in the first quarter of 2022 and will have a nameplate capacity of 108 MW. We expect to complete the acquisition in the first half of 2021, subject to various closing conditions, including authorizations from the FERC and COFECE.

DIVESTITURES

In June 2018, our board of directors approved a plan to divest certain non-utility natural gas storage assets in the southeast U.S., and all our U.S. wind and U.S. solar assets (collectively, the Assets). As a result, we recorded impairment charges totaling $1.5 billion ($900 million after tax and NCI) in June 2018, which included $1.3 billion ($755 million after tax and NCI) at Sempra LNG, included in Impairment Losses on Sempra Energy’s Consolidated Statements of Operations, and $200 million ($145 million after tax) at Sempra Renewables, included in Equity Earnings on Sempra Energy’s Consolidated Statements of Operations. In December 2018, we reduced the impairment of $1.3 billion recorded at Sempra LNG in June 2018 by $183 million ($126 million after tax and NCI) as a result of the sales agreement for certain storage assets described below, resulting in a total impairment charge of $1.1 billion ($629 million after tax and NCI) for the year ended December 31, 2018. These impairment charges primarily represented an adjustment of the related assets’ carrying values to estimated fair values, less costs to sell when applicable, which we discuss in Notes 6 and 12.

Sempra LNG

In February 2019, Sempra LNG completed the sale of its non-utility natural gas storage assets in the southeast U.S. (comprised of Mississippi Hub and Bay Gas), which we classified as held for sale at December 31, 2018, and received cash proceeds of $322 million, net of transaction costs. In January 2019, Sempra LNG completed the sale of other non-utility assets for $5 million.

Sempra Renewables

In December 2018, Sempra Renewables completed the sale of the following assets for cash proceeds of $1.6 billion:

- its operating solar assets, including assets that we owned through JVs or through tax equity arrangements (other than those interests held by tax equity investors);
- its solar and battery storage development projects; and
- its 50% interest in the Broken Bow 2 wind generation facility.

In 2018, we recognized a pretax gain of $513 million ($367 million after tax) in Gain on Sale of Assets on Sempra Energy's Consolidated Statement of Operations.

The following table summarizes the deconsolidation of these subsidiaries in 2018.

DECONSOLIDATION OF SUBSIDIARIES
(Dollars in millions)

	Certain subsidiaries of Sempra Renewables
	At December 13, 2018
Proceeds from sale, net of transaction costs	$ 1,585
Cash	(7)
Restricted cash	(7)
Other current assets	(14)
Property, plant and equipment, net	(1,303)
Other investments	(329)
Other long-term assets	(24)
Current liabilities	8
Long-term debt	70
Asset retirement obligations	52
Other long-term liabilities	5
Noncontrolling interests	486
Accumulated other comprehensive income	(9)
Gain on sale	$ 513

In April 2019, Sempra Renewables completed the sale of its remaining wind assets and investments for $569 million, net of transaction costs, and recorded a $61 million ($45 million after tax and NCI) gain, which is included in Gain on Sale of Assets on the Sempra Energy Consolidated Statements of Operations. Upon completion of the sale, remaining nominal business activities at Sempra Renewables were subsumed into Parent and other and the Sempra Renewables segment ceased to exist.

DISCONTINUED OPERATIONS

In January 2019, our board of directors approved a plan to sell our South American businesses. We present these businesses, which previously constituted the Sempra South American Utilities segment, and certain activities associated with those businesses as discontinued operations.

In April 2020, we completed the sale of our equity interests in our Peruvian businesses, including our 83.6% interest in Luz del Sur and our interest in Tecsur, to an affiliate of China Yangtze Power International (Hongkong) Co., Limited for cash proceeds of $3,549 million, net of transaction costs and as adjusted for post-closing adjustments, and recorded a pretax gain of $2,271 million ($1,499 million after tax).

In June 2020, we completed the sale of our equity interests in our Chilean businesses, including our 100% interest in Chilquinta Energía and Tecnored and our 50% interest in Eletrans, to State Grid International Development Limited for cash proceeds of $2,216 million, net of transaction costs and as adjusted for post-closing adjustments, and recorded a pretax gain of $628 million ($248 million after tax).

In the year ended December 31, 2020, the pretax gains from the sales of our South American businesses are included in Gain on Sale of Discontinued Operations in the table below and the after-tax gains are included in Income from Discontinued Operations, Net of Income Tax, on the Sempra Energy Consolidated Statements of Operations.

Summarized results from discontinued operations were as follows:

DISCONTINUED OPERATIONS
(Dollars in millions)

	Years ended December 31,		
	2020[1]	2019	2018
Revenues	$ 570	$ 1,614	$ 1,585
Cost of sales	(364)	(1,012)	(1,041)
Gain on sale of discontinued operations	2,899	—	—
Operating expenses	(66)	(159)	(206)
Interest and other	(3)	(11)	(6)
Income before income taxes and equity earnings	3,036	432	332
Income tax expense	(1,186)	(72)	(145)
Equity earnings	—	3	1
Income from discontinued operations, net of income tax	1,850	363	188
Earnings attributable to noncontrolling interests	(10)	(35)	(32)
Earnings from discontinued operations attributable to common shares	$ 1,840	$ 328	$ 156

(1) *Results include activity until deconsolidation of our Peruvian businesses on April 24, 2020 and Chilean businesses on June 24, 2020 and post-closing adjustments related to the sales of these businesses.*

The following table summarizes the carrying amounts of the major classes of assets and related liabilities classified as held for sale in discontinued operations.

ASSETS HELD FOR SALE IN DISCONTINUED OPERATIONS
(Dollars in millions)

	December 31, 2019
Cash and cash equivalents	$ 74
Restricted cash[1]	1
Accounts receivable, net	303
Due from unconsolidated affiliates	2
Inventories	36
Other current assets	29
Current assets	$ 445
Due from unconsolidated affiliates	$ 54
Goodwill and other intangible assets	801
Property, plant and equipment, net	2,618
Other noncurrent assets	40
Noncurrent assets	$ 3,513
Short-term debt	$ 52
Accounts payable	201
Current portion of long-term debt and finance leases	85
Other current liabilities	106
Current liabilities	$ 444
Long-term debt and finance leases	$ 702
Deferred income taxes	284
Other noncurrent liabilities	66
Noncurrent liabilities	$ 1,052

(1) *Primarily represents funds held in accordance with Peruvian tax law.*

As a result of the sales of our South American businesses, in 2020, we reclassified $645 million of cumulative foreign currency translation losses from AOCI to Gain on Sale of Discontinued Operations, which is included in Income from Discontinued Operations, Net of Income Tax, on the Sempra Energy Consolidated Statements of Operations.

NOTE 6. INVESTMENTS IN UNCONSOLIDATED ENTITIES

We generally account for investments under the equity method when we have significant influence over, but do not have control of, these entities. Equity earnings and losses, both before and net of income tax, are combined and presented as Equity Earnings on the Consolidated Statements of Operations.

Our equity method investments include various domestic and foreign entities. Our domestic equity method investees are typically partnerships that are pass-through entities for income tax purposes and therefore they do not record income tax. Sempra Energy's income tax on earnings from these equity method investees, other than Oncor Holdings as we discuss below, is included in Income Tax (Expense) Benefit on the Consolidated Statements of Operations. Our foreign equity method investees are generally corporations whose operations are taxable on a standalone basis in the countries in which they operate, and we recognize our equity in such income or loss net of investee income tax. See Note 8 for information on how equity earnings and losses before income taxes are factored into the calculations of our pretax income or loss and ETR.

We provide the carrying values of our investments and earnings (losses) on these investments in the following tables.

EQUITY METHOD AND OTHER INVESTMENT BALANCES
(Dollars in millions)

	Percent ownership December 31,		December 31,	
	2020	2019	2020	2019
Sempra Texas Utilities:				
Oncor Holdings[1]	100 %	100 %	$ 12,440	$ 11,519
Sempra Texas Utilities:				
Sharyland Holdings[2]	50	50	$ 102	$ 100
Sempra Mexico:				
ESJ[3]	50	50	34	39
IMG JV[4]	40	40	440	337
TAG JV[5]	50	50	378	365
Sempra LNG:				
Cameron LNG JV[6]	50.2	50.2	433	1,256
Total other equity method investments			1,387	2,097
Other			1	6
Total other investments			$ 1,388	$ 2,103

(1) *The carrying value of our equity method investment is $2,833 million and $2,823 million higher than the underlying equity in the net assets of the investee at December 31, 2020 and 2019, respectively, due to $2,868 million of equity method goodwill and $69 million in basis differences in AOCI, offset by $104 million at December 31, 2020 and $114 million at December 31, 2019 due to a tax sharing liability to TTI under a tax sharing agreement.*

(2) *The carrying value of our equity method investment is $42 million higher than the underlying equity in the net assets of the investee due to equity method goodwill.*

(3) *The carrying value of our equity method investment is $12 million higher than the underlying equity in the net assets of the investee due to the remeasurement of our retained investment to fair value in 2014.*

(4) *The carrying value of our equity method investment is $5 million higher than the underlying equity in the net assets of the investee due to guarantees.*

(5) *The carrying value of our equity method investment is $130 million higher than the underlying equity in the net assets of the investee due to equity method goodwill.*

(6) *The carrying value of our equity method investment is $259 million and $263 million higher than the underlying equity in the net assets of the investee at December 31, 2020 and 2019, respectively, primarily due to guarantees, which we discuss below, interest capitalized on the investment prior to the JV commencing its planned principal operations in August 2019 and amortization of guarantee fees and capitalized interest thereafter.*

EARNINGS (LOSSES) FROM EQUITY METHOD INVESTMENTS
(Dollars in millions)

	Years ended December 31,		
	2020	2019	2018
EARNINGS (LOSSES) RECORDED BEFORE INCOME TAX[1]:			
Sempra Texas Utilities:			
Sharyland Holdings	$ 3	$ 2	$ —
Sempra LNG:			
Cameron LNG JV	391	24	—
Sempra Renewables:			
Wind:			
Auwahi Wind	—	—	3
Broken Bow 2 Wind	—	—	(2)
Cedar Creek 2 Wind	—	—	(1)
Flat Ridge 2 Wind[2]	—	(3)	(178)
Fowler Ridge 2 Wind	—	5	3
Mehoopany Wind[2]	—	1	(30)
Solar:			
California solar partnership	—	—	8
Copper Mountain Solar 2	—	—	5
Copper Mountain Solar 3	—	—	8
Mesquite Solar 1	—	—	18
Other	—	2	(3)
Parent and other:			
RBS Sempra Commodities[2]	(100)	—	(67)
Other	—	(1)	—
	294	30	(236)
EARNINGS RECORDED NET OF INCOME TAX:			
Sempra Texas Utilities:			
Oncor Holdings	577	526	371
Sempra Mexico:			
ESJ	5	2	2
IMG JV	103	9	29
TAG JV	36	13	9
	721	550	411
Total	$ 1,015	$ 580	$ 175

(1) *We provide our ETR calculation in Note 8.*
(2) *Losses from equity method investment in 2018 include an other-than-temporary impairment charge, which we discuss below.*

We disclose distributions received from our investments, by segment, in the table below.

DISTRIBUTIONS FROM INVESTMENTS
(Dollars in millions)

	Years ended December 31,		
	2020	2019	2018
Sempra Texas Utilities	$ 286	$ 246	$ 149
Sempra Mexico	8	2	—
Sempra LNG	1,168	—	—
Sempra Renewables	—	1	63
Parent and other	—	7	—
Total	$ 1,462	$ 256	$ 212

At December 31, 2020 and 2019, our share of the undistributed earnings of equity method investments was $1.1 billion and $634 million, respectively, including $792 million at December 31, 2020 in undistributed earnings from investments for which we have more than 50% equity interests.

SEMPRA TEXAS UTILITIES

Oncor Holdings

As we discuss in Note 5, in March 2018, we completed the acquisition of an indirect, 100% interest in Oncor Holdings, which owns an 80.25% interest in Oncor. Sempra Energy does not control Oncor Holdings or Oncor, and the ring-fencing measures, governance mechanisms and commitments in effect limit our ability to direct the management, policies and operations of Oncor Holdings and Oncor, including the deployment or disposition of their assets, declarations of dividends, strategic planning and other important corporate issues and actions. We also have limited representation on the Oncor Holdings and Oncor boards of directors. As we do not have the power to direct the significant activities of Oncor Holdings and Oncor, we account for our 100% ownership interest in Oncor Holdings as an equity method investment.

Oncor is a domestic partnership for U.S. federal income tax purposes and is not included in the consolidated income tax return of Sempra Energy. Rather, only our pretax equity earnings from our investment in Oncor Holdings (a disregarded entity for tax purposes) are included in our consolidated income tax return. A tax sharing agreement with TTI, Oncor Holdings and Oncor provides for the calculation of an income tax liability substantially as if Oncor Holdings and Oncor were taxed as corporations and requires tax payments determined on that basis. While partnerships are not subject to income taxes, in consideration of the tax sharing agreement and Oncor being subject to the provisions of U.S. GAAP governing rate-regulated operations, Oncor recognizes amounts determined under cost-based regulatory rate-setting processes (with such costs including income taxes), as if it were taxed as a corporation. As a result, since Oncor Holdings consolidates Oncor, we recognize equity earnings from our investment in Oncor Holdings net of its recorded income tax.

We provide summarized income statement and balance sheet information for Oncor Holdings in the following table.

SUMMARIZED FINANCIAL INFORMATION – ONCOR HOLDINGS

(Dollars in millions)

	Year ended December 31,		March 9 - December 31,
	2020	2019	2018
Operating revenues	$ 4,511	$ 4,347	$ 3,347
Operating expense	(3,224)	(3,135)	(2,434)
Income from operations	1,287	1,212	913
Interest expense	(405)	(375)	(285)
Income tax expense	(146)	(131)	(119)
Net income	703	643	455
Noncontrolling interest held by TTI	(141)	(129)	(94)
Earnings attributable to Sempra Energy	562	514	360

	At December 31,	
	2020	2019
Current assets	$ 1,045	$ 913
Noncurrent assets	28,022	26,012
Current liabilities	1,120	1,626
Noncurrent liabilities	15,611	14,125
Noncontrolling interest held by TTI	2,737	2,473

In 2020 and 2019, Sempra Energy contributed $632 million and $1,587 million, respectively, to Oncor Holdings, including $1,067 million in 2019 to fund Oncor's May 2019 acquisition of interests in InfraREIT and certain acquisition-related expenses. In 2018, Sempra Energy contributed $230 million in cash to Oncor Holdings.

Sharyland Holdings

As we discuss in Note 5, in May 2019, we acquired an indirect, 50% interest in Sharyland Holdings, which owns a 100% interest in Sharyland Utilities, for $95 million, net of $7 million in post-closing adjustments, which we account for as an equity method investment. In 2019, we invested cash of $3 million in Sharyland Holdings.

SEMPRA MEXICO

ESJ

As we discuss in Note 5, in February 2021, IEnova agreed to acquire Saavi Energía's 50% interest in ESJ for approximately $83 million. At December 31, 2020, IEnova owned a 50% interest in ESJ, which is accounted for as an equity method investment. Upon completion of the acquisition, IEnova will own 100% of ESJ and will consolidate it. We expect to complete the acquisition in the first half of 2021, subject to various closing conditions, including authorizations from the FERC and COFECE.

IMG JV

IEnova has a 40% interest in IMG JV, a JV with a subsidiary of TC Energy, and accounts for its interest as an equity method investment. IMG JV owns and operates the Sur de Texas-Tuxpan natural gas marine pipeline, which is fully contracted under a 35-year natural gas transportation service contract with the CFE and commenced commercial operation in September 2019. In 2018, Sempra Mexico invested cash of $80 million in IMG JV.

SEMPRA LNG

Cameron LNG JV

Cameron LNG JV was formed in October 2014 among Sempra Energy and three project partners, TOTAL SE, Mitsui & Co., Ltd., and Japan LNG Investment, LLC, a company jointly owned by Mitsubishi Corporation and Nippon Yusen Kabushiki Kaisha. We account for our 50.2% investment in Cameron LNG JV under the equity method.

Cameron LNG JV operates a three-train natural gas liquefaction export facility with a nameplate capacity of 13.9 Mtpa of LNG, with an export capacity of 12 Mtpa of LNG, or approximately 1.7 Bcf per day. Cameron LNG JV achieved commercial operations of Train 1, Train 2 and Train 3 under its tolling agreements in August 2019, February 2020 and August 2020, respectively. Prior to commencing full commercial operation, Sempra LNG capitalized interest of $33 million in 2019 and $47 million in 2018 related to this equity method investment. In 2020, 2019 and 2018, Sempra LNG contributed $54 million, $77 million and $228 million, respectively, to Cameron LNG JV.

Cameron LNG JV Financing

General. In August 2014, Cameron LNG JV entered into finance documents (collectively, Loan Facility Agreements) for senior secured financing in an initial aggregate principal amount of up to $7.4 billion under three debt facilities provided by the Japan Bank for International Cooperation (JBIC) and 29 international commercial banks, some of which will benefit from insurance coverage provided by Nippon Export and Investment Insurance (NEXI).

The Loan Facility Agreements and related finance documents provide senior secured term loans with a maturity date of July 15, 2030. The proceeds of the loans were used for financing the cost of development and construction of the three-train Cameron LNG project. The Loan Facility Agreements and related finance documents contain customary representations and affirmative and negative covenants for project finance facilities of this kind with the lenders of the type participating in the Cameron LNG JV financing.

In December 2019, Cameron LNG JV refinanced the commercial bank portion of the Loan Facility Agreements not covered by NEXI with $3.0 billion of senior secured notes issued in a private placement bond offering. The senior secured notes bear interest at a weighted-average fixed rate of 3.39% at December 31, 2020 with a weighted-average tenor of 15.4 years.

Interest. The weighted-average all-in cost of the loans that remain outstanding under the original Loan Facility Agreements (and based on certain assumptions as to timing of drawdown) is 0.98% per annum over LIBOR prior to financial completion of the project and 1.22% per annum over LIBOR following financial completion of the project. The original Loan Facility Agreements required Cameron LNG JV to hedge 50% of outstanding borrowings to fix the interest rate, beginning in 2016. The hedges are to remain in place until the debt principal has been amortized by 50%. In November 2014, Cameron LNG JV entered into floating-to-fixed interest rate swaps for approximately $3.7 billion notional amount, resulting in an effective fixed rate of 3.19% for the LIBOR component of the interest rate on the loans. In June 2015, Cameron LNG JV entered into additional floating-to-fixed interest rate swaps effective starting in 2020, for approximately $1.5 billion notional amount, resulting in an effective fixed rate of 3.32% for the LIBOR component of the interest rate on the loans. In December 2019, approximately $790 million of the $1.5 billion notional amount was terminated as a result of the refinancing, resulting in an effective fixed rate of 3.26% for the LIBOR component of the interest rate on the remaining loans outstanding.

The weighted-average all-in cost of the loans outstanding under the original Loan Facility Agreements and the newly issued senior secured notes is 3.72%.

Guarantees. In August 2014 and December 2019, Sempra Energy entered into agreements for the benefit of all of Cameron LNG JV's creditors under the original Loan Facility Agreements and the newly issued senior secured notes, respectively. Pursuant to these agreements, Sempra Energy has severally guaranteed 50.2% of Cameron LNG JV's obligations under the original Loan Facility Agreements and the newly issued senior secured notes, or a maximum amount of $4.0 billion. Guarantees for the remaining 49.8% of Cameron LNG JV's senior secured financing have been provided by the other project owners. Sempra Energy's agreements and guarantees will terminate upon financial completion of the three-train liquefaction project, which is subject to satisfaction of certain conditions, including all three trains achieving commercial operations and meeting certain operational performance tests that are currently underway. We expect the project to achieve financial completion and the guarantees to be terminated in the first half of 2021, but this timing could be delayed, perhaps substantially, if these operational performance tests are not completed due to weather-related events, other events or other factors beyond our control. Sempra Energy recorded a liability of $82 million in October 2014 for the fair value of its obligations associated with the original Loan Facility Agreements, which constitute guarantees. This liability was fully amortized at December 31, 2019. Sempra Energy recorded a liability of $3 million in December 2019, with an associated carrying value of $1 million at December 31, 2020, for the fair value of its obligations associated with Cameron LNG JV's newly issued senior secured notes, which also constitute guarantees. This liability will be reduced on a straight-line basis over the duration of the guarantees by decreasing our investment in Cameron LNG JV.

In August 2014, Sempra Energy and the other project owners entered into a transfer restrictions agreement with Société Générale, as intercreditor agent for the lenders under the Loan Facility Agreements. Pursuant to the transfer restriction agreement, Sempra Energy agreed to certain restrictions on its ability to dispose of Sempra Energy's indirect fully diluted economic and beneficial ownership interests in Cameron LNG JV. These restrictions vary over time. Prior to financial completion of the three-train Cameron LNG project, Sempra Energy must retain 37.65% of such interest in Cameron LNG JV. Starting six months after financial completion of the three-train Cameron LNG project, Sempra Energy must retain at least 10% of the indirect fully diluted economic and beneficial ownership interest in Cameron LNG JV. In addition, at all times, a Sempra Energy controlled (but not necessarily wholly owned) subsidiary must directly own 50.2% of the membership interests of Cameron LNG JV.

Events of Default. Cameron LNG JV's Loan Facility Agreements and related finance documents contain events of default customary for such financings, including events of default for: failure to pay principal and interest on the due date; insolvency of Cameron LNG JV; abandonment of the project; expropriation; unenforceability or termination of the finance documents; and a failure to achieve financial completion of the project by a financial completion deadline date of September 30, 2021 (with up to an additional 365 days extension beyond such date permitted in cases of force majeure). A delay that results in failure to achieve financial completion by September 30, 2021 would result in an event of default under Cameron LNG JV's financing agreements and a potential demand of up to $4.0 billion on Sempra Energy's guarantees. Further, pursuant to the financing agreements, Cameron LNG JV is restricted from making distributions to its project owners, including Sempra LNG, from January 1, 2021 until the earlier of September 30, 2021 and the achievement of financial completion.

Security. To support Cameron LNG JV's obligations under its debt agreements, Cameron LNG JV has granted security over all of its assets, subject to customary exceptions, and all equity interests in Cameron LNG JV have been pledged to HSBC Bank USA, National Association, as security trustee for the benefit of all of Cameron LNG JV's creditors. As a result, an enforcement action by the lenders taken in accordance with the finance documents could result in the exercise of such security interests by the lenders and the loss of ownership interests in Cameron LNG JV by Sempra Energy and the other project partners.

The security trustee under Cameron LNG JV's financing can demand that a payment be made by Sempra Energy under its guarantees of Sempra Energy's 50.2% share of senior debt obligations due and payable either on the date such amounts were due from Cameron LNG JV (taking into account cure periods) in the event of a failure by Cameron LNG JV to pay such senior debt obligations when they become due or within 10 business days in the event of an acceleration of senior debt obligations under the terms of the finance documents. If an event of default occurs under the Sempra Energy completion agreement, the security trustee can demand that Sempra Energy purchase its 50.2% share of all then outstanding senior debt obligations within five business days (other than in the case of a bankruptcy default, which is automatic).

Sempra Energy Support Agreement for CFIN

In July 2020, CFIN entered into a financing arrangement with Cameron LNG JV's four project owners and received aggregate proceeds of $1.5 billion from two project owners and from external lenders on behalf of the other two project owners (collectively, the affiliate loans), based on their proportionate ownership interest in Cameron LNG JV. CFIN used the proceeds from the affiliate loans to provide a loan to Cameron LNG JV. The affiliate loans mature in 2039. Principal and interest will be

paid from Cameron LNG JV's project cash flows from its three-train natural gas liquefaction facility. Cameron LNG JV used the proceeds from its loan to return equity to its project owners. Sempra Energy used its $753 million share of the proceeds for working capital and other general corporate purposes, including the repayment of indebtedness.

Sempra Energy's $753 million proportionate share of the affiliate loans, based on its 50.2% ownership interest in Cameron LNG JV, was funded by external lenders comprised of a syndicate of eight banks (the bank debt) to whom Sempra Energy has provided a guarantee pursuant to a Support Agreement. Under the terms of the Support Agreement, Sempra Energy has severally guaranteed repayment of the bank debt plus accrued and unpaid interest if CFIN fails to pay the external lenders. Additionally, the external lenders may exercise an option to put the bank debt to Sempra Energy on every one-year anniversary of the closing of the affiliate loans, as well as upon the occurrence of certain events, including a failure by CFIN to meet its payment obligations under the bank debt. In addition, some or all of the bank debt will be transferred by each external lender back to Sempra Energy on the five-year anniversary of the affiliate loans, unless the external lenders elect to waive their transfer rights six months prior to the five-year anniversary of the affiliate loans. Sempra Energy also has a right to call the bank debt back from, or to refinance the bank debt with, the external lenders at any time. The Support Agreement will terminate upon full repayment of the bank debt, including repayment following an event in which the bank debt is put to Sempra Energy. In exchange for this guarantee, the external lenders will pay a guarantee fee that is based on the credit rating of Sempra Energy's long-term senior unsecured non-credit enhanced debt rating, which guarantee fee Sempra LNG will recognize as interest income as earned. Sempra Energy's maximum exposure to loss is the bank debt plus any accrued and unpaid interest and related fees, subject to a liability cap of 130% of the bank debt, or $979 million. We measure the Support Agreement at fair value, net of related guarantee fees, on a recurring basis (see Note 12). At December 31, 2020, the fair value of the Support Agreement was $3 million, of which $7 million is included in Other Current Assets offset by $4 million included in Deferred Credits and Other on the Sempra Energy Consolidated Balance Sheet.

SEMPRA RENEWABLES

As a result of the plan of sale, Sempra Renewables recorded an other-than-temporary impairment on certain of its wind equity method investments totaling $200 million in 2018, which is included in Equity Earnings on Sempra Energy's Consolidated Statement of Operations. Sempra Renewables completed the sales of all its operating solar assets, including its solar equity method investments and one wind equity method investment, in December 2018 and its remaining wind assets and investments in April 2019. We discuss these divestitures further in Note 5.

In 2018, Sempra Renewables invested cash of $5 million in its unconsolidated JVs.

RBS SEMPRA COMMODITIES

RBS Sempra Commodities is a United Kingdom limited liability partnership formed by Sempra Energy and RBS in 2008 to own and operate the commodities-marketing businesses previously operated through wholly owned subsidiaries of Sempra Energy. We and RBS sold substantially all of the partnership's businesses and assets in four separate transactions completed in 2010 and 2011. Since 2011, our investment balance has reflected our share of the remaining partnership assets, including amounts retained by the partnership to help offset unanticipated future general and administrative costs necessary to complete the dissolution of the partnership and the distribution of the partnership's remaining assets, if any. We account for our investment in RBS Sempra Commodities under the equity method.

In September 2018, we fully impaired our remaining equity method investment in RBS Sempra Commodities by recording a charge of $65 million in Equity Earnings on Sempra Energy's Consolidated Statement of Operations. In 2020, we recorded a charge of $100 million in Equity Earnings on Sempra Energy's Consolidated Statement of Operations for losses from our investment in RBS Sempra Commodities. We recognized a corresponding liability of $25 million in Other Current Liabilities and $75 million in Deferred Credits and Other for our share of estimated losses in excess of the carrying value of our equity method investment. We discuss matters related to RBS Sempra Commodities further in "Other Litigation" in Note 16.

SUMMARIZED FINANCIAL INFORMATION

We present summarized financial information below, aggregated for all other equity method investments (excluding Oncor Holdings) for the periods in which we were invested in the entities. The amounts below represent the results of operations and aggregate financial position of 100% of each of Sempra Energy's other equity method investments.

SUMMARIZED FINANCIAL INFORMATION – OTHER EQUITY METHOD INVESTMENTS
(Dollars in millions)

	Years ended December 31,		
	2020	2019[1]	2018[2]
Gross revenues	$ 2,341	$ 798	$ 706
Operating expense	(706)	(372)	(609)
Income from operations	1,635	426	97
Interest expense	(514)	(401)	(322)
Net income (loss)/Earnings (losses)[3]	1,132	85	(36)

	At December 31,	
	2020	2019[1]
Current assets	$ 1,035	$ 1,124
Noncurrent assets	15,304	15,039
Current liabilities	1,342	1,232
Noncurrent liabilities	12,863	11,438

(1) *On April 22, 2019, Sempra Renewables sold its remaining wind assets and investments. As of April 22, 2019, these wind assets and investments are no longer equity method investments.*

(2) *On December 13, 2018, Sempra Renewables sold all its operating solar assets, including its solar equity method investments, and its 50% interest in the Broken Bow 2 wind power generation facility. As of December 13, 2018, the solar equity method investments and Broken Bow 2 are no longer equity method investments.*

(3) *Except for our investments in Mexico, there was no income tax recorded by the entities, as they are primarily domestic partnerships.*

NOTE 7. DEBT AND CREDIT FACILITIES

LINES OF CREDIT

Primary U.S. Committed Lines of Credit

At December 31, 2020, Sempra Energy Consolidated had an aggregate capacity of $6.7 billion in four primary U.S. committed lines of credit, which provide liquidity and support commercial paper.

PRIMARY U.S. COMMITTED LINES OF CREDIT
(Dollars in millions)

	At December 31, 2020		
	Total facility	Commercial paper outstanding[1]	Available unused credit
Sempra Energy[2]	$ 1,250	$ —	1,250
Sempra Global	3,185	—	3,185
SDG&E[3]	1,500	—	1,500
SoCalGas[3][4]	750	(113)	637
Total	$ 6,685	$ (113)	$ 6,572

(1) *Because the commercial paper programs are supported by these lines, we reflect the amount of commercial paper outstanding as a reduction to the available unused credit.*

(2) *The facility also provides for issuance of $200 million of letters of credit on behalf of Sempra Energy with the amount of borrowings otherwise available under the facility reduced by the amount of outstanding letters of credit. Subject to obtaining commitments from existing or new lenders and satisfaction of other specified conditions, Sempra Energy has the right to increase the letter of credit commitment up to $500 million. No letters of credit were outstanding at December 31, 2020.*

(3) *The facility also provides for issuance of $100 million of letters of credit on behalf of the borrowing utility with the amount of borrowings otherwise available under the facility reduced by the amount of outstanding letters of credit. Subject to obtaining commitments from existing or new lenders and satisfaction of other specified conditions, the borrowing utility has the right to increase the letter of credit commitment up to $250 million. No letters of credit were outstanding at December 31, 2020.*

(4) *Commercial paper outstanding is before reductions of a negligible amount of unamortized discount.*

The principal terms of the primary U.S. committed lines of credit in the table above include the following:

- Each is a 5-year syndicated revolving credit agreement expiring in May 2024.
- Citibank N.A. serves as administrative agent for the Sempra Energy and Sempra Global facilities and JPMorgan Chase Bank, N.A. serves as administrative agent for the SDG&E and SoCalGas facilities.
- Each facility has a syndicate of 23 lenders. No single lender has greater than a 6% share in any facility.
- Borrowings bear interest at benchmark rates plus a margin that varies with Sempra Energy's credit ratings in the case of the Sempra Energy and Sempra Global lines of credit, and with the borrowing utility's credit rating in the case of SDG&E's and SoCalGas' lines of credit.
- Sempra Energy, SDG&E and SoCalGas each must maintain a ratio of indebtedness to total capitalization (as defined in each of the applicable credit facilities) of no more than 65% at the end of each quarter. At December 31, 2020, each entity was in compliance with this ratio and all other financial covenants under its respective credit facility.
- Sempra Energy guarantees Sempra Global's obligations under its credit facility.

Foreign Committed Lines of Credit

Our foreign operations in Mexico have additional committed lines of credit aggregating $1.8 billion at December 31, 2020. The principal terms of these credit facilities are described below.

FOREIGN COMMITTED LINES OF CREDIT

(U.S. dollar equivalent in millions)

	December 31, 2020		
Expiration date of facility	Total facility	Amounts outstanding	Available unused credit
February 2024[1]	$ 1,500	$ (392)	$ 1,108
September 2021[2]	280	(280)	—
Total	$ 1,780	$ (672)	$ 1,108

[1] *Five-year revolving credit facility with a syndicate of 10 lenders. Borrowings bear interest at a per annum rate equal to 3-month LIBOR plus 80 bps.*

[2] *Two-year revolving credit facility with The Bank of Nova Scotia. Borrowings may be made for up to two years from September 23, 2019 in U.S. dollars. Borrowings bear interest at a per annum rate equal to 3-month LIBOR plus 54 bps.*

In addition to its committed lines of credit, in October 2020, IEnova entered into a three-year $20 million uncommitted revolving credit facility with Scotiabank Inverlat S.A. (borrowings may be made in either U.S. dollars or Mexican pesos) and a three-year $100 million uncommitted revolving credit facility with The Bank of Nova Scotia (borrowings may only be made in U.S. dollars). At December 31, 2020, available unused credit on these lines was $20 million.

Letters of Credit

Outside of our domestic and foreign committed credit facilities, we have bilateral unsecured standby letter of credit capacity with select lenders that is uncommitted and supported by reimbursement agreements. At December 31, 2020, we had approximately $508 million in standby letters of credit outstanding under these agreements.

TERM LOAN

In March 2020 and April 2020, Sempra Energy borrowed a total of $1,599 million, net of $1 million of debt discounts and issuance costs, under a 364-day term loan, which had a maturity date of March 16, 2021 with an option to extend the maturity date to September 16, 2021, subject to receiving the consent of the lenders. Sempra Energy used the proceeds from the term loan to repay borrowings on its committed lines of credit and for other general corporate purposes. This term loan was repaid in full in September 2020.

WEIGHTED-AVERAGE INTEREST RATES

The weighted-average interest rates on the total short-term debt at December 31, 2020 and 2019 were as follows:

WEIGHTED-AVERAGE INTEREST RATES

	December 31,	
	2020	2019
Sempra Energy Consolidated	0.83 %	2.31 %
SDG&E	—	1.97
SoCalGas	0.14	1.86

LONG-TERM DEBT

The following tables show the detail and maturities of long-term debt outstanding:

LONG-TERM DEBT AND FINANCE LEASES
(Dollars in millions)

	December 31,	
	2020	2019
SDG&E:		
First mortgage bonds (collateralized by plant assets):		
3% August 15, 2021	$ 350	$ 350
1.914% payable 2015 through February 2022	53	89
3.6% September 1, 2023	450	450
2.5% May 15, 2026	500	500
6% June 1, 2026	250	250
1.7% October 1, 2030	800	—
5.875% January and February 2034[(1)]	—	176
5.35% May 15, 2035	250	250
6.125% September 15, 2037	250	250
4% May 1, 2039[(1)]	—	75
6% June 1, 2039	300	300
5.35% May 15, 2040	250	250
4.5% August 15, 2040	500	500
3.95% November 15, 2041	250	250
4.3% April 1, 2042	250	250
3.75% June 1, 2047	400	400
4.15% May 15, 2048	400	400
4.1% June 15, 2049	400	400
3.32% April 15, 2050	400	—
	6,053	5,140
Other long-term debt (uncollateralized):		
Variable rate (0.95% at December 31, 2020) 364-day term loan March 18, 2021[(1)]	200	—
Finance lease obligations:		
Purchased-power contracts	1,237	1,255
Other	39	15
	1,476	1,270
	7,529	6,410
Current portion of long-term debt	(611)	(56)
Unamortized discount on long-term debt	(13)	(12)
Unamortized debt issuance costs	(39)	(36)
Total SDG&E	6,866	6,306
SoCalGas:		
First mortgage bonds (collateralized by plant assets):		
3.15% September 15, 2024	$ 500	$ 500
3.2% June 15, 2025	350	350
2.6% June 15, 2026	500	500
2.55% February 1, 2030	650	—
5.75% November 15, 2035	250	250
5.125% November 15, 2040	300	300
3.75% September 15, 2042	350	350
4.45% March 15, 2044	250	250
4.125% June 1, 2048	400	400
4.3% January 15, 2049	550	550
3.95% February 15, 2050	350	350
	4,450	3,800
Other long-term debt (uncollateralized):		
Notes at variable rates (0.57% at December 31, 2020) September 14, 2023[(1)]	300	—
1.875% Notes May 14, 2026[(1)]	4	4
5.67% Notes January 18, 2028	5	5
Finance lease obligations	54	19
	363	28
	4,813	3,828
Current portion of long-term debt	(10)	(6)
Unamortized discount on long-term debt	(8)	(7)
Unamortized debt issuance costs	(32)	(27)
Total SoCalGas	4,763	3,788

LONG-TERM DEBT AND FINANCE LEASES (CONTINUED)
(Dollars in millions)

	December 31, 2020	2019
Sempra Energy:		
Other long-term debt (uncollateralized):		
2.4% Notes February 1, 2020	—	500
2.4% Notes March 15, 2020	—	500
2.85% Notes November 15, 2020	—	400
Notes at variable rates (2.50% at December 31, 2019) January 15, 2021[1]	—	700
Notes at variable rates (3.069% after floating-to-fixed rate swaps effective 2019) March 15, 2021	850	850
2.875% Notes October 1, 2022	500	500
2.9% Notes February 1, 2023	500	500
4.05% Notes December 1, 2023	500	500
3.55% Notes June 15, 2024	500	500
3.75% Notes November 15, 2025	350	350
3.25% Notes June 15, 2027	750	750
3.4% Notes February 1, 2028	1,000	1,000
3.8% Notes February 1, 2038	1,000	1,000
6% Notes October 15, 2039	750	750
4% Notes February 1, 2048	800	800
5.75% Junior Subordinated Notes July 1, 2079[1]	758	758
Sempra Mexico		
Other long-term debt (uncollateralized unless otherwise noted):		
6.3% Notes February 2, 2023 (4.124% after cross-currency swap effective 2013)	197	207
Notes at variable rates (4.88% after floating-to-fixed rate swaps effective 2014), payable 2016 through December 2026, collateralized by plant assets	196	237
3.75% Notes January 14, 2028	300	300
Bank loans including $234 at a weighted-average fixed rate of 6.87%, $130 at variable rates (weighted-average rate of 6.54% after floating-to-fixed rate swaps effective 2014) and $34 at variable rates (3.45% at December 31, 2020), payable 2016 through March 2032, collateralized by plant assets	398	423
4.875% Notes January 14, 2048	540	540
Loan at variable rates (5.75% at December 31, 2019) July 31, 2028[1]	—	11
Loan at variable rates (4.0275% after floating-to-fixed rate swap effective 2019) payable 2022 through November 2034[1]	200	200
4.75% notes January 15, 2051	800	—
Loan at variable rates (2.38% after floating-to-fixed rate swap effective 2020) payable November 2034[1]	100	—
2.90% loan November 15, 2034[1]	241	—
Sempra LNG		
Other long-term debt (uncollateralized):		
Notes at 2.87% to 3.51% October 1, 2026[1]	—	22
Loan at variable rates (2.82% at December 31, 2020) December 9, 2025[1]	17	—
	11,247	12,298
Current portion of long-term debt	(919)	(1,464)
Unamortized discount on long-term debt	(55)	(35)
Unamortized debt issuance costs	(121)	(108)
Total other Sempra Energy	10,152	10,691
Total Sempra Energy Consolidated	$ 21,781	$ 20,785

(1) Callable long-term debt not subject to make-whole provisions.

MATURITIES OF LONG-TERM DEBT[1]
(Dollars in millions)

	SDG&E	SoCalGas	Other Sempra Energy	Total Sempra Energy Consolidated
2021	$ 585	$ —	$ 919	$ 1,504
2022	18	—	583	601
2023	450	300	1,281	2,031
2024	—	500	564	1,064
2025	—	350	461	811
Thereafter	5,200	3,609	7,439	16,248
Total	$ 6,253	$ 4,759	$ 11,247	$ 22,259

(1) Excludes finance lease obligations, discounts, and debt issuance costs.

Various long-term obligations totaling $11.2 billion at Sempra Energy Consolidated at December 31, 2020 are unsecured. This includes unsecured long-term obligations totaling $200 million at SDG&E and $309 million at SoCalGas.

Callable Long-Term Debt

At the option of Sempra Energy, SDG&E and SoCalGas, certain debt at December 31, 2020 is callable subject to premiums:

CALLABLE LONG-TERM DEBT
(Dollars in millions)

	SDG&E	SoCalGas	Other Sempra Energy	Total Sempra Energy Consolidated
Not subject to make-whole provisions	$ 200	$ 304	$ 1,299	$ 1,803
Subject to make-whole provisions	6,053	4,450	8,503	19,006

First Mortgage Bonds

The California Utilities issue first mortgage bonds secured by a lien on utility plant assets. The California Utilities may issue additional first mortgage bonds if in compliance with the provisions of their bond agreements (indentures). These indentures require, among other things, the satisfaction of pro forma earnings-coverage tests on first mortgage bond interest and the availability of sufficient mortgaged property to support the additional bonds, after giving effect to prior bond redemptions. The most restrictive of these tests (the property test) would permit the issuance, subject to CPUC authorization, of additional first mortgage bonds of $6.5 billion at SDG&E and $1.2 billion at SoCalGas at December 31, 2020.

SDG&E

In September 2020, SDG&E issued $800 million of 1.70% first mortgage bonds maturing in 2030 and received proceeds of $792 million (net of debt discount, underwriting discounts and debt issuance costs of $8 million). SDG&E used a portion of the proceeds from the offering to redeem $176 million, prior to a scheduled maturity in 2034, and $75 million, prior to a scheduled maturity in 2039, of tax-exempt industrial development revenue refunding bonds in December 2020. SDG&E used the remaining proceeds for general corporate purposes, including repayment of commercial paper.

In April 2020, SDG&E issued $400 million of 3.32% first mortgage bonds maturing in 2050 and received proceeds of $395 million (net of debt discount, underwriting discounts and debt issuance costs of $5 million). SDG&E used $200 million of the proceeds from the offering to repay line of credit borrowings, and the remaining proceeds for working capital and other general corporate purposes.

SoCalGas

In January 2020, SoCalGas issued $650 million of 2.55% first mortgage bonds maturing in 2030 and received proceeds of $643 million (net of debt discount, underwriting discounts and debt issuance costs of $7 million). SoCalGas used the proceeds from the offering to repay outstanding commercial paper and for other general corporate purposes.

Other Long-Term Debt

Sempra Energy

In October 2020, Sempra Energy redeemed $700 million of floating-rate notes, prior to a scheduled maturity in January 2021, utilizing a portion of the proceeds received from the sales of our South American businesses.

SDG&E

In March 2020, SDG&E borrowed $200 million under a 364-day term loan, which has a maturity date of March 18, 2021 with an option to extend the maturity date to September 17, 2021, subject to receiving the consent of the lenders. Borrowings bear interest at benchmark rates plus 80 bps (0.95% at December 31, 2020). The term loan provides SDG&E with additional liquidity outside of its committed line of credit. SDG&E classified this term loan as long-term debt based on management’s intent and ability to maintain this level of borrowing on a long-term basis by issuing long-term debt. At December 31, 2020, this term loan was included in Current Portion of Long-Term Debt and Finance Leases on SDG&E’s and Sempra Energy’s Consolidated Balance Sheets.

In the first quarter of 2020, SDG&E borrowed $200 million from its line of credit and classified it as long-term debt based on management’s intent and ability to maintain this level of borrowing on a long-term basis either supported by this credit facility or

by issuing long-term debt. In the second quarter of 2020, SDG&E repaid these borrowings with proceeds from the issuance of first mortgage bonds, which we discuss above.

SoCalGas

In September 2020, SoCalGas issued $300 million of senior unsecured floating rate notes maturing in 2023 and received proceeds of $298 million (net of underwriting discounts and debt issuance costs of $2 million). The notes bear interest at a per annum rate equal to the 3-month LIBOR rate (or, under certain circumstances, a benchmark replacement rate), reset quarterly, plus 35 bps. SoCalGas may, at its option, redeem some or all of the floating rate notes at any time on or after March 14, 2021 at a redemption price equal to 100% of the principal amount of, plus accrued and unpaid interest on, the notes being redeemed. SoCalGas used the proceeds from the offering for general corporate purposes, including repayment of commercial paper.

Sempra Mexico

In September 2020, IEnova offered and sold in a private placement $800 million of 4.75% senior unsecured notes maturing in 2051 and received proceeds of $770 million (net of debt discount, underwriting discounts and debt issuance costs of $30 million). IEnova used the proceeds from the offering to repay line of credit borrowings and for other general corporate purposes.

In November 2019, IEnova entered into a financing agreement with International Finance Corporation and North American Development Bank to finance and/or refinance the construction of solar generation projects in Mexico. Under this agreement, in April 2020, IEnova borrowed $100 million from Japan International Cooperation Agency, with loan proceeds of $98 million (net of debt issuance costs of $2 million). The loan matures in November 2034 and bears interest based on 6-month LIBOR plus 150 bps. In April 2020, IEnova entered into a floating-to-fixed interest rate swap, resulting in a fixed rate of 2.38%. Also under the financing agreement, in June 2020, IEnova borrowed $241 million from U.S. International Development Finance Corporation, with loan proceeds of $236 million (net of debt issuance costs of $5 million). The loan matures in November 2034 and bears interest at a fixed rate of 2.90%.

Sempra LNG

In December 2020, ECA LNG Phase 1 entered into a five-year loan agreement with a syndicate of nine banks for an aggregate principal amount of up to $1.6 billion, of which $17 million was outstanding as of December 31, 2020. Proceeds from the loan are being used to finance the cost of development and construction of a one-train natural gas liquefaction export facility with a name-plate capacity of 3.25 Mtpa and initial offtake capacity of approximately 2.5 Mtpa. The loan matures in December 2025 and bears interest at a weighted-average blended rate of 2.70% plus a benchmark interest rate per annum equal to (a) the LIBOR for such interest period divided by (b) one minus the Eurodollar Reserve Percentage; provided that in no event shall the benchmark at any time be less than 0% per annum. ECA LNG Phase 1 may elect for each calendar quarter (i) three successive interest periods of one month or (ii) a single interest period of three months. Sempra Energy, IEnova and TOTAL SE have provided guarantees for repayment of the loans plus accrued and unpaid interest based on their proportionate ownership interest in ECA LNG Phase 1 of 41.7%, 41.7% and 16.6%, respectively. The effective interest rate of the loan is based on the interest payments made to external lenders and guarantee payments made to TOTAL SE as a guarantor.

As we discuss in “Shareholders’ Equity and Noncontrolling Interests – Other Noncontrolling Interests – Sempra LNG” in Note 14, notes payable totaling $22 million due October 1, 2026 were converted to equity by the minority partner in Liberty Gas Storage LLC and are no longer outstanding.

NOTE 8. INCOME TAXES

We provide our calculations of ETRs in the following table.

INCOME TAX EXPENSE (BENEFIT) AND EFFECTIVE INCOME TAX RATES
(Dollars in millions)

	Years ended December 31,		
	2020	2019	2018
Sempra Energy Consolidated:			
Income tax expense (benefit) from continuing operations	$ 249	$ 315	$ (49)
Income from continuing operations before income taxes and equity earnings	$ 1,489	$ 1,734	$ 714
Equity earnings (losses), before income tax[(1)]	294	30	(236)
Pretax income	$ 1,783	$ 1,764	$ 478
Effective income tax rate	14 %	18 %	(10)%
SDG&E:			
Income tax expense	$ 190	$ 171	$ 173
Income before income taxes	$ 1,014	$ 945	$ 849
Effective income tax rate	19 %	18 %	20 %
SoCalGas:			
Income tax expense	$ 96	$ 120	$ 92
Income before income taxes	$ 601	$ 762	$ 493
Effective income tax rate	16 %	16 %	19 %

(1) *We discuss how we recognize equity earnings in Note 6.*

For SDG&E and SoCalGas, the CPUC requires flow-through rate-making treatment for the current income tax benefit or expense arising from certain property-related and other temporary differences between the treatment for financial reporting and income tax, which will reverse over time. Under the regulatory accounting treatment required for these flow-through temporary differences, deferred income tax assets and liabilities are not recorded to deferred income tax expense, but rather to a regulatory asset or liability, which impacts the ETR. As a result, changes in the relative size of these items compared to pretax income, from period to period, can cause variations in the ETR. The following items are subject to flow-through treatment:

- repairs expenditures related to a certain portion of utility plant fixed assets
- the equity portion of AFUDC, which is non-taxable
- a portion of the cost of removal of utility plant assets
- utility self-developed software expenditures
- depreciation on a certain portion of utility plant assets
- state income taxes

The AFUDC related to equity recorded for regulated construction projects at Sempra Mexico has similar flow-through treatment.

We record income tax (expense) benefit from the transactional effects of foreign currency and inflation. Such effects are offset by net gains (losses) from foreign currency derivatives that are hedging Sempra Mexico parent's exposure to movements in the Mexican peso from its controlling interest in IEnova.

We present in the table below reconciliations of net U.S. statutory federal income tax rates to our ETRs.

RECONCILIATION OF FEDERAL INCOME TAX RATES TO EFFECTIVE INCOME TAX RATES

	Years ended December 31,		
	2020	2019	2018
Sempra Energy Consolidated:			
U.S. federal statutory income tax rate	21 %	21 %	21 %
Utility depreciation	3	3	12
Non-U.S. earnings taxed at rates different from the U.S. statutory income tax rate[1]	2	3	10
State income taxes, net of federal income tax benefit	1	2	(8)
Impairment losses	1	—	(32)
Effects of the TCJA	—	—	9
Unrecognized income tax benefits	—	—	4
Noncontrolling interests in tax equity arrangements	—	—	3
Resolution of prior years' income tax items	—	—	(1)
Excess deferred income taxes outside of ratemaking	—	(4)	—
Compensation-related items	(1)	—	3
Valuation allowances	(1)	—	—
Allowance for equity funds used during construction	(1)	(1)	(4)
Amortization of excess deferred income taxes	(1)	(1)	(4)
Tax credits	(1)	(2)	(10)
Foreign exchange and inflation effects[2]	(3)	4	6
Utility self-developed software expenditures	(3)	(2)	(7)
Utility repairs expenditures	(4)	(3)	(13)
Other, net	1	(2)	1
Effective income tax rate	14 %	18 %	(10)%
SDG&E:			
U.S. federal statutory income tax rate	21 %	21 %	21 %
State income taxes, net of federal income tax benefit	5	6	5
Depreciation	3	3	3
Excess deferred income taxes outside of ratemaking	—	(3)	—
Amortization of excess deferred income taxes	(1)	(1)	(1)
Allowance for equity funds used during construction	(2)	(1)	(2)
Repairs expenditures	(3)	(3)	(3)
Self-developed software expenditures	(4)	(3)	(2)
Other, net	—	(1)	(1)
Effective income tax rate	19 %	18 %	20 %
SoCalGas:			
U.S. federal statutory income tax rate	21 %	21 %	21 %
Depreciation	5	4	7
State income taxes, net of federal income tax benefit	2	4	2
Nondeductible expenditures	2	—	—
Unrecognized income tax benefits	—	—	4
Compensation-related items	—	—	1
Resolution of prior years' income tax items	—	—	(1)
Excess deferred income taxes outside of ratemaking	—	(5)	—
Allowance for equity funds used during construction	(1)	(1)	(2)
Amortization of excess deferred income taxes	(1)	(1)	(2)
Self-developed software expenditures	(4)	(2)	(3)
Repairs expenditures	(7)	(4)	(7)
Other, net	(1)	—	(1)
Effective income tax rate	16 %	16 %	19 %

(1) *Related to operations in Mexico.*

(2) *Due to fluctuation of the Mexican peso against the U.S. dollar. We record income tax expense (benefit) from the transactional effects of foreign currency and inflation because of appreciation (depreciation) of the Mexican peso. We also recognize gains (losses) in Other Income, Net, on the Consolidated Statements of Operations from foreign currency derivatives that are partially hedging Sempra Mexico parent's exposure to movements in the Mexican peso from its controlling interest in IEnova.*

In January 2019, our board of directors approved a plan to sell our South American businesses and we completed the sales in the second quarter of 2020, as we discuss in Note 5. Prior to this decision, our repatriation estimate excluded post-2017 earnings and other basis differences related to our South American businesses. Because of our decision to sell our South American businesses, we no longer assert indefinite reinvestment of these basis differences. Accordingly, we recorded the following income tax impacts from changes in outside basis differences in our discontinued operations in South America:

- $89 million income tax benefit in 2019 primarily related to outside basis differences existing as of the January 25, 2019 approval of our plan to sell our South American businesses; and
- $7 million income tax benefit in 2020 compared to $51 million income tax expense in 2019 related to changes in outside basis differences from earnings and foreign currency effects since January 25, 2019.

We expect to repatriate approximately $1.3 billion of foreign undistributed earnings in the foreseeable future, and have accrued $58 million of U.S. state deferred income tax liability as of December 31, 2020 for repatriations that we expect will begin in 2021 as cash is generated. We repatriated approximately $4.7 billion, $254 million and $338 million to the U.S. in 2020, 2019 and 2018, respectively.

We have not recorded deferred income taxes with respect to remaining basis differences of approximately $1.1 billion between financial statement and income tax investment amounts in our non-U.S. subsidiaries because we consider them to be indefinitely reinvested as of December 31, 2020. The remaining basis differences are calculated pursuant to U.S. federal tax law, which may differ from tax law in California and foreign jurisdictions. It is currently not practicable to determine the hypothetical amount of tax that might be payable if the underlying basis differences were realized.

The remeasurement of deferred income tax balances at SDG&E and SoCalGas in December 2017, as a result of the TCJA, resulted in excess deferred income taxes that previously had been collected from ratepayers at the higher rate. In a January 2019 decision, the CPUC directed certain excess deferred income tax balances generated by activities outside of ratemaking be allocated to shareholders rather than ratepayers. As a result, in 2019, SDG&E and SoCalGas recorded income tax benefits of $31 million and $38 million, respectively, from the release of a portion of the regulatory liability established in connection with 2017 tax reform for excess deferred income tax balances.

The table below presents the geographic components of pretax income.

PRETAX INCOME – SEMPRA ENERGY CONSOLIDATED
(Dollars in millions)

	Years ended December 31,		
	2020	2019	2018
By geographic components:			
U.S.	$ 1,461	$ 1,191	$ (102)
Non-U.S.	322	573	580
Total[(1)]	$ 1,783	$ 1,764	$ 478

(1) *See the Income Tax Expense (Benefit) and Effective Income Tax Rates table above for the calculation of pretax income.*

U.S. pretax income was lower in 2018 compared to 2020 and 2019 due to the 2018 impairment of certain assets at Sempra LNG and Sempra Renewables (discussed in Notes 5 and 12), offset by the 2018 gain on the sale of assets at Sempra Renewables (discussed in Note 5).

The components of income tax expense are as follows.

INCOME TAX EXPENSE (BENEFIT)
(Dollars in millions)

	Years ended December 31,		
	2020	2019	2018
Sempra Energy Consolidated:			
Current:			
U.S. federal	$ —	$ —	$ (1)
U.S. state	(22)	(14)	67
Non-U.S.	112	140	127
Total	90	126	193
Deferred:			
U.S. federal	157	87	(121)
U.S. state	36	21	(183)
Non-U.S.	(34)	84	66
Total	159	192	(238)
Deferred investment tax credits	—	(3)	(4)
Total income tax expense (benefit)	$ 249	$ 315	$ (49)
SDG&E:			
Current:			
U.S. federal	$ 121	$ 35	$ 104
U.S. state	34	31	30
Total	155	66	134
Deferred:			
U.S. federal	11	75	17
U.S. state	25	32	24
Total	36	107	41
Deferred investment tax credits	(1)	(2)	(2)
Total income tax expense	$ 190	$ 171	$ 173
SoCalGas:			
Current:			
U.S. federal	$ 163	$ 8	$ 4
U.S. state	45	24	10
Total	208	32	14
Deferred:			
U.S. federal	(85)	79	78
U.S. state	(28)	10	2
Total	(113)	89	80
Deferred investment tax credits	1	(1)	(2)
Total income tax expense	$ 96	$ 120	$ 92

The tables below present the components of deferred income taxes:

DEFERRED INCOME TAXES – SEMPRA ENERGY CONSOLIDATED
(Dollars in millions)

	December 31, 2020	December 31, 2019
Deferred income tax liabilities:		
Differences in financial and tax bases of fixed assets, investments and other assets[1]	$ 4,891	$ 4,052
U.S. state and non-U.S. withholding tax on repatriation of foreign earnings	46	153
Regulatory balancing accounts	587	468
Right-of-use assets – operating leases	144	131
Property taxes	51	44
Other deferred income tax liabilities	40	93
Total deferred income tax liabilities	5,759	4,941
Deferred income tax assets:		
Tax credits	1,161	1,136
Net operating losses	1,299	911
Postretirement benefits	162	200
Compensation-related items	169	161
Operating lease liabilities	125	131
Other deferred income tax assets	152	72
Accrued expenses not yet deductible	130	52
Deferred income tax assets before valuation allowances	3,198	2,663
Less: valuation allowances	174	144
Total deferred income tax assets	3,024	2,519
Net deferred income tax liability[2]	$ 2,735	$ 2,422

(1) *In addition to the financial over tax basis differences in fixed assets, the amount also includes financial over tax basis differences in various interests in partnerships and certain subsidiaries.*

(2) *At December 31, 2020 and 2019, includes $136 million and $155 million, respectively, recorded as a noncurrent asset and $2,871 million and $2,577 million, respectively, recorded as a noncurrent liability on the Consolidated Balance Sheets.*

DEFERRED INCOME TAXES – SDG&E AND SOCALGAS
(Dollars in millions)

	SDG&E December 31,		SoCalGas December 31,	
	2020	2019	2020	2019
Deferred income tax liabilities:				
Differences in financial and tax bases of utility plant and other assets	$ 1,833	$ 1,735	$ 1,322	$ 1,246
Regulatory balancing accounts	224	141	362	327
Right-of-use assets – operating leases	28	32	21	22
Property taxes	34	30	17	14
Other	2	14	1	1
Total deferred income tax liabilities	2,121	1,952	1,723	1,610
Deferred income tax assets:				
Tax credits	5	6	3	3
Postretirement benefits	14	37	123	120
Compensation-related items	12	6	36	25
Operating lease liabilities	28	32	21	22
Bad debt allowance	18	3	15	1
State income taxes	8	7	11	8
Accrued expenses not yet deductible	14	9	93	15
Other	3	4	15	13
Total deferred income tax assets	102	104	317	207
Net deferred income tax liability	$ 2,019	$ 1,848	$ 1,406	$ 1,403

The following table summarizes our unused NOLs and tax credit carryforwards.

NET OPERATING LOSSES AND TAX CREDIT CARRYFORWARDS
(Dollars in millions)

	Unused amount at December 31, 2020	Year expiration begins
Sempra Energy Consolidated:		
U.S. federal:		
NOLs[1]	$ 5,284	2031
General business tax credits[1]	428	2032
Foreign tax credits[2]	694	2024
U.S. state[2]:		
NOLs	3,047	2021
General business tax credits	39	2021
Non-U.S.[2] – NOLs	126	2021

(1) *We have recorded deferred income tax benefits on these NOLs and tax credits, in total, because we currently believe they will be realized on a more-likely-than-not-basis.*
(2) *We have not recorded deferred income tax benefits on a portion of these NOLs and tax credits because we currently believe they will not be realized on a more-likely-than-not-basis, as discussed below.*

A valuation allowance is recorded when, based on more-likely-than-not criteria, negative evidence outweighs positive evidence with regard to our ability to realize a deferred income tax asset in the future. Of the valuation allowances recorded to date, the negative evidence outweighs the positive evidence primarily due to cumulative pretax losses in various U.S. state and non-U.S. jurisdictions resulting in deferred income tax assets that we currently do not believe will be realized on a more-likely-than-not basis. The following table provides the valuation allowances that we recorded against a portion of our total deferred income tax assets shown above in the “Deferred Income Taxes – Sempra Energy Consolidated” table.

VALUATION ALLOWANCES
(Dollars in millions)

	December 31, 2020	December 31, 2019
Sempra Energy Consolidated:		
U.S. federal	$ 118	$ 90
U.S. state	32	33
Non-U.S.	24	21
	$ 174	$ 144

Following is a reconciliation of the changes in unrecognized income tax benefits and the potential effect on our ETR for the years ended December 31:

RECONCILIATION OF UNRECOGNIZED INCOME TAX BENEFITS
(Dollars in millions)

	2020	2019	2018
Sempra Energy Consolidated:			
Balance at January 1	$ 93	$ 119	$ 89
Increase in prior period tax positions	3	5	7
Decrease in prior period tax positions	(1)	—	(1)
Increase in current period tax positions	4	2	24
Settlements with taxing authorities	—	(32)	—
Expiration of statutes of limitations	—	(1)	—
Balance at December 31	$ 99	$ 93	$ 119
Of December 31 balance, amounts related to tax positions that if recognized in future years would			
decrease the effective tax rate[1]	$ (87)	$ (81)	$ (107)
increase the effective tax rate[1]	31	27	24
SDG&E:			
Balance at January 1	$ 12	$ 11	$ 10
Increase in prior period tax positions	1	1	1
Balance at December 31	$ 13	$ 12	$ 11
Of December 31 balance, amounts related to tax positions that if recognized in future years would			
decrease the effective tax rate[1]	$ (10)	$ (9)	$ (9)
increase the effective tax rate[1]	1	1	1
SoCalGas:			
Balance at January 1	$ 64	$ 61	$ 35
Increase in prior period tax positions	1	1	2
Increase in current period tax positions	3	2	24
Balance at December 31	$ 68	$ 64	$ 61
Of December 31 balance, amounts related to tax positions that if recognized in future years would			
decrease the effective tax rate[1]	$ (59)	$ (55)	$ (51)
increase the effective tax rate[1]	30	26	23

[1] *Includes temporary book and tax differences that are treated as flow-through for ratemaking purposes, as discussed above.*

It is reasonably possible that within the next 12 months, unrecognized income tax benefits could decrease due to the following:

POSSIBLE DECREASES IN UNRECOGNIZED INCOME TAX BENEFITS WITHIN 12 MONTHS
(Dollars in millions)

	At December 31,		
	2020	2019	2018
Sempra Energy Consolidated:			
Expiration of statutes of limitations on tax assessments	$ —	$ —	$ (1)
Potential resolution of audit issues with various U.S. federal, state and local and non-U.S. taxing authorities	(8)	(8)	(40)
	$ (8)	$ (8)	$ (41)
SDG&E:			
Potential resolution of audit issues with various U.S. federal, state and local taxing authorities	$ (6)	$ (6)	$ (6)
SoCalGas:			
Potential resolution of audit issues with various U.S. federal, state and local taxing authorities	$ (2)	$ (2)	$ (2)

Amounts accrued for interest and penalties associated with unrecognized income tax benefits are included in Income Tax Expense on the Consolidated Statements of Operations. Sempra Energy Consolidated accrued negligible amounts and $1 million for

interest expense and penalties at December 31, 2020 and 2019, respectively, on the Consolidated Balance Sheets, and recorded $1 million of interest expense and penalties in 2018 and negligible amounts in each of 2020 and 2019 on the Consolidated Statements of Operations. SDG&E and SoCalGas each accrued negligible amounts for interest expense and penalties at December 31, 2020 and 2019 on the Consolidated Balance Sheets, and recorded negligible amounts of interest expense and penalties in each of 2020, 2019 and 2018 on the Consolidated Statements of Operations.

INCOME TAX AUDITS

Sempra Energy is subject to U.S. federal income tax as well as income tax of multiple state and non-U.S. jurisdictions. We remain subject to examination for U.S. federal tax years after 2016. We are subject to examination by major state tax jurisdictions for tax years after 2012. Certain major non-U.S. income tax returns for tax years 2013 through the present are open to examination. We are also open to examination for non-U.S. income tax returns related to our prior interest in our commodities business, which we divested in 2010, for years 1999 through 2010.

SDG&E and SoCalGas are subject to U.S. federal income tax and state income tax. They remain subject to examination for U.S. federal tax years after 2016 and state tax years after 2012.

In addition, Sempra Energy has filed protests to contest proposed state audit adjustments for tax years 2009 through 2012. The pre-2013 tax years for our major state tax jurisdictions are closed to new issues; therefore, no additional tax may be assessed by the taxing authorities for these tax years.

NOTE 9. EMPLOYEE BENEFIT PLANS

For our employee benefit plans, we:

- recognize an asset for a plan’s overfunded status or a liability for a plan’s underfunded status in the balance sheet;
- measure a plan’s assets and its obligations that determine its funded status as of the end of the fiscal year; and
- recognize changes in the funded status of pension and PBOP plans in the year in which the changes occur. Generally, those changes are reported in OCI and as a separate component of shareholders’ equity.

The detailed information presented below covers the employee benefit plans of primarily Sempra Energy and its consolidated subsidiaries.

Sempra Energy has funded and unfunded noncontributory traditional defined benefit and cash balance plans, including separate plans for SDG&E and SoCalGas, which collectively cover all eligible employees, including a member of the Sempra Energy board of directors who was a participant in a predecessor plan on or before June 1, 1998. Pension benefits under the traditional defined benefit plans are based on service and final average earnings, while the cash balance plans provide benefits using a career average earnings methodology.

IEnova has an unfunded noncontributory defined benefit plan covering all employees that provides defined benefits to retirees based on date of hire, years of service and final average earnings.

Sempra Energy also has PBOP plans, including separate plans for SDG&E and SoCalGas, which collectively cover all domestic and certain foreign employees. The life insurance plans are both contributory and noncontributory, and the health care plans are contributory. Participants’ contributions are adjusted annually. Other postretirement benefits include medical benefits for retirees’ spouses.

Pension and other postretirement benefits costs and obligations are dependent on assumptions used in calculating such amounts. We review these assumptions on an annual basis and update them as appropriate. We consider current market conditions, including interest rates, in making these assumptions. We use a December 31 measurement date for all of our plans.

RABBI TRUST

In support of its Supplemental Executive Retirement, Cash Balance Restoration and Deferred Compensation Plans, Sempra Energy maintains dedicated assets, including a Rabbi Trust and investments in life insurance contracts, which totaled $512 million and $488 million at December 31, 2020 and 2019, respectively.

PENSION AND OTHER POSTRETIREMENT BENEFIT PLANS

Benefit Plan Amendments Affecting 2019

In 2019, certain executive participants in a company nonqualified pension plan became eligible in this same plan for Supplemental Executive Retirement Plan benefits. This was treated as a plan amendment and increased the recorded pension liability by $5 million at Sempra Energy, $3 million at SDG&E and $2 million at SoCalGas in 2019.

Settlement Accounting for Lump Sum Payments

When applicable, we record settlement charges for lump sum payments from our nonqualified pension plans that are in excess of the respective plan's service cost plus interest cost. Sempra Energy Consolidated recorded settlement charges of $22 million and $24 million in 2020 and 2019, respectively, and Sempra Energy Consolidated and SDG&E recorded settlement charges of $12 million and $4 million, respectively, in 2018.

Sale of Qualified Pension Plan Annuity Contracts

In March 2018, an insurance company purchased annuities for certain current annuitants in the SDG&E and SoCalGas qualified pension plans and assumed the obligation for payment of these annuities. At SDG&E in the first quarter of 2018 and at SoCalGas in the second quarter of 2018, the liability transferred for these annuities, plus the total year-to-date lump-sum payments, exceeded the settlement threshold, which triggered settlement accounting. This resulted in settlement charges in net periodic benefit cost of $54 million at Sempra Energy Consolidated, including $22 million at SDG&E and $32 million at SoCalGas. The settlement charges were recorded as regulatory assets on the Consolidated Balance Sheets.

Special Termination Benefits Affecting 2018

In 2018, certain nonrepresented employees age 62 or older with 5 years of service or age 55 to 61 with 10 years of service that retired under the Voluntary Retirement Enhancement Program offered that year received an additional postretirement health benefit in the form of a $100,000 Health Reimbursement Account. We treated the benefit obligation attributable to the Health Reimbursement Account as a special termination benefit. This resulted in increases to the recorded liability for PBOP and net periodic benefit cost of $5 million for Sempra Energy Consolidated, $3 million for SDG&E and $2 million for SoCalGas in 2018.

Oncor

In 2020 and in each of 2019 and 2018, we had $11 million and $27 million, respectively, in AOCI representing an actuarial loss related to Oncor's pension plan.

Benefit Obligations and Assets

The following three tables provide a reconciliation of the changes in the plans' projected benefit obligations and the fair value of assets during 2020 and 2019, and a statement of the funded status at December 31, 2020 and 2019:

PROJECTED BENEFIT OBLIGATION, FAIR VALUE OF ASSETS AND FUNDED STATUS
SEMPRA ENERGY CONSOLIDATED
(Dollars in millions)

	Pension benefits		Other postretirement benefits	
	2020	2019	2020	2019
CHANGE IN PROJECTED BENEFIT OBLIGATION				
Net obligation at January 1	$ 3,768	$ 3,339	$ 913	$ 868
Service cost	129	110	18	17
Interest cost	129	139	33	36
Contributions from plan participants	—	—	22	21
Actuarial loss	351	445	79	45
Plan amendments	—	5	—	—
Benefit payments	(93)	(93)	(74)	(72)
Settlements	(207)	(177)	(2)	(2)
Net obligation at December 31	4,077	3,768	989	913
CHANGE IN PLAN ASSETS				
Fair value of plan assets at January 1	2,662	2,160	1,281	1,108
Actual return on plan assets	350	496	164	218
Employer contributions	290	276	8	8
Contributions from plan participants	—	—	22	21
Benefit payments	(93)	(93)	(74)	(72)
Settlements	(207)	(177)	(2)	(2)
Fair value of plan assets at December 31	3,002	2,662	1,399	1,281
Funded status at December 31	$ (1,075)	$ (1,106)	$ 410	$ 368
Net recorded (liability) asset at December 31	$ (1,075)	$ (1,106)	$ 410	$ 368

PROJECTED BENEFIT OBLIGATION, FAIR VALUE OF ASSETS AND FUNDED STATUS
SAN DIEGO GAS & ELECTRIC COMPANY
(Dollars in millions)

	Pension benefits		Other postretirement benefits	
	2020	2019	2020	2019
CHANGE IN PROJECTED BENEFIT OBLIGATION				
Net obligation at January 1	$ 895	$ 814	$ 177	$ 170
Service cost	31	30	4	4
Interest cost	30	34	6	7
Contributions from plan participants	—	—	8	7
Actuarial loss	37	61	17	7
Plan amendments	—	3	—	—
Benefit payments	(18)	(18)	(20)	(18)
Settlements	(52)	(39)	—	—
Transfer of liability from other plans	(10)	10	1	—
Net obligation at December 31	913	895	193	177
CHANGE IN PLAN ASSETS				
Fair value of plan assets at January 1	739	600	197	172
Actual return on plan assets	94	135	26	36
Employer contributions	52	52	1	—
Contributions from plan participants	—	—	8	7
Benefit payments	(18)	(18)	(20)	(18)
Settlements	(52)	(39)	—	—
Transfer of assets from other plans	4	9	1	—
Fair value of plan assets at December 31	819	739	213	197
Funded status at December 31	$ (94)	$ (156)	$ 20	$ 20
Net recorded (liability) asset at December 31	$ (94)	$ (156)	$ 20	$ 20

PROJECTED BENEFIT OBLIGATION, FAIR VALUE OF ASSETS AND FUNDED STATUS
SOUTHERN CALIFORNIA GAS COMPANY
(Dollars in millions)

	Pension benefits		Other postretirement benefits	
	2020	2019	2020	2019
CHANGE IN PROJECTED BENEFIT OBLIGATION				
Net obligation at January 1	$ 2,526	$ 2,148	$ 688	$ 646
Service cost	86	68	14	12
Interest cost	88	91	25	27
Contributions from plan participants	—	—	14	13
Actuarial loss	282	345	57	39
Plan amendments	—	2	—	—
Benefit payments	(60)	(59)	(49)	(49)
Settlements	(105)	(65)	—	—
Transfer of liability to other plans	12	(4)	—	—
Net obligation at December 31	2,829	2,526	749	688
CHANGE IN PLAN ASSETS				
Fair value of plan assets at January 1	1,737	1,385	1,059	916
Actual return on plan assets	243	320	134	178
Employer contributions	152	152	1	1
Contributions from plan participants	—	—	14	13
Benefit payments	(60)	(59)	(49)	(49)
Settlements	(105)	(65)	—	—
Transfer of assets from other plans	2	4	—	—
Fair value of plan assets at December 31	1,969	1,737	1,159	1,059
Funded status at December 31	$ (860)	$ (789)	$ 410	$ 371
Net recorded (liability) asset at December 31	$ (860)	$ (789)	$ 410	$ 371

Actuarial losses (gains) fluctuate based on changes in assumptions that we describe below in “Assumptions for Pension and Other Postretirement Benefit Plans” and updates to census data. In 2020, 2019 and 2018, the Society of Actuaries released updated mortality improvement projection scales, reflecting changes to projected observed longevity improvements in its mortality tables. We have incorporated these assumptions, adjusted for the Sempra Energy companies’ actual mortality experience, in our calculations for each of those years.

- Actuarial losses in pension plans at Sempra Energy Consolidated in 2020 were driven primarily by a decrease in discount rates at Sempra Energy, SDG&E and SoCalGas and a decrease in the lump-sum conversion rate at SoCalGas, along with updated census data at Sempra Energy and SoCalGas. These actuarial losses were offset by actuarial gains at Sempra Energy, SDG&E and SoCalGas due to a decrease in the interest crediting rate for the cash balance plans.
- Actuarial losses in PBOP plans at Sempra Energy Consolidated in 2020 were driven primarily by a decrease in discount rates at Sempra Energy, SDG&E and SoCalGas and updated census data at SoCalGas. These actuarial losses were offset by a reduction in the 2021 expected health care costs at SoCalGas.

Net Assets and Liabilities

The assets and liabilities of the pension and PBOP plans are affected by changing market conditions as well as when actual plan experience is different than assumed. Such events result in investment gains and losses, which we defer and recognize in pension and other postretirement benefit costs over a period of years. Our funded pension and PBOP plans use the asset smoothing method, except for those at SDG&E. This method develops an asset value that recognizes realized and unrealized investment gains and losses over a three-year period. This adjusted asset value, known as the market-related value of assets, is used in conjunction with an expected long-term rate of return to determine the expected return-on-assets component of net periodic benefit cost. SDG&E does not use the asset smoothing method, but rather recognizes realized and unrealized investment gains and losses during the current year.

The 10% corridor accounting method is used at Sempra Energy Consolidated, SDG&E and SoCalGas. Under the corridor accounting method, if as of the beginning of a year unrecognized net gain or loss exceeds 10% of the greater of the projected benefit obligation or the market-related value of plan assets, the excess is amortized over the average remaining service period of

active participants. The asset smoothing and 10% corridor accounting methods help mitigate volatility of net periodic benefit costs from year to year.

Defined benefit pension and other postretirement plans with an aggregated overfunded status are recognized as an asset and with an aggregated underfunded status are recognized as a liability; unrecognized changes in these assets and/or liabilities are normally recorded in AOCI on the balance sheet. The California Utilities record regulatory assets and liabilities that offset the funded pension and other postretirement plans' assets or liabilities, as these costs are expected to be recovered in future utility rates based on decisions by regulatory agencies.

The California Utilities record annual pension and other postretirement net periodic benefit costs equal to the contributions to their qualified plans as authorized by the CPUC. The annual contributions to the pension plans are the greater of:

- a minimum required funding amount as required by the IRS;
- the amount required to maintain an 85% Adjusted Funding Target Attainment Percentage as defined by the Pension Protection Act of 2006, as amended; or
- beginning January 1, 2019 and for the duration of the 2019 GRC cycle, a fixed amount equal to the estimated annual service cost as defined by U.S. GAAP plus one year of a 14-year amortization of the unfunded projected benefit obligation of the pension plan as of January 1, 2019, and limited to an annual amount that keeps the fair value of the pension plan assets from exceeding 110% of the pension benefit obligation of the plan.

The annual contributions to PBOP plans are equal to the lesser of the maximum tax deductible amount or the net periodic cost calculated in accordance with U.S. GAAP for pension and PBOP plans. Any differences between booked net periodic benefit cost and amounts contributed to the pension and other postretirement plans for the California Utilities are disclosed as regulatory adjustments in accordance with U.S. GAAP for rate-regulated entities.

The net (liability) asset is included in the following categories on the Consolidated Balance Sheets at December 31:

PENSION AND OTHER POSTRETIREMENT BENEFIT OBLIGATIONS, NET OF PLAN ASSETS
(Dollars in millions)

	Pension benefits		Other postretirement benefits	
	2020	2019	2020	2019
Sempra Energy Consolidated:				
Noncurrent assets	$ —	$ —	$ 430	$ 391
Current liabilities	(35)	(59)	(1)	(3)
Noncurrent liabilities	(1,040)	(1,047)	(19)	(20)
Net recorded (liability) asset	$ (1,075)	$ (1,106)	$ 410	$ 368
SDG&E:				
Noncurrent assets	$ —	$ —	$ 20	$ 20
Current liabilities	(2)	(3)	—	—
Noncurrent liabilities	(92)	(153)	—	—
Net recorded (liability) asset	$ (94)	$ (156)	$ 20	$ 20
SoCalGas:				
Noncurrent assets	$ —	$ —	$ 410	$ 371
Current liabilities	(7)	(4)	—	—
Noncurrent liabilities	(853)	(785)	—	—
Net recorded (liability) asset	$ (860)	$ (789)	$ 410	$ 371

Amounts recorded in AOCI at December 31, net of income tax effects and amounts recorded as regulatory assets, are as follows:

AMOUNTS IN ACCUMULATED OTHER COMPREHENSIVE INCOME (LOSS)
(Dollars in millions)

	Pension benefits		Other postretirement benefits	
	2020	2019	2020	2019
Sempra Energy Consolidated[1]:				
Net actuarial (loss) gain	$ (102)	$ (113)	$ 8	$ 10
Prior service cost	(11)	(14)	—	—
Total	$ (113)	$ (127)	$ 8	$ 10
SDG&E:				
Net actuarial loss	$ (8)	$ (9)		
Prior service cost	(2)	(7)		
Total	$ (10)	$ (16)		
SoCalGas:				
Net actuarial loss	$ (14)	$ (7)		
Prior service cost	(4)	(3)		
Total	$ (18)	$ (10)		

(1) *Includes discontinued operations.*

Sempra Energy, SDG&E and SoCalGas each have a funded pension plan. The following table shows the obligations of funded pension plans with benefit obligations in excess of plan assets at December 31:

OBLIGATIONS OF FUNDED PENSION PLANS
(Dollars in millions)

	2020	2019
Sempra Energy Consolidated:		
Projected benefit obligation	$ 3,679	$ 3,578
Accumulated benefit obligation	3,265	3,229
Fair value of plan assets	2,788	2,662
SDG&E:		
Projected benefit obligation	$ 887	$ 861
Accumulated benefit obligation	834	818
Fair value of plan assets	819	739
SoCalGas:		
Projected benefit obligation	$ 2,792	$ 2,505
Accumulated benefit obligation	2,431	2,208
Fair value of plan assets	1,969	1,737

We also have unfunded pension plans at Sempra Energy, SDG&E, SoCalGas and IEnova. The following table shows the obligations of unfunded pension plans at December 31:

OBLIGATIONS OF UNFUNDED PENSION PLANS
(Dollars in millions)

	2020	2019
Sempra Energy Consolidated:		
Projected benefit obligation	$ 184	$ 190
Accumulated benefit obligation	146	158
SDG&E:		
Projected benefit obligation	$ 26	$ 34
Accumulated benefit obligation	22	27
SoCalGas:		
Projected benefit obligation	$ 37	$ 21
Accumulated benefit obligation	31	17

Sempra Energy, SDG&E and SoCalGas each have a funded other postretirement benefit plan. The following table shows the obligations of funded other postretirement benefit plans with accumulated postretirement benefit obligations in excess of plan assets at December 31:

OBLIGATIONS OF FUNDED OTHER POSTRETIREMENT BENEFIT PLANS
(Dollars in millions)

	2020	2019
Sempra Energy Consolidated:		
Accumulated postretirement benefit obligation	$ 33	$ 32
Fair value of plan assets	27	25

We also have unfunded other postretirement benefit plans at Sempra Energy. The following table shows the obligations of unfunded other postretirement benefit plans at December 31:

OBLIGATIONS OF UNFUNDED OTHER POSTRETIREMENT BENEFIT PLANS
(Dollars in millions)

	2020	2019
Sempra Energy Consolidated:		
Accumulated postretirement benefit obligation	$ 14	$ 16

Net Periodic Benefit Cost

The following tables provide the components of net periodic benefit cost and pretax amounts recognized in OCI for the years ended December 31:

NET PERIODIC BENEFIT COST AND AMOUNTS RECOGNIZED IN OCI
SEMPRA ENERGY CONSOLIDATED
(Dollars in millions)

	Pension benefits			Other postretirement benefits		
	2020	2019	2018	2020	2019	2018
NET PERIODIC BENEFIT COST						
Service cost	$ 129	$ 110	$ 124	$ 18	$ 17	$ 21
Interest cost	129	139	140	33	36	36
Expected return on assets	(169)	(144)	(157)	(55)	(71)	(70)
Amortization of:						
Prior service cost (credit)	12	12	11	(2)	—	1
Actuarial loss (gain)	35	36	22	(10)	(10)	(6)
Settlement charges	22	28	66	—	—	—
Special termination benefits	—	—	—	—	—	5
Net periodic benefit cost (credit)	158	181	206	(16)	(28)	(13)
Regulatory adjustment	91	77	(30)	16	29	17
Total expense recognized	249	258	176	—	1	4
CHANGES IN PLAN ASSETS AND BENEFIT OBLIGATIONS RECOGNIZED IN OCI [1]						
Net loss (gain)	28	17	56	1	(3)	(4)
Prior service cost	—	5	12	—	—	—
Amortization of actuarial (loss) gain	(14)	(13)	(12)	—	—	—
Amortization of prior service cost	(4)	(3)	(2)	—	—	—
Settlements	(22)	(28)	(12)	—	—	—
Total recognized in OCI	(12)	(22)	42	1	(3)	(4)
Total recognized in net periodic benefit cost and OCI	$ 237	$ 236	$ 218	$ 1	$ (2)	$ —

(1) *Includes discontinued operations.*

NET PERIODIC BENEFIT COST AND AMOUNTS RECOGNIZED IN OCI
SAN DIEGO GAS & ELECTRIC COMPANY
(Dollars in millions)

	Pension benefits			Other postretirement benefits		
	2020	2019	2018	2020	2019	2018
NET PERIODIC BENEFIT COST						
Service cost	$ 31	$ 30	$ 30	$ 4	$ 4	$ 5
Interest cost	30	34	35	6	7	7
Expected return on assets	(49)	(38)	(47)	(10)	(11)	(13)
Amortization of:						
Prior service cost	2	3	2	—	2	3
Actuarial loss (gain)	3	11	1	(3)	(2)	(3)
Settlement charges	—	—	26	—	—	—
Special termination benefits	—	—	—	—	—	3
Net periodic benefit cost	17	40	47	(3)	—	2
Regulatory adjustment	38	14	(8)	3	—	—
Total expense recognized	55	54	39	—	—	2
CHANGES IN PLAN ASSETS AND BENEFIT OBLIGATIONS RECOGNIZED IN OCI						
Net loss (gain)	6	5	(1)	—	—	—
Prior service cost	—	2	8	—	—	—
Transfer of actuarial loss	(7)	—	—	—	—	—
Transfer of prior service cost	(5)	—	—	—	—	—
Amortization of actuarial loss	(1)	—	(1)	—	—	—
Amortization of prior service cost	(1)	(1)	—	—	—	—
Settlements	—	—	(4)	—	—	—
Total recognized in OCI	(8)	6	2	—	—	—
Total recognized in net periodic benefit cost and OCI	$ 47	$ 60	$ 41	$ —	$ —	$ 2

NET PERIODIC BENEFIT COST AND AMOUNTS RECOGNIZED IN OCI
SOUTHERN CALIFORNIA GAS COMPANY
(Dollars in millions)

	Pension benefits			Other postretirement benefits		
	2020	2019	2018	2020	2019	2018
NET PERIODIC BENEFIT COST						
Service cost	$ 86	$ 68	$ 81	$ 14	$ 12	$ 15
Interest cost	88	91	92	25	27	27
Expected return on assets	(107)	(94)	(98)	(43)	(58)	(56)
Amortization of:						
Prior service cost (credit)	8	8	8	(2)	(2)	(3)
Actuarial loss (gain)	26	16	13	(7)	(8)	(2)
Settlement charges	—	—	32	—	—	—
Special termination benefits	—	—	—	—	—	2
Net periodic benefit cost (credit)	101	89	128	(13)	(29)	(17)
Regulatory adjustment	53	63	(22)	13	29	17
Total expense recognized	154	152	106	—	—	—
CHANGES IN PLAN ASSETS AND BENEFIT OBLIGATIONS RECOGNIZED IN OCI						
Net loss	6	2	1	—	—	—
Prior service cost	—	3	—	—	—	—
Transfer of actuarial loss	5	(4)	—	—	—	—
Transfer of prior service cost	3	(1)	—	—	—	—
Amortization of actuarial loss	(1)	(1)	—	—	—	—
Amortization of prior service cost	(1)	—	(1)	—	—	—
Total recognized in OCI	12	(1)	—	—	—	—
Total recognized in net periodic benefit cost and OCI	$ 166	$ 151	$ 106	$ —	$ —	$ —

Assumptions for Pension and Other Postretirement Benefit Plans

Benefit Obligation and Net Periodic Benefit Cost

Except for the IEnova plans, we develop the discount rate assumptions using a bond selection-settlement portfolio approach. This approach develops a discount rate by selecting a portfolio of high quality corporate bonds that generate sufficient cash flows to provide for projected benefit payments of the plan. The selected bond portfolio is derived from a universe of corporate bonds with a Bloomberg Composite of AA or higher. After the bond portfolio is selected, a single interest rate is determined that equates the present value of the plans' projected benefit payments discounted at this rate with the market value of the bonds selected.

We develop the discount rate assumptions for the plans at IEnova by constructing a synthetic government zero coupon bond yield curve from the available market data, based on duration matching, and we add a risk spread to allow for the yields of high-quality corporate bonds. Such method is required when there is no deep market for high quality corporate bonds.

Long-term return on assets is based on the weighted-average of the plans' investment allocation as of the measurement date and the expected returns for those asset types.

Interest crediting rate is based on an average 30-year Treasury bond from the month of November of the preceding year.

We amortize prior service cost using straight line amortization over average future service (or average expected lifetime for plans where participants are substantially inactive employees), which is an alternative method allowed under U.S. GAAP.

The significant assumptions affecting benefit obligation and net periodic benefit cost are as follows:

WEIGHTED-AVERAGE ASSUMPTIONS USED TO DETERMINE BENEFIT OBLIGATION AT DECEMBER 31

	Pension benefits		Other postretirement benefits	
	2020	2019	2020	2019
Sempra Energy Consolidated:				
Discount rate	2.78 %	3.49 %	2.88 %	3.54 %
Interest crediting rate[1][2]	1.62	2.28	1.62	2.28
Rate of compensation increase	2.70-10.00	2.70-10.00	2.70-10.00	2.70-10.00
SDG&E:				
Discount rate	2.73 %	3.44 %	2.85 %	3.55 %
Interest crediting rate[1][2]	1.62	2.28	1.62	2.28
Rate of compensation increase	2.70-10.00	2.70-10.00	2.70-10.00	2.70-10.00
SoCalGas:				
Discount rate	2.79 %	3.50 %	2.90 %	3.55 %
Interest crediting rate[1][2]	1.62	2.28	1.62	2.28
Rate of compensation increase	2.70-10.00	2.70-10.00	2.70-10.00	2.70-10.00

[1] *Interest crediting rate for pension benefits applies only to funded cash balance plans.*

[2] *Interest crediting rate for other postretirement benefits applies only to interest bearing health retirement accounts at SDG&E and SoCalGas.*

WEIGHTED-AVERAGE ASSUMPTIONS USED TO DETERMINE NET PERIODIC BENEFIT COST YEARS ENDED DECEMBER 31						
	Pension benefits			Other postretirement benefits		
	2020	2019	2018	2020	2019	2018
Sempra Energy Consolidated:						
Discount rate	3.49 %	4.29 %	3.64 %	3.54 %	4.29 %	3.68 %
Expected return on plan assets	7.00	7.00	7.00	4.64	6.48	6.49
Interest crediting rate[1][2]	2.28	3.36	2.80	2.28	3.36	2.80
Rate of compensation increase	2.70-10.00	2.00-10.00	2.00-10.00	2.70-10.00	2.00-10.00	2.00-10.00
SDG&E:						
Discount rate	3.44 %	4.29 %	3.64 %	3.55 %	4.30 %	3.65 %
Expected return on plan assets	7.00	7.00	7.00	5.51	6.92	6.94
Interest crediting rate[1][2]	2.28	3.36	2.80	2.28	3.36	2.80
Rate of compensation increase	2.70-10.00	2.00-10.00	2.00-10.00	2.70-10.00	2.00-10.00	2.00-10.00
SoCalGas:						
Discount rate	3.50 %	4.30 %	3.65 %	3.55 %	4.30 %	3.70 %
Expected return on plan assets	7.00	7.00	7.00	4.41	6.38	6.38
Interest crediting rate[1][2]	2.28	3.36	2.80	2.28	3.36	2.80
Rate of compensation increase	2.70-10.00	2.00-10.00	2.00-10.00	2.70-10.00	2.00-10.00	2.00-10.00

[1] *Interest crediting rate for pension benefits applies only to funded cash balance plans.*

[2] *Interest crediting rate for other postretirement benefits applies only to interest bearing health retirement accounts at SDG&E and SoCalGas.*

Health Care Cost Trend Rates

Assumed health care cost trend rates have a significant effect on the amounts that we report for the health care plan costs. Following are the health care cost trend rates applicable to our postretirement benefit plans:

ASSUMED HEALTH CARE COST TREND RATES AT DECEMBER 31						
	Other postretirement benefit plans					
	Pre-65 retirees			Retirees aged 65 years and older		
	2020	2019	2018	2020	2019	2018
Health care cost trend rate assumed for next year	6.00 %	6.25 %	6.50 %	4.75 %	4.75 %	4.75 %
Rate to which the cost trend rate is assumed to decline (the ultimate trend)	4.75 %	4.75 %	4.75 %	4.50 %	4.50 %	4.50 %
Year the rate reaches the ultimate trend	2025	2025	2025	2022	2022	2022

Plan Assets

Investment Allocation Strategy for Sempra Energy's Pension Master Trust

Sempra Energy's pension master trust holds the investments for our pension plans and a portion of the investments for our PBOP plans. We maintain additional trusts, as we discuss below, for certain of the California Utilities' PBOP plans. Other than through indexing strategies, the trusts do not invest in securities of Sempra Energy.

The current asset allocation objective for the pension master trust is to protect the funded status of the plans while generating sufficient returns to cover future benefit payments and accruals. We assess the portfolio performance by comparing actual returns with relevant benchmarks. Currently, the pension plans' target asset allocations are:

- 33% domestic equity
- 22% international equity
- 21% long credit
- 10% diversified real assets
- 7% return-seeking credit
- 5% ultra-long duration government securities
- 2% other diversifying assets

The asset allocation of the plans is reviewed by our Plan Funding Committee and our Pension and Benefits Investment Committee (the Committees) on a regular basis. When evaluating strategic asset allocations, the Committees consider many variables, including:

- long-term cost
- variability and level of contributions
- funded status
- a range of expected outcomes over varying confidence levels

This allocation results in a 74% target allocation to return-seeking assets and a 26% target allocation to risk-mitigating assets. We maintain asset allocations at strategic levels with reasonable bands of variance.

In accordance with the Sempra Energy pension investment guidelines, derivative financial instruments may be used by the pension master trust's equity and fixed income portfolio investment managers to equitize cash, hedge certain exposures, and as substitutes for certain types of fixed income securities.

Rate of Return Assumption

The expected return on assets in our pension and PBOP plans is based on the weighted-average of the plans' investment allocations to specific asset classes as of the measurement date. We arrive at a 6.75% expected return on assets by considering both the historical and forecasted long-term rates of return on those asset classes. We expect a return of between 4% and 12% on return-seeking assets and between 1% and 4% for risk-mitigating assets. Certain trusts that hold assets for the SDG&E other postretirement benefit plan are subject to taxation, which impacts the expected after-tax return on assets in the plan.

Concentration of Risk

Plan assets are diversified across global equity and bond markets, and concentration of risk in any one economic, industry, maturity or geographic sector is limited.

Investment Strategy for SDG&E's and SoCalGas' Other Postretirement Benefit Plans

SDG&E's and SoCalGas' PBOP plans are funded by cash contributions from SDG&E and SoCalGas and their current retirees. The assets of these plans are placed into the pension master trust and other Voluntary Employee Beneficiary Association trusts. Certain assets of SDG&E's and SoCalGas' PBOP plans are held in the pension master trust, which invests a portion of the assets in completion portfolios that aim to reduce interest rate risk, thereby resulting in an overall target allocation of 38% to return-seeking assets and 62% to risk-mitigating assets for these well-funded plans. Certain of SoCalGas' PBOP plans are held in a Voluntary Employee Benefit Association trust that also utilizes a completion portfolio, resulting in a target allocation of 30% to return-seeking assets and 70% to risk-mitigating assets. SDG&E's and SoCalGas' assets held in other Voluntary Employee Beneficiary Association trusts are invested in accordance with a de-risking glidepath that reduces the assets' exposure to risk as the trusts become better funded. These specific allocations are periodically reviewed to help ensure that plan assets are best positioned to meet plan obligations.

Fair Value of Pension and Other Postretirement Benefit Plan Assets

We classify the investments in Sempra Energy's pension master trust and the trusts for the California Utilities' PBOP plans based on the fair value hierarchy, except for certain investments measured at NAV.

The following are descriptions of the valuation methods and assumptions we use to estimate the fair values of investments held by pension and other postretirement benefit plan trusts.

Equity Securities – Equity securities are valued using quoted prices listed on nationally recognized securities exchanges.

Fixed Income Securities – Certain fixed income securities are valued at the closing price reported in the active market in which the security is traded. Other fixed income securities are valued based on yields currently available on comparable securities of issuers with similar credit ratings. When quoted prices are not available for identical or similar securities, the security is valued under a discounted cash flow approach that maximizes observable inputs, such as current yields of similar instruments, but includes adjustments for certain risks that may not be observable, such as credit and liquidity risks. Certain high yield fixed-income securities are valued by applying a price adjustment to the bid side to calculate a mean and ask value. Adjustments can vary based on maturity, credit standing, and reported trade frequencies. The bid to ask spread is determined by the investment manager based on the review of the available market information.

Registered Investment Companies – Investments in mutual funds sponsored by a registered investment company are valued based on exchange listed prices. Where the value is a quoted price in an active market, the investment is classified within

Level 1 of the fair value hierarchy. Investments in certain fixed income securities are valued under a discounted cash flow approach that maximizes observable inputs, such as current yields of similar instruments, but includes adjustments for certain risks that may not be observable, such as credit and liquidity risks for the remaining fixed income securities.

Common/Collective Trusts – Investments in common/collective trust funds are valued based on the NAV of units owned, which is based on the current fair value of the funds' underlying assets.

Private Equity Funds – These funds consist of investments in private equities that are held by limited partnerships following various strategies, including private equity and corporate finance. These partnerships generally have limited lives of 10 years, after which liquidating distributions will be received. The value is determined based on the NAV of the proportionate share of an ownership interest in partners' capital. Holdings in these types of private equity funds are negligible, as the funds are well past their expected investment term and have distributed the bulk of proceeds from investment sales.

Derivative Financial Instruments – Futures contracts that are publicly traded in active markets are valued at closing prices as of the last business day of the year. Forward currency contracts are valued at the prevailing forward exchange rate of the underlying currencies, and unrealized gain (loss) is recorded daily. Fixed income futures and options are marked to market daily. Equity index futures contracts are valued at the last sales price quoted on the exchange on which they primarily trade.

While management believes the valuation methods described above are appropriate and consistent with other market participants, the use of different methodologies or assumptions to determine the fair value of certain financial instruments could result in a different fair value measurement at the reporting date.

We provide more discussion of fair value measurements in Notes 1 and 12. The following tables set forth by level within the fair value hierarchy a summary of the investments in our pension and other postretirement benefit plan trusts measured at fair value on a recurring basis.

SDG&E and SoCalGas each hold a proportionate share of investment assets in the pension master trust at Sempra Energy Consolidated. The fair values of our pension plan assets by asset category are as follows:

FAIR VALUE MEASUREMENTS – INVESTMENT ASSETS OF PENSION PLANS
(Dollars in millions)

	Fair value at December 31, 2020		
	Level 1	Level 2	Total
Sempra Energy Consolidated:			
Cash and cash equivalents	$ 7	$ —	$ 7
Equity securities:			
Domestic	931	—	931
International	563	—	563
Registered investment companies	183	—	183
Fixed income securities:			
Domestic government and government agencies	238	34	272
International government bonds	—	13	13
Domestic corporate bonds	—	418	418
International corporate bonds	—	61	61
Registered investment companies	—	37	37
Other	2	(1)	1
Total investment assets in the fair value hierarchy	$ 1,924	$ 562	2,486
Accounts receivable/payable, net			13
Investments measured at NAV:			
Common/collective trusts			493
Private equity funds			10
Total investment assets			$ 3,002
SDG&E's proportionate share of investment assets			$ 819
SoCalGas' proportionate share of investment assets			$ 1,969

	Fair value at December 31, 2019		
	Level 1	Level 2	Total
Sempra Energy Consolidated:			
Cash and cash equivalents	$ 17	$ —	$ 17
Equity securities:			
Domestic	923	—	923
International	555	1	556
Registered investment companies	96	—	96
Fixed income securities:			
Domestic government and government agencies	228	39	267
International government bonds	—	9	9
Domestic corporate bonds	—	346	346
International corporate bonds	—	62	62
Registered investment companies	—	2	2
Total investment assets in the fair value hierarchy	$ 1,819	$ 459	2,278
Accounts receivable/payable, net			(38)
Investments measured at NAV:			
Common/collective trusts			417
Private equity funds			5
Total investment assets			$ 2,662
SDG&E's proportionate share of investment assets			$ 739
SoCalGas' proportionate share of investment assets			$ 1,737

The fair values by asset category of the PBOP plan assets held in the pension master trust and in the additional trusts for SoCalGas' PBOP plans and SDG&E's PBOP plan trusts are as follows:

FAIR VALUE MEASUREMENTS – INVESTMENT ASSETS OF OTHER POSTRETIREMENT BENEFIT PLANS
(Dollars in millions)

	Fair value at December 31, 2020		
	Level 1	Level 2	Total
SDG&E:			
Equity securities:			
Domestic	$ 17	$ —	$ 17
International	11	—	11
Registered investment companies	80	—	80
Fixed income securities:			
Domestic government and government agencies	38	2	40
Domestic corporate bonds	—	8	8
International corporate bonds	—	1	1
Registered investment companies	—	7	7
Total investment assets in the fair value hierarchy	146	18	164
Accounts receivable/payable, net			(2)
Investments measured at NAV – Common/collective trusts			51
Total investment assets			213
SoCalGas:			
Cash and cash equivalents	1	—	1
Equity securities:			
Domestic	76	—	76
International	46	—	46
Registered investment companies	61	—	61
Fixed income securities:			
Domestic government and government agencies	273	25	298
International government bonds	1	14	15
Domestic corporate bonds	—	349	349
International corporate bonds	—	42	42
Registered investment companies	—	81	81
Derivative financial instruments	1	—	1
Total investment assets in the fair value hierarchy	459	511	970
Investments measured at NAV:			
Common/collective trusts			188
Venture capital funds and real estate funds			1
Total investment assets			1,159
Other Sempra Energy:			
Equity securities:			
Domestic	10	—	10
International	6	—	6
Registered investment companies	1	—	1
Fixed income securities:			
Domestic government and government agencies	2	—	2
Domestic corporate bonds	—	4	4
International corporate bonds	—	1	1
Registered investment companies	—	(1)	(1)
Total investment assets in the fair value hierarchy	19	4	23
Investments measured at NAV – Common/collective trusts			4
Total other Sempra Energy investment assets			27
Total Sempra Energy Consolidated investment assets in the fair value hierarchy	$ 624	$ 533	
Total Sempra Energy Consolidated investment assets			$ 1,399

FAIR VALUE MEASUREMENTS – INVESTMENT ASSETS OF OTHER POSTRETIREMENT BENEFIT PLANS
(Dollars in millions)

	Fair value at December 31, 2019		
	Level 1	Level 2	Total
SDG&E:			
Equity securities:			
Domestic	$ 21	$ —	$ 21
International	13	—	13
Registered investment companies	68	—	68
Fixed income securities:			
Domestic government and government agencies	32	1	33
Domestic corporate bonds	—	8	8
International corporate bonds	—	1	1
Registered investment companies	—	8	8
Total investment assets in the fair value hierarchy	134	18	152
Accounts receivable/payable, net			(2)
Investments measured at NAV – Common/collective trusts			47
Total investment assets			197
SoCalGas:			
Cash and cash equivalents	3	—	3
Equity securities:			
Domestic	78	—	78
International	48	—	48
Registered investment companies	52	—	52
Fixed income securities:			
Domestic government and government agencies	267	21	288
International government bonds	1	10	11
Domestic corporate bonds	—	309	309
International corporate bonds	—	40	40
Registered investment companies	—	75	75
Derivative financial instruments	3	—	3
Total investment assets in the fair value hierarchy	452	455	907
Accounts receivable/payable, net			(5)
Investments measured at NAV – Common/collective trusts			157
Total investment assets			1,059
Other Sempra Energy:			
Equity securities:			
Domestic	9	—	9
International	4	—	4
Fixed income securities:			
Domestic government and government agencies	3	1	4
Domestic corporate bonds	—	3	3
International corporate bonds	—	1	1
Total investment assets in the fair value hierarchy	16	5	21
Investments measured at NAV – Common/collective trusts			4
Total other Sempra Energy investment assets			25
Total Sempra Energy Consolidated investment assets in the fair value hierarchy	$ 602	$ 478	
Total Sempra Energy Consolidated investment assets			$ 1,281

Future Payments

We expect to contribute the following amounts to our pension and PBOP plans in 2021:

EXPECTED CONTRIBUTIONS
(Dollars in millions)

	Sempra Energy Consolidated	SDG&E	SoCalGas
Pension plans	$ 246	$ 53	$ 157
Other postretirement benefit plans	5	1	1

The following table shows the total benefits we expect to pay for the next 10 years to current employees and retirees from the plans or from company assets.

EXPECTED BENEFIT PAYMENTS
(Dollars in millions)

	Sempra Energy Consolidated		SDG&E		SoCalGas	
	Pension benefits	Other postretirement benefits	Pension benefits	Other postretirement benefits	Pension benefits	Other postretirement benefits
2021	$ 389	$ 47	$ 112	$ 10	$ 226	$ 34
2022	268	47	68	10	172	34
2023	255	48	65	10	166	35
2024	246	48	61	10	159	35
2025	239	47	60	10	157	35
2026-2030	1,130	235	263	47	752	172

SAVINGS PLANS

Sempra Energy Consolidated, SDG&E and SoCalGas offer trusteed savings plans to all employees. Employee participation, employee contributions and employer matching contributions are subject to the provisions of the respective plans, and for employee contributions, limits imposed by the respective governmental authorities.

Employer contributions to the savings plans were as follows:

EMPLOYER CONTRIBUTIONS TO SAVINGS PLANS
(Dollars in millions)

	2020	2019	2018
Sempra Energy Consolidated	$ 47	$ 44	$ 43
SDG&E	16	15	15
SoCalGas	25	24	23

The market value of Sempra Energy common stock held by the savings plans was $1.1 billion and $1.3 billion at December 31, 2020 and 2019, respectively.

NOTE 10. SHARE-BASED COMPENSATION

SEMPRA ENERGY EQUITY COMPENSATION PLANS

Sempra Energy has share-based compensation plans intended to align employee and shareholder objectives related to the long-term growth of Sempra Energy. The plans permit a wide variety of share-based awards, including:

- nonqualified stock options
- incentive stock options
- restricted stock awards

- restricted stock units
- stock appreciation rights
- performance awards
- stock payments
- dividend equivalents

Eligible employees, including those from the California Utilities, participate in Sempra Energy's share-based compensation plans as a component of their compensation package.

In the three years ended December 31, 2020, Sempra Energy had the following types of equity awards outstanding:

- *Nonqualified Stock Options*: Options to purchase common stock have an exercise price equal to the market price of the common stock at the date of grant, are service-based, become exercisable over a three-year period (for awards granted in 2020 and 2019) or over a four-year period (for awards granted in 2010 or earlier), and expire 10 years from the date of grant. Vesting and/or the ability to exercise may be accelerated upon a change in control, in accordance with severance pay agreements or in accordance with the terms of the grant. Options are subject to forfeiture or earlier expiration following termination of employment, subject to certain exceptions.
- *Performance-Based Restricted Stock Units*: These RSU awards generally vest in Sempra Energy common stock at the end of three-year (for awards granted during or after 2015) or four-year performance periods (for awards granted prior to 2015) based on Sempra Energy's total return to shareholders relative to that of specified market indices or based on the compound annual growth rate of Sempra Energy's EPS. The comparative market indices for the awards that vest based on total return to shareholders are the S&P 500 Utilities Index (excluding water companies) and the S&P 500 Index. We use long-term analyst consensus growth estimates for S&P 500 Utilities Index peer companies (excluding water companies) to develop our targets for awards that vest based on EPS growth.
  - For awards granted during or after 2014, up to an additional 100% of the granted RSUs may be issued if total return to shareholders or EPS growth exceeds target levels.
  - For awards granted in 2015 and 2016 and certain awards granted in 2017 and 2018 that vest based on Sempra Energy's total return to shareholders, a modifier adds 20% to the award's payout (as initially calculated based on total return to shareholders relative to that of specified market indices) for total shareholder return performance in the top quartile relative to historical benchmark data for Sempra Energy and reduces the award's payout by 20% for performance in the bottom quartile. However, in no event will more than an additional 100% of the granted RSUs be issued. If performance falls within the second or third quartiles, the modifier is not triggered, and the payout is based solely on total return to shareholders relative to that of specified market indices.

If Sempra Energy's total return to shareholders or EPS growth is below the target levels but above threshold performance levels, shares are subject to partial vesting on a pro rata basis.

- *Other Performance-Based Restricted Stock Units:* RSUs were granted in 2015 in connection with the creation of Cameron LNG JV. The 2015 awards vested in 2019 as both of the following were achieved: (a) the Compensation and Talent Committee of Sempra Energy's board of directors determined that Sempra Energy achieved positive cumulative net income for fiscal years 2015 through 2017 and (b) Cameron LNG JV commenced commercial operations of the first train.
- *Service-Based Restricted Stock Units:* RSUs may also be service-based; these generally vest ratably over three-year service periods (for awards granted in 2019), or at the end of three-year (for awards granted during 2015 through 2018) or four-year service periods (for awards granted prior to 2015).

For RSU awards, vesting may be subject to earlier forfeiture upon termination of employment and accelerated vesting upon a change in control under the applicable LTIP, in accordance with severance pay agreements, or at the discretion of the Compensation and Talent Committee of Sempra Energy's board of directors. Dividend equivalents on shares subject to RSUs are reinvested to purchase additional common shares that become subject to the same vesting conditions as the RSUs to which the dividends relate.

SHARE-BASED AWARDS AND COMPENSATION EXPENSE

At December 31, 2020, 6,927,284 common shares were authorized and available for future grants of share-based awards. Our practice is to satisfy share-based awards by issuing new shares rather than by open-market purchases.

We measure and recognize compensation expense for all share-based payment awards made to our employees and directors based on estimated fair values on the date of grant. We recognize compensation costs net of an estimated forfeiture rate (based on historical experience) and recognize the compensation costs for nonqualified stock options and RSUs on a straight-line basis over the requisite service period of the award, which is generally three or four years. However, for awards granted to retirement-

eligible participants, the expense is recognized over the initial year in which the award was granted as the award requires service through the end of the year in which it was granted. For awards granted to participants who become eligible for retirement during the requisite service period, the expense is recognized over the period between the date of grant and the later of the end of the year in which the award was granted or the date the participant first becomes eligible for retirement. Substantially all awards outstanding are classified as equity instruments; therefore, we recognize additional paid in capital as we recognize the compensation expense associated with the awards. We recognize in earnings the tax benefits (or deficiencies) resulting from tax deductions that are in excess of (or less than) tax benefits related to compensation cost recognized for share-based payments.

Sempra Energy subsidiaries record an expense for the plans to the extent that subsidiary employees participate in the plans and/or the subsidiaries are allocated a portion of the Sempra Energy plans' corporate staff costs. Total share-based compensation expense for all of Sempra Energy's share-based awards was comprised as follows:

SHARE-BASED COMPENSATION EXPENSE
(Dollars in millions)

	Years ended December 31,		
	2020	2019	2018
Sempra Energy Consolidated:			
Share-based compensation expense, before income taxes[(1)]	$ 62	$ 66	$ 76
Income tax benefit[(1)]	(17)	(18)	(21)
	$ 45	$ 48	$ 55
Capitalized share-based compensation cost	$ 11	$ 11	$ 10
Excess income tax deficiency	$ 19	$ 4	$ 15
SDG&E:			
Share-based compensation expense, before income taxes	$ 11	$ 10	$ 12
Income tax benefit	(3)	(3)	(3)
	$ 8	$ 7	$ 9
Capitalized share-based compensation cost	$ 7	$ 6	$ 6
Excess income tax deficiency	$ 3	$ 1	$ 3
SoCalGas:			
Share-based compensation expense, before income taxes	$ 14	$ 15	$ 16
Income tax benefit	(4)	(4)	(5)
	$ 10	$ 11	$ 11
Capitalized share-based compensation cost	$ 4	$ 5	$ 4
Excess income tax deficiency	$ 3	$ 1	$ 2

(1) *Includes activity of awards issued from the IEnova 2013 LTIP, which settle in cash upon vesting based on the price of IEnova's common stock.*

SEMPRA ENERGY NONQUALIFIED STOCK OPTIONS

We use a Black-Scholes option-pricing model to estimate the fair value of each nonqualified stock option grant. The use of a valuation model requires us to make certain assumptions about selected model inputs. Expected volatility is calculated based on a blend of the historical and implied volatility of Sempra Energy's common stock price. The average expected term for options is based on the vesting schedule, contractual term of the option, expected employee exercise and post-termination behavior. The risk-free interest rate is based on U.S. Treasury zero-coupon issues with a remaining term equal to the expected term estimated at the date of the grant. In 2020 and 2019, Sempra Energy's board of directors granted 154,860 and 261,075 nonqualified stock options, respectively, that are exercisable over a three-year period. There were no stock options granted in 2018. The weighted-average per-share fair value for options granted was $19.76 and $13.20 in 2020 and 2019, respectively. To calculate this fair value, we used the Black-Scholes model with the following weighted-average assumptions:

KEY ASSUMPTIONS FOR STOCK OPTIONS GRANTED

	Years ended December 31,	
	2020	2019
Stock price volatility	18.78 %	18.63 %
Expected term	5.34 years	5.34 years
Risk-free rate of return	1.68 %	2.49 %
Annual dividend yield	2.60 %	3.35 %

The following table shows a summary of nonqualified stock options at December 31, 2020 and activity for the year then ended:

NONQUALIFIED STOCK OPTIONS

	Common shares under options	Weighted- average exercise price	Weighted- average remaining contractual term (in years)	Aggregate intrinsic value (in millions)
Outstanding at January 1, 2020	247,577	$ 105.86		
Granted	154,860	$ 149.12		
Exercised	(4,400)	$ 55.90		
Forfeited/canceled	(32,642)	$ 149.12		
Outstanding at December 31, 2020	365,395	$ 120.93	8.34	$ 2
Vested or expected to vest at December 31, 2020	349,596	$ 120.28	8.32	$ 2
Exercisable at December 31, 2020	81,061	$ 106.76	8.00	$ 2

The aggregate intrinsic value at December 31, 2020 is the total of the difference between Sempra Energy's closing common stock price and the exercise price for all in-the-money options. The aggregate intrinsic value for nonqualified stock options exercised in the last three years was:

- $0.4 million in 2020
- $4 million in 2019
- $9 million in 2018

We expect a negligible amount of total compensation cost related to nonvested stock options not yet recognized as of December 31, 2020 to be recognized over a weighted-average period of 1.3 years. The weighted-average per-share fair value for nonqualified stock options granted in 2019 was $106.76.

We received cash of $0.2 million and $3 million from stock option exercises during 2020 and 2019, respectively.

SEMPRA ENERGY RESTRICTED STOCK UNITS

We use a Monte-Carlo simulation model to estimate the fair value of our RSUs that vest based on Sempra Energy's total return to shareholders. Our determination of fair value is affected by the historical volatility of the common stock price for Sempra Energy and its peer group companies. The valuation also is affected by the risk-free rates of return and a number of other variables. Below are key assumptions for RSUs granted in the last three years:

KEY ASSUMPTIONS FOR RSUs GRANTED

	Years ended December 31,		
	2020	2019	2018
Stock price volatility	16.35 %	17.74 %	17.46 %
Risk-free rate of return	1.55 %	2.46 %	2.00 %

The following table shows a summary of RSUs at December 31, 2020 and activity for the year then ended:

RESTRICTED STOCK UNITS

	Performance-based restricted stock units		Service-based restricted stock units	
	Units	Weighted- average grant-date fair value	Units	Weighted- average grant-date fair value
Nonvested at January 1, 2020	1,086,981	$ 109.85	415,787	$ 119.96
Granted	265,236	$ 155.62	165,847	$ 138.91
Vested	(403,302)	$ 110.45	(230,612)	$ 112.11
Forfeited	(54,954)	$ 134.90	(7,445)	$ 140.18
Nonvested at December 31, 2020[1]	893,961	$ 121.61	343,577	$ 121.59
Expected to vest at December 31, 2020	882,903	$ 121.45	339,025	$ 121.46

(1) *Each RSU represents the right to receive one share of our common stock if applicable performance conditions are satisfied. For all performance-based RSUs, up to an additional 100% of the shares represented by the RSUs may be issued if Sempra Energy exceeds target performance conditions.*

In 2020, 2019 and 2018, the total fair value of RSU shares vested during the year was $70 million, $36 million and $32 million, respectively.

We expect $28 million of total compensation cost related to nonvested RSUs not yet recognized as of December 31, 2020 to be recognized over a weighted-average period of 1.7 years. The weighted-average per-share fair values for performance-based RSUs granted were $113.54 and $105.03 in 2019 and 2018, respectively. The weighted-average per-share fair values for service-based RSUs granted were $112.50 and $107.60 in 2019 and 2018, respectively.

NOTE 11. DERIVATIVE FINANCIAL INSTRUMENTS

We use derivative instruments primarily to manage exposures arising in the normal course of business. Our principal exposures are commodity market risk, benchmark interest rate risk and foreign exchange rate exposures. Our use of derivatives for these risks is integrated into the economic management of our anticipated revenues, anticipated expenses, assets and liabilities. Derivatives may be effective in mitigating these risks (1) that could lead to declines in anticipated revenues or increases in anticipated expenses, or (2) that could cause our asset values to fall or our liabilities to increase. Accordingly, our derivative activity summarized below generally represents an impact that is intended to offset associated revenues, expenses, assets or liabilities that are not included in the tables below.

In certain cases, we apply the normal purchase or sale exception to derivative instruments and have other commodity contracts that are not derivatives. These contracts are not recorded at fair value and are therefore excluded from the disclosures below.

In all other cases, we record derivatives at fair value on the Consolidated Balance Sheets. We have derivatives that are (1) cash flow hedges, (2) fair value hedges, or (3) undesignated. Depending on the applicability of hedge accounting and, for the California Utilities and other operations subject to regulatory accounting, the requirement to pass impacts through to customers, the impact of derivative instruments may be offset in OCI (cash flow hedges), on the balance sheet (regulatory offsets), or recognized in earnings (fair value hedges and undesignated derivatives not subject to rate recovery). We classify cash flows from the principal settlements of cross-currency swaps that hedge exposure related to Mexican peso-denominated debt as financing activities and settlements of other derivative instruments as operating activities on the Consolidated Statements of Cash Flows.

HEDGE ACCOUNTING

We may designate a derivative as a cash flow hedging instrument if it effectively converts anticipated cash flows associated with revenues or expenses to a fixed dollar amount. We may utilize cash flow hedge accounting for derivative commodity instruments, foreign currency instruments and interest rate instruments. Designating cash flow hedges is dependent on the business context in which the instrument is being used, the effectiveness of the instrument in offsetting the risk that the future cash flows of a given revenue or expense item may vary, and other criteria.

ENERGY DERIVATIVES

Our market risk is primarily related to natural gas and electricity price volatility and the specific physical locations where we transact. We use energy derivatives to manage these risks. The use of energy derivatives in our various businesses depends on the particular energy market, and the operating and regulatory environments applicable to the business, as follows:

- The California Utilities use natural gas and electricity derivatives, for the benefit of customers, with the objective of managing price risk and basis risks, and stabilizing and lowering natural gas and electricity costs. These derivatives include fixed-price natural gas and electricity positions, options, and basis risk instruments, which are either exchange-traded or over-the-counter financial instruments, or bilateral physical transactions. This activity is governed by risk management and transacting activity plans that have been filed with and approved by the CPUC. Natural gas and electricity derivative activities are recorded as commodity costs that are offset by regulatory account balances and are recovered in rates. Net commodity cost impacts on the Consolidated Statements of Operations are reflected in Cost of Electric Fuel and Purchased Power or in Cost of Natural Gas.
- SDG&E is allocated and may purchase CRRs, which serve to reduce the regional electricity price volatility risk that may result from local transmission capacity constraints. Unrealized gains and losses do not impact earnings, as they are offset by regulatory account balances. Realized gains and losses associated with CRRs, which are recoverable in rates, are recorded in Cost of Electric Fuel and Purchased Power on the Consolidated Statements of Operations.
- Sempra Mexico and Sempra LNG may use natural gas and electricity derivatives, as appropriate, in an effort to optimize the earnings of their assets which support the following businesses: LNG, natural gas transportation and storage, and power generation. Gains and losses associated with undesignated derivatives are recognized in Energy-Related Businesses Revenues or in Energy-Related Businesses Cost of Sales on the Consolidated Statements of Operations. Certain of these derivatives may also be designated as cash flow hedges. Sempra Mexico may also use natural gas energy derivatives with the objective of managing price risk and lowering natural gas prices at its distribution operations. These derivatives, which are recorded as commodity costs that are offset by regulatory account balances and recovered in rates, are recognized in Cost of Natural Gas on the Consolidated Statements of Operations.
- From time to time, our various businesses, including the California Utilities, may use other energy derivatives to hedge exposures such as the price of vehicle fuel and GHG allowances.

The following table summarizes net energy derivative volumes.

NET ENERGY DERIVATIVE VOLUMES
(Quantities in millions)

Commodity	Unit of measure	December 31, 2020	December 31, 2019
Sempra Energy Consolidated:			
Natural gas	MMBtu	5	32
Electricity	MWh	1	2
Congestion revenue rights	MWh	43	48
SDG&E:			
Natural gas	MMBtu	16	37
Electricity	MWh	1	2
Congestion revenue rights	MWh	43	48
SoCalGas:			
Natural gas	MMBtu	1	2

In addition to the amounts noted above, we use commodity derivatives to manage risks associated with the physical locations of contractual obligations and assets, such as natural gas purchases and sales.

INTEREST RATE DERIVATIVES

We are exposed to interest rates primarily as a result of our current and expected use of financing. The California Utilities, as well as Sempra Energy and its other subsidiaries and JVs, periodically enter into interest rate derivative agreements intended to moderate our exposure to interest rates and to lower our overall costs of borrowing. In addition, we may utilize interest rate swaps, typically designated as cash flow hedges, to lock in interest rates on outstanding debt or in anticipation of future financings.

The following table presents the net notional amounts of our interest rate derivatives, excluding JVs.

INTEREST RATE DERIVATIVES
(Dollars in millions)

	December 31, 2020		December 31, 2019	
	Notional debt	Maturities	Notional debt	Maturities
Sempra Energy Consolidated:				
Cash flow hedges	$ 1,486	2021-2034	$ 1,445	2020-2034

FOREIGN CURRENCY DERIVATIVES

We utilize cross-currency swaps to hedge exposure related to Mexican peso-denominated debt at our Mexican subsidiaries and JVs. These cash flow hedges exchange our Mexican peso-denominated principal and interest payments into the U.S. dollar and swap Mexican variable interest rates for U.S. fixed interest rates. From time to time, Sempra Mexico and its JVs may use other foreign currency derivatives to hedge exposures related to cash flows associated with revenues from contracts denominated in Mexican pesos that are indexed to the U.S. dollar.

We are also exposed to exchange rate movements at our Mexican subsidiaries and JVs, which have U.S. dollar-denominated cash balances, receivables, payables and debt (monetary assets and liabilities) that give rise to Mexican currency exchange rate movements for Mexican income tax purposes. They also have deferred income tax assets and liabilities denominated in the Mexican peso, which must be translated to U.S. dollars for financial reporting purposes. In addition, monetary assets and liabilities and certain nonmonetary assets and liabilities are adjusted for Mexican inflation for Mexican income tax purposes. We utilize foreign currency derivatives as a means to manage the risk of exposure to significant fluctuations in our income tax expense and equity earnings from these impacts; however, we generally do not hedge our deferred income tax assets and liabilities or for inflation.

We also utilized foreign currency derivatives to hedge exposure to fluctuations in the Peruvian sol and Chilean peso related to the sales of our operations in Peru and Chile, respectively.

The following table presents the net notional amounts of our foreign currency derivatives, excluding JVs.

FOREIGN CURRENCY DERIVATIVES
(Dollars in millions)

	December 31, 2020		December 31, 2019	
	Notional amount	Maturities	Notional amount	Maturities
Sempra Energy Consolidated:				
Cross-currency swaps	$ 306	2021-2023	$ 306	2020-2023
Other foreign currency derivatives	1,764	2021-2022	1,796	2020-2021

FINANCIAL STATEMENT PRESENTATION

The Consolidated Balance Sheets reflect the offsetting of net derivative positions and cash collateral with the same counterparty when a legal right of offset exists. The following tables provide the fair values of derivative instruments on the Consolidated Balance Sheets, including the amount of cash collateral receivables that were not offset because the cash collateral was in excess of liability positions.

DERIVATIVE INSTRUMENTS ON THE CONSOLIDATED BALANCE SHEETS
(Dollars in millions)

	December 31, 2020			
	Other current assets[1]	Other long-term assets	Other current liabilities	Deferred credits and other
Sempra Energy Consolidated:				
Derivatives designated as hedging instruments:				
Interest rate and foreign exchange instruments	$ —	$ 1	$ (26)	$ (160)
Derivatives not designated as hedging instruments:				
Foreign exchange instruments	24	—	—	—
Commodity contracts not subject to rate recovery	82	17	(95)	(16)
Associated offsetting commodity contracts	(82)	(13)	82	13
Commodity contracts subject to rate recovery	35	95	(35)	(25)
Associated offsetting commodity contracts	(2)	—	2	—
Net amounts presented on the balance sheet	57	100	(72)	(188)
Additional cash collateral for commodity contracts not subject to rate recovery	21	—	—	—
Additional cash collateral for commodity contracts subject to rate recovery	30	—	—	—
Total[2]	$ 108	$ 100	$ (72)	$ (188)
SDG&E:				
Derivatives not designated as hedging instruments:				
Commodity contracts subject to rate recovery	$ 32	$ 95	$ (28)	$ (25)
Associated offsetting commodity contracts	(1)	—	1	—
Net amounts presented on the balance sheet	31	95	(27)	(25)
Additional cash collateral for commodity contracts subject to rate recovery	24	—	—	—
Total[2]	$ 55	$ 95	$ (27)	$ (25)
SoCalGas:				
Derivatives not designated as hedging instruments:				
Commodity contracts subject to rate recovery	$ 3	$ —	$ (7)	$ —
Associated offsetting commodity contracts	(1)	—	1	—
Net amounts presented on the balance sheet	2	—	(6)	—
Additional cash collateral for commodity contracts subject to rate recovery	6	—	—	—
Total	$ 8	$ —	$ (6)	$ —

(1) *Included in Current Assets: Fixed-Price Contracts and Other Derivatives for SDG&E.*

(2) *Normal purchase contracts previously measured at fair value are excluded.*

DERIVATIVE INSTRUMENTS ON THE CONSOLIDATED BALANCE SHEETS
(Dollars in millions)

	December 31, 2019			
	Other current assets[1]	Other long-term assets	Other current liabilities	Deferred credits and other
Sempra Energy Consolidated:				
Derivatives designated as hedging instruments:				
Interest rate and foreign exchange instruments	$ —	$ 3	$ (17)	$ (140)
Derivatives not designated as hedging instruments:				
Foreign exchange instruments	41	—	(20)	—
Associated offsetting foreign exchange instruments	(20)	—	20	—
Commodity contracts not subject to rate recovery	34	11	(41)	(10)
Associated offsetting commodity contracts	(32)	(2)	32	2
Commodity contracts subject to rate recovery	41	76	(47)	(47)
Associated offsetting commodity contracts	(6)	(3)	6	3
Associated offsetting cash collateral	—	—	14	—
Net amounts presented on the balance sheet	58	85	(53)	(192)
Additional cash collateral for commodity contracts not subject to rate recovery	43	—	—	—
Additional cash collateral for commodity contracts subject to rate recovery	25	—	—	—
Total[2]	$ 126	$ 85	$ (53)	$ (192)
SDG&E:				
Derivatives designated as hedging instruments:				
Commodity contracts subject to rate recovery	30	76	(41)	(47)
Associated offsetting commodity contracts	(4)	(3)	4	3
Associated offsetting cash collateral	—	—	14	—
Net amounts presented on the balance sheet	26	73	(23)	(44)
Additional cash collateral for commodity contracts subject to rate recovery	16	—	—	—
Total[2]	$ 42	$ 73	$ (23)	$ (44)
SoCalGas:				
Derivatives not designated as hedging instruments:				
Commodity contracts subject to rate recovery	$ 11	$ —	$ (6)	$ —
Associated offsetting commodity contracts	(2)	—	2	—
Net amounts presented on the balance sheet	9	—	(4)	—
Additional cash collateral for commodity contracts subject to rate recovery	9	—	—	—
Total	$ 18	$ —	$ (4)	$ —

(1) *Included in Current Assets: Fixed-Price Contracts and Other Derivatives for SDG&E.*

(2) *Normal purchase contracts previously measured at fair value are excluded.*

The table below includes the effects of derivative instruments designated as cash flow hedges on the Consolidated Statements of Operations and in OCI and AOCI.

CASH FLOW HEDGE IMPACTS
(Dollars in millions)

	Pretax (loss) gain recognized in OCI				Pretax (loss) gain reclassified from AOCI into earnings		
	Years ended December 31,				Years ended December 31,		
	2020	2019	2018	Location	2020	2019	2018
Sempra Energy Consolidated:							
Interest rate instruments	$ —	$ —	$ —	(Loss) Gain on Sale of Assets	$ —	$ (10)	$ (9)
Interest rate instruments[1]	(34)	(24)	17	Interest Expense[1]	(10)	(3)	(1)
Interest rate instruments	(185)	(164)	44	Equity Earnings	(46)	(3)	(9)
Foreign exchange instruments	(4)	(8)	(4)	Revenues: Energy-Related Businesses	1	(2)	1
Interest rate and foreign exchange instruments	(6)	19	14	Interest Expense	(1)	—	1
				Other (Expense) Income, Net	(11)	9	2
Foreign exchange instruments	(3)	(10)	(3)	Equity Earnings	—	(2)	2
Total	$ (232)	$ (187)	$ 68		$ (67)	$ (11)	$ (13)
SDG&E:							
Interest rate instruments[1]	$ —	$ (1)	$ 1	Interest Expense[1]	$ —	$ (3)	$ (7)
SoCalGas:							
Interest rate instruments	$ —	$ —	$ —	Interest Expense	$ —	$ (1)	$ (1)

[1] *Amounts include Otay Mesa VIE. All of SDG&E's interest rate derivative activity relates to Otay Mesa VIE. On August 14, 2019, OMEC LLC paid in full its variable-rate loan and terminated its interest rate swaps.*

For Sempra Energy Consolidated, we expect that $87 million of losses, which are net of income tax benefit, that are currently recorded in AOCI related to cash flow hedges will be reclassified into earnings during the next 12 months as the hedged items affect earnings. SoCalGas expects that $1 million of losses, net of income tax benefit, that are currently recorded in AOCI related to cash flow hedges will be reclassified into earnings during the next 12 months as the hedged items affect earnings. Actual amounts ultimately reclassified into earnings depend on the interest rates in effect when derivative contracts mature.

For all forecasted transactions, the maximum remaining term over which we are hedging exposure to the variability of cash flows at December 31, 2020 is approximately 14 years for Sempra Energy Consolidated. The maximum remaining term for which we are hedging exposure to the variability of cash flows at our equity method investees is 19 years.

The following table summarizes the effects of derivative instruments not designated as hedging instruments on the Consolidated Statements of Operations.

UNDESIGNATED DERIVATIVE IMPACTS
(Dollars in millions)

		Pretax gain (loss) on derivatives recognized in earnings		
		Years ended December 31,		
	Location	2020	2019	2018
Sempra Energy Consolidated:				
Commodity contracts not subject to rate recovery	Revenues: Energy-Related Businesses	$ 17	$ 12	$ 26
Commodity contracts subject to rate recovery	Cost of Natural Gas	(7)	3	5
Commodity contracts subject to rate recovery	Cost of Electric Fuel and Purchased Power	88	(140)	279
Foreign exchange instruments	Other (Expense) Income, Net	(56)	25	3
Total		$ 42	$ (100)	$ 313
SDG&E:				
Commodity contracts subject to rate recovery	Cost of Electric Fuel and Purchased Power	$ 88	$ (140)	$ 279
SoCalGas:				
Commodity contracts subject to rate recovery	Cost of Natural Gas	$ (7)	$ 3	$ 5

CONTINGENT FEATURES

For Sempra Energy Consolidated, SDG&E and SoCalGas, certain of our derivative instruments contain credit limits which vary depending on our credit ratings. Generally, these provisions, if applicable, may reduce our credit limit if a specified credit rating agency reduces our ratings. In certain cases, if our credit ratings were to fall below investment grade, the counterparty to these derivative liability instruments could request immediate payment or demand immediate and ongoing full collateralization.

For Sempra Energy Consolidated, the total fair value of this group of derivative instruments in a liability position at December 31, 2020 and 2019 was $16 million and $21 million, respectively. For SoCalGas, the total fair value of this group of derivative instruments in a liability position at December 31, 2020 and 2019 was $6 million and $4 million, respectively. At December 31, 2020, if the credit ratings of Sempra Energy or SoCalGas were reduced below investment grade, $16 million and $6 million, respectively, of additional assets could be required to be posted as collateral for these derivative contracts.

For Sempra Energy Consolidated, SDG&E and SoCalGas, some of our derivative contracts contain a provision that would permit the counterparty, in certain circumstances, to request adequate assurance of our performance under the contracts. Such additional assurance, if needed, is not material and is not included in the amounts above.

NOTE 12. FAIR VALUE MEASUREMENTS

RECURRING FAIR VALUE MEASURES

The three tables below, by level within the fair value hierarchy, set forth our financial assets and liabilities that were accounted for at fair value on a recurring basis at December 31, 2020 and 2019. We classify financial assets and liabilities in their entirety based on the lowest level of input that is significant to the fair value measurement. Our assessment of the significance of a particular input to the fair value measurement requires judgment, and may affect the valuation of fair-valued assets and liabilities, and their placement within the fair value hierarchy.

The fair value of commodity derivative assets and liabilities is presented in accordance with our netting policy, as we discuss in Note 11 under “Financial Statement Presentation.”

The determination of fair values, shown in the tables below, incorporates various factors, including but not limited to, the credit standing of the counterparties involved and the impact of credit enhancements (such as cash deposits, letters of credit and priority interests).

Our financial assets and liabilities that were accounted for at fair value on a recurring basis in the tables below include the following (other than a $5 million investment at December 31, 2019 measured at NAV):

- Nuclear decommissioning trusts reflect the assets of SDG&E’s NDT, excluding cash balances. A third-party trustee values the trust assets using prices from a pricing service based on a market approach. We validate these prices by comparison to prices from other independent data sources. Securities are valued using quoted prices listed on nationally recognized securities exchanges or based on closing prices reported in the active market in which the identical security is traded (Level 1). Other securities are valued based on yields that are currently available for comparable securities of issuers with similar credit ratings (Level 2).
- For commodity contracts, interest rate derivatives and foreign exchange instruments, we primarily use a market or income approach with market participant assumptions to value these derivatives. Market participant assumptions include those about risk, and the risk inherent in the inputs to the valuation techniques. These inputs can be readily observable, market corroborated, or generally unobservable. We have exchange-traded derivatives that are valued based on quoted prices in active markets for the identical instruments (Level 1). We also may have other commodity derivatives that are valued using industry standard models that consider quoted forward prices for commodities, time value, current market and contractual prices for the underlying instruments, volatility factors, and other relevant economic measures (Level 2). Level 3 recurring items relate to CRRs and long-term, fixed-price electricity positions at SDG&E, as we discuss below in “Level 3 Information – SDG&E.”
- Rabbi Trust investments include marketable securities that we value using a market approach based on closing prices reported in the active market in which the identical security is traded (Level 1). These investments in marketable securities were negligible at December 31, 2020, and 2019.

- As we discuss in Note 6, in July 2020, Sempra Energy entered into a Support Agreement for the benefit of CFIN. We measure the Support Agreement, which includes a guarantee obligation, a put option and a call option, net of related guarantee fees, at fair value on a recurring basis. We use a discounted cash flow model to value the Support Agreement, net of related guarantee fees. Because some of the inputs that are significant to the valuation are less observable, the Support Agreement is classified as Level 3, as we describe below in "Level 3 Information – Sempra LNG."

RECURRING FAIR VALUE MEASURES – SEMPRA ENERGY CONSOLIDATED
(Dollars in millions)

	Fair value at December 31, 2020			
	Level 1	Level 2	Level 3	Total
Assets:				
Nuclear decommissioning trusts:				
Equity securities	$ 358	$ 6	$ —	$ 364
Debt securities:				
Debt securities issued by the U.S. Treasury and other U.S. government corporations and agencies	41	24	—	65
Municipal bonds	—	326	—	326
Other securities	—	270	—	270
Total debt securities	41	620	—	661
Total nuclear decommissioning trusts[1]	399	626	—	1,025
Interest rate and foreign exchange instruments	—	25	—	25
Commodity contracts not subject to rate recovery	—	4	—	4
Effect of netting and allocation of collateral[2]	21	—	—	21
Commodity contracts subject to rate recovery	6	1	121	128
Effect of netting and allocation of collateral[2]	19	5	6	30
Support Agreement, net of related guarantee fees	—	—	7	7
Total	$ 445	$ 661	$ 134	$ 1,240
Liabilities:				
Interest rate and foreign exchange instruments	$ —	$ 186	$ —	$ 186
Commodity contracts not subject to rate recovery	—	16	—	16
Commodity contracts subject to rate recovery	—	6	52	58
Support Agreement, net of related guarantee fees	—	—	4	4
Total	$ —	$ 208	$ 56	$ 264

	Fair value at December 31, 2019			
	Level 1	Level 2	Level 3	Total
Assets:				
Nuclear decommissioning trusts:				
Equity securities	$ 503	$ 6	$ —	$ 509
Debt securities:				
Debt securities issued by the U.S. Treasury and other U.S. government corporations and agencies	46	11	—	57
Municipal bonds	—	282	—	282
Other securities	—	226	—	226
Total debt securities	46	519	—	565
Total nuclear decommissioning trusts[1]	549	525	—	1,074
Interest rate and foreign exchange instruments	—	24	—	24
Commodity contracts not subject to rate recovery	—	11	—	11
Effect of netting and allocation of collateral[2]	43	—	—	43
Commodity contracts subject to rate recovery	5	8	95	108
Effect of netting and allocation of collateral[2]	11	8	6	25
Total	$ 608	$ 576	$ 101	$ 1,285
Liabilities:				
Interest rate and foreign exchange instruments	$ —	$ 157	$ —	$ 157
Commodity contracts not subject to rate recovery	—	17	—	17
Commodity contracts subject to rate recovery	14	4	67	85
Effect of netting and allocation of collateral[2]	(14)	—	—	(14)
Total	$ —	$ 178	$ 67	$ 245

[1] *Excludes cash, cash equivalents and receivables (payables), net.*
[2] *Includes the effect of the contractual ability to settle contracts under master netting agreements and with cash collateral, as well as cash collateral not offset.*

RECURRING FAIR VALUE MEASURES – SDG&E
(Dollars in millions)

	Fair value at December 31, 2020			
	Level 1	Level 2	Level 3	Total
Assets:				
Nuclear decommissioning trusts:				
Equity securities	$ 358	$ 6	$ —	$ 364
Debt securities:				
Debt securities issued by the U.S. Treasury and other U.S. government corporations and agencies	41	24	—	65
Municipal bonds	—	326	—	326
Other securities	—	270	—	270
Total debt securities	41	620	—	661
Total nuclear decommissioning trusts[1]	399	626	—	1,025
Commodity contracts subject to rate recovery	5	—	121	126
Effect of netting and allocation of collateral[2]	18	—	6	24
Total	$ 422	$ 626	$ 127	$ 1,175
Liabilities:				
Commodity contracts subject to rate recovery	$ —	$ —	$ 52	$ 52
Total	$ —	$ —	$ 52	$ 52

	Fair value at December 31, 2019			
	Level 1	Level 2	Level 3	Total
Assets:				
Nuclear decommissioning trusts:				
Equity securities	$ 503	$ 6	$ —	$ 509
Debt securities:				
Debt securities issued by the U.S. Treasury and other U.S. government corporations and agencies	46	11	—	57
Municipal bonds	—	282	—	282
Other securities	—	226	—	226
Total debt securities	46	519	—	565
Total nuclear decommissioning trusts[1]	549	525	—	1,074
Commodity contracts subject to rate recovery	1	3	95	99
Effect of netting and allocation of collateral[2]	10	—	6	16
Total	$ 560	$ 528	$ 101	$ 1,189
Liabilities:				
Commodity contracts subject to rate recovery	$ 14	$ —	$ 67	$ 81
Effect of netting and allocation of collateral[2]	(14)	—	—	(14)
Total	$ —	$ —	$ 67	$ 67

(1) *Excludes cash, cash equivalents and receivables (payables), net.*

(2) *Includes the effect of the contractual ability to settle contracts under master netting agreements and with cash collateral, as well as cash collateral not offset.*

RECURRING FAIR VALUE MEASURES – SOCALGAS
(Dollars in millions)

	Fair value at December 31, 2020			
	Level 1	Level 2	Level 3	Total
Assets:				
Commodity contracts subject to rate recovery	$ 1	$ 1	$ —	$ 2
Effect of netting and allocation of collateral[1]	1	5	—	6
Total	$ 2	$ 6	$ —	$ 8
Liabilities:				
Commodity contracts subject to rate recovery	$ —	$ 6	$ —	$ 6
Total	$ —	$ 6	$ —	$ 6

	Fair value at December 31, 2019			
	Level 1	Level 2	Level 3	Total
Assets:				
Commodity contracts subject to rate recovery	$ 4	$ 5	$ —	$ 9
Effect of netting and allocation of collateral[1]	1	8	—	9
Total	$ 5	$ 13	$ —	$ 18
Liabilities:				
Commodity contracts subject to rate recovery	$ —	$ 4	$ —	$ 4
Total	$ —	$ 4	$ —	$ 4

[1] *Includes the effect of the contractual ability to settle contracts under master netting agreements and with cash collateral, as well as cash collateral not offset.*

Level 3 Information

SDG&E

The table below sets forth reconciliations of changes in the fair value of CRRs and long-term, fixed-price electricity positions classified as Level 3 in the fair value hierarchy for Sempra Energy Consolidated and SDG&E.

LEVEL 3 RECONCILIATIONS[1]
(Dollars in millions)

	Years ended December 31,		
	2020	2019	2018
Balance at January 1	$ 28	$ 179	$ (28)
Realized and unrealized gains (losses)	19	(184)	209
Allocated transmission instruments	6	6	10
Settlements	16	27	(12)
Balance at December 31	$ 69	$ 28	$ 179
Change in unrealized gains (losses) relating to instruments still held at December 31	$ 34	$ (139)	$ 183

[1] *Excludes the effect of the contractual ability to settle contracts under master netting agreements.*

Inputs used to determine the fair value of CRRs and fixed-price electricity positions are reviewed and compared with market conditions to determine reasonableness. SDG&E expects all costs related to these instruments to be recoverable through customer rates. As such, there is no impact to earnings from changes in the fair value of these instruments.

CRRs are recorded at fair value based almost entirely on the most current auction prices published by the California ISO, an objective source. Annual auction prices are published once a year, typically in the middle of November, and are the basis for valuing CRRs settling in the following year. For the CRRs settling from January 1 to December 31, the auction price inputs, at a given location, were in the following ranges for the years indicated below:

CONGESTION REVENUE RIGHTS AUCTION PRICE INPUTS

Settlement year	Price per MWh			Median price per MWh
2021	$ (1.81)	to	$ 14.11	$ (0.12)
2020	(3.77)	to	6.03	(1.58)
2019	(8.57)	to	35.21	(2.94)

The impact associated with discounting is negligible. Because these auction prices are a less observable input, these instruments are classified as Level 3. The fair value of these instruments is derived from auction price differences between two locations. Positive values between two locations represent expected future reductions in congestion costs, whereas negative values between two locations represent expected future charges. Valuation of our CRRs is sensitive to a change in auction price. If auction prices at one location increase (decrease) relative to another location, this could result in a higher (lower) fair value measurement. We summarize CRR volumes in Note 11.

Long-term, fixed-price electricity positions that are valued using significant unobservable data are classified as Level 3 because the contract terms relate to a delivery location or tenor for which observable market rate information is not available. The fair value of the net electricity positions classified as Level 3 is derived from a discounted cash flow model using market electricity forward price inputs. The range and weighted-average price of these inputs at December 31 were as follows:

LONG-TERM, FIXED-PRICE ELECTRICITY POSITIONS PRICE INPUTS

Settlement year	Price per MWh			Weighted-average price per MWh
2020	$ 19.60	to	$ 78.10	$ 39.71
2019	21.00	to	61.15	37.92

A significant increase (decrease) in market electricity forward prices would result in a significantly higher (lower) fair value. We summarize long-term, fixed-price electricity position volumes in Note 11.

Realized gains and losses associated with CRRs and long-term, fixed-price electricity positions, which are recoverable in rates, are recorded in Cost of Electric Fuel and Purchased Power on the Consolidated Statements of Operations. Because unrealized gains and losses are recorded as regulatory assets and liabilities, they do not affect earnings.

Sempra LNG

The table below sets forth a reconciliation of changes in the fair value of Sempra Energy's Support Agreement for the benefit of CFIN classified as Level 3 in the fair value hierarchy for Sempra Energy Consolidated.

LEVEL 3 RECONCILIATION

(Dollars in millions)

	Year ended December 31, 2020
Balance at January 1	$ —
Realized and unrealized gains[1]	6
Settlements	(3)
Balance at December 31[2]	$ 3
Change in unrealized gains (losses) relating to instruments still held at December 31	$ 3

(1) *Net gains are included in Interest Income and net losses are included in Interest Expense on the Sempra Energy Consolidated Statement of Operations.*
(2) *Includes $7 million in Other Current Assets offset by $4 million in Deferred Credits and Other on the Sempra Energy Consolidated Balance Sheet.*

The fair value of the Support Agreement, net of related guarantee fees, is based on a discounted cash flow model using a probability of default and survival methodology. Our estimate of fair value considers inputs such as third-party default rates, credit ratings, recovery rates, and risk-adjusted discount rates, which may be readily observable, market corroborated or generally unobservable inputs. Because CFIN's credit rating and related default and survival rates are unobservable inputs that are significant to the valuation, the Support Agreement, net of related guarantee fees, is classified as Level 3. We assigned CFIN an internally developed credit rating of A3 and relied on default rate data published by Moody's to assign a probability of default. A hypothetical change in the credit rating up or down one notch would not result in a significant change in the fair value of the Support Agreement.

Fair Value of Financial Instruments

The fair values of certain of our financial instruments (cash, accounts and notes receivable, short-term amounts due to/from unconsolidated affiliates, dividends and accounts payable, short-term debt and customer deposits) approximate their carrying amounts because of the short-term nature of these instruments. Investments in life insurance contracts that we hold in support of our Supplemental Executive Retirement, Cash Balance Restoration and Deferred Compensation Plans are carried at cash surrender values, which represent the amount of cash that could be realized under the contracts. The following table provides the carrying amounts and fair values of certain other financial instruments that are not recorded at fair value on the Consolidated Balance Sheets.

FAIR VALUE OF FINANCIAL INSTRUMENTS
(Dollars in millions)

	December 31, 2020				
	Carrying amount	Fair value			
		Level 1	Level 2	Level 3	Total
Sempra Energy Consolidated:					
Long-term amounts due from unconsolidated affiliates[1]	$ 786	$ —	$ 817	$ —	$ 817
Long-term amounts due to unconsolidated affiliates	275	—	266	—	266
Total long-term debt[2]	22,259	—	25,478	—	25,478
SDG&E:					
Total long-term debt[3]	$ 6,253	$ —	$ 7,384	$ —	$ 7,384
SoCalGas:					
Total long-term debt[4]	$ 4,759	$ —	$ 5,655	$ —	$ 5,655

	December 31, 2019				
	Carrying amount	Fair value			
		Level 1	Level 2	Level 3	Total
Sempra Energy Consolidated:					
Long-term amounts due from unconsolidated affiliates	$ 742	$ —	$ 759	$ —	$ 759
Long-term amounts due to unconsolidated affiliates	195	—	184	—	184
Total long-term debt[2]	21,247	—	22,638	26	22,664
SDG&E:					
Total long-term debt[3]	$ 5,140	$ —	$ 5,662	$ —	$ 5,662
SoCalGas:					
Total long-term debt[4]	$ 3,809	$ —	$ 4,189	$ —	$ 4,189

(1) *Before allowances for credit losses of $3 million. Includes $3 million of accrued interest receivable in Due From Unconsolidated Affiliate – Current.*

(2) *Before reductions of unamortized discount and debt issuance costs of $268 million and $225 million at December 31, 2020 and 2019, respectively, and excluding finance lease obligations of $1,330 million and $1,289 million at December 31, 2020 and 2019, respectively.*

(3) *Before reductions of unamortized discount and debt issuance costs of $52 million and $48 million at December 31, 2020 and 2019, respectively, and excluding finance lease obligations of $1,276 million and $1,270 million at December 31, 2020 and 2019, respectively.*

(4) *Before reductions of unamortized discount and debt issuance costs of $40 million and $34 million at December 31, 2020 and 2019, respectively, and excluding finance lease obligations of $54 million and $19 million at December 31, 2020 and 2019, respectively.*

We provide the fair values for the securities held in the NDT related to SONGS in Note 15.

NON-RECURRING FAIR VALUE MEASURES

Sempra LNG

Non-Utility Natural Gas Storage Assets

As we discuss in Note 5, in June 2018, our board of directors approved a plan to sell Mississippi Hub, our 90.9% ownership interest in Bay Gas and other non-utility assets (the non-utility natural gas storage assets). In June 2018, we also owned a 75.4% interest in LA Storage, a salt cavern development project in Cameron Parish in Louisiana. The LA Storage project also includes an existing 23.3-mile pipeline header system that is not currently contracted.

Because of the plan of sale, we considered a market participant's view of the total value of the non-utility natural gas storage assets and determined that their fair value, less costs to sell, may be less than their carrying value. Additionally, our inability to secure customer contracts that would support further investment in LA Storage led us to assess and conclude that the full carrying value of these other U.S. midstream assets may not be recoverable. As a result, on June 25, 2018, we recorded an impairment of $1.3 billion ($755 million after tax and NCI) in Impairment Losses on Sempra Energy's Consolidated Statement of Operations.

We measured the estimated fair value of $190 million at June 25, 2018 using a discounted cash flow approach. This approach included unobservable inputs, resulting in a Level 3 measurement in the fair value hierarchy. We considered a market participant's view of the values of the non-utility natural gas storage assets based on an estimation of future net cash flows. To estimate future net cash flows, we considered the non-utility natural gas storage assets' prospects for generating revenues and cash flows beyond their existing contracted capacity and tenors, including natural gas price volatility and seasonality factors, as well as discount rates commensurate with the risks inherent in the cash flows.

On January 1, 2019, Sempra LNG entered into an agreement to sell Mississippi Hub and Bay Gas for $332 million, subject to working capital adjustments and $20 million representing Sempra LNG's purchase of the 9.1% minority interest in Bay Gas immediately prior to and included as part of the sale. On February 7, 2019, Sempra LNG completed this sale. Additionally, in December 2018, Sempra LNG entered into an agreement to sell other non-utility assets for $5 million; such sale was completed in January 2019. We considered the assets' sales prices negotiated with active market participants to be a relevant and material data input. Accordingly, we updated our fair value analysis to reflect the Level 2 market participant input as the primary indicator of fair value. As a result, on December 31, 2018, we reduced the impairment of $1.3 billion recorded on June 25, 2018 by $183 million ($126 million after tax and NCI), resulting in a total impairment of $1.1 billion ($629 million after tax and NCI) for the year ended December 31, 2018, based on a fair value of $337 million for these non-utility natural gas storage assets.

Sempra Renewables

U.S. Wind Investments

As we discuss in Notes 5 and 6, in June 2018, our board of directors approved a plan to sell all our wind and solar equity method investments at Sempra Renewables. Because of our expectation of a shorter holding period as a result of this plan of sale, we evaluated the recoverability of the carrying amounts of each of these investments and concluded there was an other-than-temporary impairment on certain of our wind equity method investments totaling $200 million ($145 million after tax), which we recorded in Equity Earnings on Sempra Energy's Consolidated Statement of Operations for the year ended December 31, 2018. We measured the estimated fair value of $145 million at June 25, 2018 using a discounted cash flow model including significant unobservable inputs, adjusted for our applicable ownership percentages, which is a Level 3 measurement in the fair value hierarchy. The key inputs to the methodology were contracted and merchant pricing, and the discount rate. Sempra Renewables completed the sale of its interests in these wind equity method investments in April 2019.

The table below summarizes significant inputs impacting our non-recurring fair value measures. Additional discussions about the related transactions are provided in Note 5, and as applicable, in Note 6.

NON-RECURRING FAIR VALUE MEASURES – SEMPRA ENERGY CONSOLIDATED

	Measurement date	Estimated fair value (in millions)	Valuation technique	Fair value hierarchy	% of fair value measurement	Inputs used to develop measurement	Range of inputs (weighted average)	
Non-utility natural gas storage assets	December 31, 2018	$ 337	Market approach	Level 2	100%	Assets' sales prices	100%	
Non-utility natural gas storage assets	June 25, 2018	$ 190	Discounted cash flows	Level 3	100%	Storage rates per dekatherm per month	$0.06 - $0.22 $(0.10)	(1)
						Discount rate	10%	(2)
Certain of our U.S. wind equity method investments	June 25, 2018	$ 145	Discounted cash flows	Level 3	100%	Contracted and observable merchant prices per MWh	$29 - $92	(1)
						Discount rate	8% - 10% (8.7%)	(2)

(1) *Generally, significant increases (decreases) in this input in isolation would result in a significantly higher (lower) fair value measurement.*

(2) *An increase in the discount rate would result in a decrease in fair value.*

NOTE 13. PREFERRED STOCK

Sempra Energy and SDG&E are authorized to issue up to 50 million and 45 million shares of preferred stock, respectively. At December 31, 2020 and 2019, SDG&E had no preferred stock outstanding. The rights, preferences, privileges and restrictions for any new series of preferred stock would be established by each company's board of directors at the time of issuance. We discuss SoCalGas preferred stock below.

SEMPRA ENERGY MANDATORY CONVERTIBLE PREFERRED STOCK

In January 2018, we issued 17,250,000 shares of our 6% mandatory convertible preferred stock, series A (series A preferred stock) in a registered public offering at $100.00 per share (or $98.20 per share after deducting underwriting discounts), and received net proceeds of $1.69 billion (net of underwriting discounts and equity issuance costs of $32 million). Each share of series A preferred stock had a liquidation value of $100.00.

In July 2018, we issued 5,750,000 shares of our 6.75% mandatory convertible preferred stock, series B (series B preferred stock) in a registered public offering at $100.00 per share (or $98.35 per share after deducting underwriting discounts), and received net proceeds of $565 million (net of underwriting discounts and equity issuance costs of $10 million). Each share of series B preferred stock has a liquidation value of $100.00.

Mandatory Conversion

Unless earlier converted, each share of the series A preferred stock and series B preferred stock is to automatically convert on the mandatory conversion date of January 15, 2021 and July 15, 2021, respectively. The number of shares of our common stock issuable on conversion of each such series of preferred stock is determined based on the volume-weighted average market value per share of our common stock over the 20-consecutive trading day period beginning on and including the 21st scheduled trading day immediately preceding January 15, 2021 for the series A preferred stock and July 15, 2021 for the series B preferred stock. On January 15, 2021, we converted 17,250,000 shares of series A preferred stock into 13,781,025 shares of our common stock based on a conversion rate of 0.7989 shares of our common stock for each issued and outstanding share of series A preferred stock. As a consequence, no shares of series A preferred stock were outstanding after January 15, 2021 and the 17,250,000 shares that were formerly series A preferred stock have returned to the status of authorized and unissued shares of preferred stock.

The terms of our series A preferred stock and series B preferred stock require a notice to holders when the aggregate adjustment to the conversion rates at which shares of series A preferred stock or series B preferred stock are convertible into shares of Sempra Energy common stock is more than 1%. On July 6, 2020, we notified the holders of the series A preferred stock of such an adjustment. These adjustments, which resulted from the incremental impact of our second quarter dividend declared on our common stock and which became effective as of June 25, 2020, the ex-dividend date for such dividend, include adjustments to the minimum and maximum conversion rates and the related initial and threshold appreciation prices.

The following table illustrates the conversion rate per share of our series B preferred stock, subject to certain anti-dilution adjustments.

CONVERSION RATES

Applicable market value per share of our common stock	Conversion rate (number of shares of our common stock to be received upon conversion of each share of series B preferred stock)
Series B preferred stock	
Greater than $136.50 (which is the threshold appreciation price)	0.7326 shares (approximately equal to $100.00 divided by the threshold appreciation price)
Equal to or less than $136.50 but greater than or equal to $113.75	Between 0.7326 and 0.8791 shares, determined by dividing $100.00 by the applicable market value of our common stock
Less than $113.75 (which is the initial price)	0.8791 shares (approximately equal to $100.00 divided by the initial price)

Conversion at the Option of the Holder

Generally, and subject to the terms of the respective series of mandatory convertible preferred stock, at any time prior to January 15, 2021 for the series A preferred stock and July 15, 2021 for the series B preferred stock, holders were (with respect to the series A preferred stock) or are (with respect to the series B preferred stock) entitled to elect to convert each share of their preferred stock into shares of our common stock at the minimum conversion rate. No holders of the series A preferred stock elected such a conversion before the January 15, 2021 mandatory conversion of all then-outstanding shares. If all outstanding series B preferred stock were converted early, we would issue, subject to anti-dilution adjustments, 4.2 million common shares upon such conversion. In addition, if holders of the series B preferred stock elect to convert any shares during a specified period beginning on the effective date of a fundamental change, as defined in the certificate of determination of preferences of the series B preferred stock, such shares of preferred stock will be converted into shares of our common stock at a fundamental change conversion rate, and the holders will also be entitled to receive a fundamental change dividend make-whole amount and accumulated dividend amount.

Dividends

Dividends on each series of mandatory convertible preferred stock are (or, with respect to the series A preferred stock, were) payable quarterly on a cumulative basis when, as and if declared by our board of directors. All dividends ceased to accrue on the series A preferred stock upon their mandatory conversion on January 15, 2021. We may pay quarterly declared dividends on the series B preferred stock in cash or, subject to certain limitations, in shares of our common stock, no par value, or in any combination of cash and shares of our common stock. Shares of common stock used to pay dividends will be valued at 97% of the volume-weighted average price per share over the five-consecutive trading day period beginning on, and including the sixth trading day prior to, the applicable dividend payment date.

Voting Rights

The holders of the series B preferred stock do not have voting rights, except with respect to any authorization, creation or increase in the authorized amount of any class or series of capital stock ranking senior to the series B preferred stock, certain amendments to the terms of the series B preferred stock, in certain other limited circumstances and as otherwise specifically required by California law. In addition, whenever dividends on any shares of series B preferred stock have not been declared and paid or have been declared but not paid for six or more dividend periods, whether or not consecutive, the authorized number of directors on our board of directors will automatically be increased by two and the holders of the series B preferred stock, voting together as a single class with holders of any and all other outstanding preferred stock of equal rank having similar voting rights, will be entitled to elect two directors who satisfy certain requirements to fill such newly created directorships. This voting right will terminate when all accumulated and unpaid dividends on the series B preferred stock have been paid in full and, upon such termination and the termination of the same voting rights of all other holders of outstanding series of preferred stock that have such voting rights, the term of office of each director elected pursuant to such rights will terminate and the authorized number of directors will automatically decrease by two, subject to the revesting of that right in the event of each subsequent nonpayment.

Ranking

The series B preferred stock ranks, with respect to dividend rights and distribution rights upon our liquidation, winding-up or dissolution:

- senior to our common stock and each other class or series of our capital stock established in the future, unless the terms of such capital stock expressly provide otherwise;
- on parity with our outstanding series C preferred stock and each class or series of our capital stock established in the future if the terms of such capital stock provide that it ranks on parity with the series B preferred stock;
- junior to each class or series of our capital stock established in the future, if the terms of such capital stock provide that it ranks senior to the series B preferred stock;
- junior to our existing and future indebtedness and other liabilities; and
- structurally subordinated to all existing and future indebtedness and other liabilities of our subsidiaries and capital stock of our subsidiaries held by third parties.

SEMPRA ENERGY SERIES C PREFERRED STOCK

In June 2020, we issued 900,000 shares of our 4.875% fixed-rate reset cumulative redeemable perpetual preferred stock, series C (series C preferred stock) in a registered public offering at a price to the public of $1,000 per share and received net proceeds of $889 million after deducting the underwriting discount and equity issuance costs of $11 million. We used the net proceeds for working capital and other general corporate purposes, including the repayment of indebtedness.

Liquidation Preference

Each share of series C preferred stock has a liquidation preference of $1,000 plus any accumulated and unpaid dividends (whether or not declared) on such share.

Redemption at the Option of Sempra Energy

The shares of series C preferred stock are perpetual and have no maturity date. However, we may, at our option, redeem the series C preferred stock in whole or in part, from time to time, on any day during the period from and including the July 15 immediately preceding October 15, 2025 and October 15 of every fifth year after 2025 through and including such October 15 at a redemption price in cash equal to $1,000 per share. Additionally, in the event that a credit rating agency then publishing a rating for us makes certain amendments, clarifications or changes to the criteria it uses to assign equity credit to securities such as the series C preferred stock (Ratings Event), we may redeem the series C preferred stock, in whole but not in part, at any time within 120 days after the conclusion of any review or appeal process instituted by us following the occurrence of the Ratings Event or, if no such review or appeal process is available or sought, the occurrence of such Ratings Event, at a redemption price in cash equal to $1,020 per share (102% of the liquidation preference per share).

Dividends

Dividends on the series C preferred stock, when, as and if declared by our board of directors or an authorized committee thereof, are payable in cash, on a cumulative basis, semi-annually in arrears beginning on October 15, 2020. Dividends on the series C preferred stock will be cumulative whether or not:

- we have earnings;
- the payment of such dividends is then permitted under California law;
- such dividends are authorized or declared; and
- any agreements to which we are a party prohibit the current payment of dividends, including any agreement relating to our indebtedness.

We accrue dividends on the series C preferred stock on a monthly basis. The dividend rate from and including June 19, 2020 to, but excluding, October 15, 2025 is 4.875% per annum of the $1,000 liquidation preference per share. The dividend rate will reset on October 15, 2025 and on October 15 of every fifth year after 2025 and, for each five-year period following such reset dates, will be a per annum rate equal to the Five-year U.S. Treasury Rate (as defined in the certificate of determination of preferences of the series C preferred stock) as of the second business day prior to such reset date, plus a spread of 4.550%, of the $1,000 liquidation preference per share.

Voting Rights

The holders of series C preferred stock do not have any voting rights, except with respect to any authorization, creation or increase in the authorized amount of any class or series of capital stock ranking senior to the series C preferred stock, certain amendments to the terms of the series C preferred stock, in certain other limited circumstances and as otherwise specifically required by California law. In addition, whenever dividends on any shares of series C preferred stock have not been declared and paid or have been declared but not paid for three or more dividend periods, whether or not consecutive, the authorized number of directors on our board of directors will automatically be increased by two and the holders of the series C preferred stock, voting together as a single class with holders of any and all other outstanding series of preferred stock of equal rank having similar voting rights, will be entitled to elect two directors who satisfy certain requirements to fill such two newly created directorships. This voting right will terminate when all accumulated and unpaid dividends on the series C preferred stock have been paid in full and, upon such termination and the termination of the same voting rights of all other holders of outstanding series of preferred stock that have such voting rights, the term of office of each director elected pursuant to such rights will terminate and the authorized number of directors will automatically decrease by two, subject to the revesting of such rights in the event of each subsequent nonpayment.

Ranking

The series C preferred stock ranks, with respect to dividend rights and distribution rights upon our liquidation, winding-up or dissolution:

- senior to our common stock and each other class or series of our capital stock established in the future, unless the terms of such capital stock expressly provide otherwise;
- on parity with our formerly outstanding series A preferred stock and currently outstanding series B preferred stock and each class or series of our capital stock established in the future if the terms of such capital stock provide that it ranks on parity with the series C preferred stock;
- junior to each class or series of our capital stock established in the future, if the terms of such capital stock provide that it ranks senior to the series C preferred stock;
- junior to our existing and future indebtedness and other liabilities; and
- structurally subordinated to all existing and future indebtedness and other liabilities of our subsidiaries and capital stock of our subsidiaries held by third parties.

SOCALGAS PREFERRED STOCK

SoCalGas is authorized to issue up to an aggregate of 11 million shares of preferred stock, series preferred stock and preference stock. The table below presents preferred stock outstanding at SoCalGas:

PREFERRED STOCK OUTSTANDING
(Dollars in millions, except per share amounts)

	December 31, 2020	December 31, 2019
$25 par value, authorized 1,000,000 shares:		
6% Series, 79,011 shares outstanding	$ 3	$ 3
6% Series A, 783,032 shares outstanding	19	19
SoCalGas - Total preferred stock	22	22
Less: 50,970 shares of the 6% Series outstanding owned by PE	(2)	(2)
Sempra Energy - Total preferred stock of subsidiary	$ 20	$ 20

None of SoCalGas' outstanding preferred stock is callable, and no shares are subject to mandatory redemption.

All outstanding shares have one vote per share, cumulative preferences as to dividends and liquidation preferences of $25 per share plus any unpaid dividends.

In addition to the outstanding preferred stock above, SoCalGas' articles of incorporation authorize 5 million shares of series preferred stock and 5 million shares of preference stock, both without par value and with cumulative preferences as to dividends and liquidation value. The preference stock would rank junior to all series of preferred stock and series preferred stock. Other rights and privileges of any new series of such stock would be established by the SoCalGas board of directors at the time of issuance.

NOTE 14. SEMPRA ENERGY – SHAREHOLDERS' EQUITY AND EARNINGS PER COMMON SHARE

SEMPRA ENERGY COMMON STOCK REPURCHASES

On September 11, 2007, our board of directors authorized the repurchase of shares of our common stock, provided that the amounts spent for such purpose do not exceed the greater of $2 billion or amounts spent to purchase no more than 40 million shares. On July 1, 2020, we entered into an ASR program under which we prepaid $500 million to repurchase shares of our common stock in a share forward transaction. The total number of shares purchased was determined by dividing the $500 million purchase price by the arithmetic average of the volume-weighted average trading prices of shares of our common stock during the valuation period of July 2, 2020 through August 4, 2020, minus a fixed discount. The program was completed on August 4, 2020 with an aggregate of 4,089,375 shares of Sempra Energy common stock repurchased at an average price of $122.27 per share. Following the completion of the ASR program, the aggregate dollar amount authorized by the September 11, 2007 share repurchase authorization was exhausted.

On July 6, 2020, our board of directors authorized the repurchase of shares of our common stock at any time and from time to time in an aggregate amount not to exceed the lesser of $2 billion or amounts spent to purchase no more than 25 million shares. No shares have been repurchased under this authorization.

SEMPRA ENERGY COMMON STOCK OFFERINGS

In January 2018, we completed the offering of 26,869,158 shares of our common stock, no par value, in a registered public offering at $107.00 per share (approximately $105.07 per share after deducting underwriting discounts), with 23,364,486 shares pursuant to forward sale agreements. We received net proceeds totaling approximately $2.8 billion to fully settle these shares, as follows:

- $367 million (net of underwriting discounts and equity issuance costs of $8 million) to cover overallotment shares of 3,504,672 in the first quarter of 2018 at a settlement price of $105.07 per share;
- $900 million (net of underwriting discounts of $16 million) from the settlement of 8,556,630 shares in the first quarter of 2018 at a forward sale price of $105.18 per share;
- $800 million (net of underwriting discounts of $14 million) from the settlement of 7,651,671 shares in the second quarter of 2018 at forward sale prices ranging from $104.53 to $104.58 per share; and
- $728 million (net of underwriting discounts of $13 million) from the settlement of 7,156,185 shares in the third quarter of 2019 at a forward sale price of $101.74 per share.

In July 2018, we completed the offering of 11,212,500 shares of our common stock, no par value, in a registered public offering at $113.75 per share (approximately $111.87 per share after deducting underwriting discounts), with 9,750,000 shares pursuant to forward sale agreements. We received net proceeds totaling approximately $1.2 billion to fully settle these shares, as follows:

- $164 million (net of underwriting discounts and equity issuance costs of $3 million) to cover overallotment shares of 1,462,500 in the third quarter of 2018 at a settlement price of $111.87 per share; and
- $1,066 million (net of underwriting discounts of $18 million) from the settlement of 9,750,000 shares in the fourth quarter of 2019 at a forward sale price of $109.33 per share.

EARNINGS PER COMMON SHARE

Basic EPS is calculated by dividing earnings attributable to common shares (from both continuing and discontinued operations) by the weighted-average number of common shares outstanding for the period. Diluted EPS includes the potential dilution of common stock equivalent shares that could occur if securities or other contracts to issue common stock were exercised or converted into common stock.

EARNINGS PER COMMON SHARE COMPUTATIONS

(Dollars in millions, except per share amounts; shares in thousands)

	Years ended December 31,		
	2020	2019	2018
Numerator for continuing operations:			
Income from continuing operations, net of income tax	$ 2,255	$ 1,999	$ 938
Earnings attributable to noncontrolling interests	(162)	(129)	(44)
Preferred dividends	(168)	(142)	(125)
Preferred dividends of subsidiary	(1)	(1)	(1)
Earnings from continuing operations attributable to common shares	$ 1,924	$ 1,727	$ 768
Numerator for discontinued operations:			
Income from discontinued operations, net of income tax	$ 1,850	$ 363	$ 188
Earnings attributable to noncontrolling interests	(10)	(35)	(32)
Earnings from discontinued operations attributable to common shares	$ 1,840	$ 328	$ 156
Numerator for earnings:			
Earnings attributable to common shares	$ 3,764	$ 2,055	$ 924
Denominator:			
Weighted-average common shares outstanding for basic EPS[1]	291,077	277,904	268,072
Dilutive effect of stock options and RSUs[2]	1,175	1,585	919
Dilutive effect of common shares sold forward	—	2,544	861
Weighted-average common shares outstanding for diluted EPS	292,252	282,033	269,852
Basic EPS:			
Earnings from continuing operations	$ 6.61	$ 6.22	$ 2.86
Earnings from discontinued operations	$ 6.32	$ 1.18	$ 0.59
Earnings	$ 12.93	$ 7.40	$ 3.45
Diluted EPS:			
Earnings from continuing operations	$ 6.58	$ 6.13	$ 2.84
Earnings from discontinued operations	$ 6.30	$ 1.16	$ 0.58
Earnings	$ 12.88	$ 7.29	$ 3.42

(1) *Includes fully vested RSUs held in our Deferred Compensation Plan of 537 in 2020, 617 in 2019 and 641 in 2018. These fully vested RSUs are included in weighted-average common shares outstanding for basic EPS because there are no conditions under which the corresponding shares will not be issued.*

(2) *Due to market fluctuations of both Sempra Energy common stock and the comparative indices used to determine the vesting percentage of our total shareholder return performance-based RSUs, which we discuss in Note 10, dilutive RSUs may vary widely from period-to-period.*

The potentially dilutive impact from stock options and RSUs is calculated under the treasury stock method. Under this method, proceeds based on the exercise price and unearned compensation are assumed to be used to repurchase shares on the open market at the average market price for the period, reducing the number of potential new shares to be issued and sometimes causing an antidilutive effect. The computation of diluted EPS for 2020, 2019 and 2018 excludes potentially dilutive shares of 187,028, 80,281 and 20,814, respectively, because to include them would be antidilutive for the period. However, these shares could potentially dilute basic EPS in the future.

The potentially dilutive impact from the forward sale of our common stock pursuant to the forward sale agreements that we discuss above is reflected in our diluted EPS calculation using the treasury stock method. We have fully settled all forward sale agreements and those shares are included in weighted-average common shares outstanding for basic EPS.

The potentially dilutive impact from our mandatory convertible preferred stock is calculated under the if-converted method. The computation of diluted EPS for the years ended December 31, 2020, 2019 and 2018 excludes 17,889,365, 17,471,375 and 17,197,035 potentially dilutive shares, respectively, because to include them would be antidilutive for those periods. However, these shares could potentially dilute basic EPS in the future. We discuss the 2018 issuances of our mandatory convertible preferred stock and conversion of the series A preferred stock to Sempra Energy common stock on January 15, 2021 in Note 13.

We are authorized to issue 750 million shares of no par value common stock. The following table provides common stock activity for the last three years.

COMMON STOCK ACTIVITY

	Years ended December 31,		
	2020	2019	2018
Common shares outstanding, January 1	291,712,925	273,769,513	251,358,977
Shares issued under forward sale agreements	—	16,906,185	21,175,473
RSUs vesting[1]	896,839	463,012	509,042
Stock options exercised	4,400	52,540	138,861
Savings plan issuance	201,431	475,774	553,036
Common stock investment plan[2]	42,955	199,253	231,242
Issuance of RSUs held in our Deferred Compensation Plan	103,552	59,470	3,357
Shares repurchased[3]	(4,491,858)	(212,822)	(200,475)
Common shares outstanding, December 31	288,470,244	291,712,925	273,769,513

(1) *Includes dividend equivalents.*

(2) *Participants in the Direct Stock Purchase Plan may reinvest dividends to purchase newly issued shares.*

(3) *Generally, we purchase shares of our common stock or units from LTIP participants who elect to sell to us a sufficient number of vested RSUs to meet minimum statutory tax withholding requirements. In 2020, shares repurchased includes shares repurchased under the ASR program that we discuss above.*

NOTE 15. SAN ONOFRE NUCLEAR GENERATING STATION

SDG&E has a 20% ownership interest in SONGS, a nuclear generating facility near San Clemente, California, which permanently ceased operations in June 2013 after an extended outage as a result of issues with the steam generators used in the facility. Edison, the majority owner and operator of SONGS, notified SDG&E that it had reached a decision to permanently retire SONGS and seek approval from the NRC to start the decommissioning activities for the entire facility. SONGS is subject to the jurisdiction of the NRC and the CPUC.

SDG&E, and each of the other owners, holds its undivided interest as a tenant in common in the property. Each owner is responsible for financing its share of costs. SDG&E's share of operating expenses is included in Sempra Energy's and SDG&E's Consolidated Statements of Operations.

SETTLEMENT AGREEMENT TO RESOLVE THE CPUC'S ORDER INSTITUTING INVESTIGATION INTO THE SONGS OUTAGE

In 2012, in response to the SONGS outage, the CPUC issued the SONGS OII, which was intended to determine the ultimate recovery of the investment in SONGS and the costs incurred since the commencement of the outage. In July 2018, the CPUC approved a settlement agreement and, in August 2018, SDG&E, Edison, Cal PA, TURN and other intervenors submitted a notice that they accepted the settlement agreement, which provided for various disallowances, refunds and rate recoveries.

In connection with the settlement agreement, and in exchange for the release of certain SONGS-related claims, in January 2018, SDG&E and Edison entered into a utility shareholder agreement, which became effective upon CPUC approval of the settlement agreement in July 2018, under which Edison has an obligation to compensate SDG&E for the revenue requirement amounts that SDG&E will no longer recover because of the settlement agreement. In exchange for Edison's reimbursement, the parties mutually released each other from all claims that each party had or could have asserted related to the steam generator replacement failure and its aftermath. Edison's payment obligation commenced in October 2018, and amounts are due to SDG&E quarterly thereafter until April 2022. At December 31, 2020, SDG&E has a receivable from Edison, including accrued interest, totaling $49 million, with $37 million classified as current and $12 million classified as noncurrent. This receivable reflects amounts Edison is

obligated to pay to SDG&E in lieu of amounts SDG&E would have collected from ratepayers associated with the SONGS regulatory asset.

NUCLEAR DECOMMISSIONING AND FUNDING

As a result of Edison's decision to permanently retire SONGS Units 2 and 3, Edison began the decommissioning phase of the plant. We expect the majority of the work to take 10 years after receipt of all the required permits. The coastal development permit, the last permit required to be obtained, was issued in October 2019. The Samuel Lawrence Foundation filed a writ petition under the California Coastal Act in LA Superior Court in December 2019 seeking to invalidate this permit and to obtain injunctive relief to stop decommissioning work. In September 2020, the Samuel Lawrence Foundation filed another writ petition under the California Coastal Act in LA Superior Court seeking to set aside the CCC's July 2020 approval of the inspection and maintenance plan for the SONGS' canisters and to obtain injunctive relief to stop decommissioning work. Major decommissioning work began in 2020 and has not been interrupted by the writ petitions filed by the Samuel Lawrence Foundation. Decommissioning of Unit 1, removed from service in 1992, is largely complete. The remaining work for Unit 1 will be completed once Units 2 and 3 are dismantled and the spent fuel is removed from the site. The spent fuel is currently being stored on-site, until the DOE identifies a spent fuel storage facility and puts in place a program for the fuel's disposal, as we discuss below. SDG&E is responsible for approximately 20% of the total decommissioning costs.

In accordance with state and federal requirements and regulations, SDG&E has assets held in the NDT to fund its share of decommissioning costs for SONGS Units 1, 2 and 3. The amounts collected in rates for SONGS' decommissioning are invested in the NDT, which is comprised of externally managed trust funds. Amounts held by the NDT are invested in accordance with CPUC regulations. SDG&E classifies debt and equity securities held in the NDT as available-for-sale. The NDT assets are presented on the Sempra Energy and SDG&E Consolidated Balance Sheets at fair value with the offsetting credits recorded in noncurrent Regulatory Liabilities.

Except for the use of funds for the planning of decommissioning activities or NDT administrative costs, CPUC approval is required for SDG&E to access the NDT assets to fund SONGS decommissioning costs for Units 2 and 3. In December 2020, SDG&E received authorization from the CPUC to access NDT funds of up to $89 million for forecasted 2021 costs.

In September 2020, the IRS and the U.S. Department of the Treasury published final regulations that clarify the definition of "nuclear decommissioning costs," which are costs that may be paid for or reimbursed from a qualified trust fund. The final regulations adopted most of the provisions of the proposed regulations issued in December 2016. The final regulations apply to taxable years ending on or after September 4, 2020 and confirm that the definition of "nuclear decommissioning costs" includes amounts related to the storage of spent nuclear fuel at both on-site and off-site ISFSIs.

The final regulations also clarify that costs incurred for ISFSIs that may be or are expected to be reimbursed by the DOE may be paid or reimbursed from a qualified trust fund. Accordingly, the final regulations allow SDG&E the option to access qualified trust funds to recover spent fuel storage costs before Edison reaches final settlement with the DOE regarding the DOE's reimbursement of these costs. Historically, the DOE's reimbursements of spent fuel storage costs have not resulted in timely or complete recovery of these costs. We discuss the DOE's responsibility for spent nuclear fuel below.

Nuclear Decommissioning Trusts

The following table shows the fair values and gross unrealized gains and losses for the securities held in the NDT. We provide additional fair value disclosures for the NDT in Note 12.

NUCLEAR DECOMMISSIONING TRUSTS
(Dollars in millions)

	Cost	Gross unrealized gains	Gross unrealized losses	Estimated fair value
At December 31, 2020:				
Debt securities:				
Debt securities issued by the U.S. Treasury and other U.S. government corporations and agencies[1]	$ 64	$ 1	$ —	$ 65
Municipal bonds[2]	308	18	—	326
Other securities[3]	253	17	—	270
Total debt securities	625	36	—	661
Equity securities	112	254	(2)	364
Cash and cash equivalents	3	—	—	3
Receivables (payables), net	(9)	—	—	(9)
Total	$ 731	$ 290	$ (2)	$ 1,019
At December 31, 2019:				
Debt securities:				
Debt securities issued by the U.S. Treasury and other U.S. government corporations and agencies	$ 57	$ —	$ —	$ 57
Municipal bonds	270	12	—	282
Other securities	218	9	(1)	226
Total debt securities	545	21	(1)	565
Equity securities	176	339	(6)	509
Cash and cash equivalents	16	—	—	16
Receivables (payables), net	(8)	—	—	(8)
Total	$ 729	$ 360	$ (7)	$ 1,082

(1) *Maturity dates are 2022-2051.*

(2) *Maturity dates are 2021-2056.*

(3) *Maturity dates are 2021-2072.*

The following table shows the proceeds from sales of securities in the NDT and gross realized gains and losses on those sales.

SALES OF SECURITIES IN THE NDT
(Dollars in millions)

	Years ended December 31,		
	2020	2019	2018
Proceeds from sales	$ 1,439	$ 914	$ 890
Gross realized gains	156	24	42
Gross realized losses	(17)	(5)	(10)

Net unrealized gains and losses, as well as realized gains and losses that are reinvested in the NDT, are included in noncurrent Regulatory Liabilities on Sempra Energy's and SDG&E's Consolidated Balance Sheets. We determine the cost of securities in the trusts on the basis of specific identification.

ASSET RETIREMENT OBLIGATION AND SPENT NUCLEAR FUEL

The present value of SDG&E's ARO related to decommissioning costs for the SONGS units was $579 million at December 31, 2020. That amount includes the cost to decommission Units 2 and 3, and the remaining cost to complete the decommissioning of Unit 1, which is substantially complete. The ARO for all three units is based on a cost study prepared in 2017 that is pending CPUC approval. The ARO for Units 2 and 3 reflects the acceleration of the start of decommissioning of these units as a result of the early closure of the plant. SDG&E's share of total decommissioning costs in 2020 dollars is approximately $860 million. We expect SDG&E's undiscounted SONGS decommissioning payments to be $110 million in 2021, $83 million in 2022, $63 million in 2023, $45 million in 2024, $44 million in 2025, and $697 million thereafter.

U.S. DEPARTMENT OF ENERGY NUCLEAR FUEL DISPOSAL

Spent nuclear fuel from SONGS is currently stored on-site in an ISFSI licensed by the NRC. In October 2015, the CCC approved Edison's application to expand the ISFSI. The ISFSI expansion began construction in 2016 and the transfer of the spent nuclear fuel from Units 2 and 3 to the ISFSI began in 2018 and was completed in August 2020. The ISFSI will operate until 2049, when it is assumed that the DOE will have taken custody of all the SONGS spent fuel. The ISFSI would then be decommissioned, and the site restored to its original environmental state. Until then, SONGS owners are responsible for interim storage of spent nuclear fuel at SONGS.

The Nuclear Waste Policy Act of 1982 made the DOE responsible for accepting, transporting, and disposing of spent nuclear fuel. However, it is uncertain when the DOE will begin accepting spent nuclear fuel from SONGS. This delay will lead to increased costs for spent fuel storage. In November 2019, Edison filed a claim for spent fuel management costs in the U.S. Court of Federal Claims for the time period from January 2017 through July 2018. It is unclear when Edison will pursue litigation claims for spent fuel management costs incurred on or after August 1, 2018. SDG&E will continue to support Edison in its pursuit of claims on behalf of the SONGS co-owners against the DOE for its failure to timely accept the spent nuclear fuel.

NUCLEAR INSURANCE

SDG&E and the other owners of SONGS have insurance to cover claims from nuclear liability incidents arising at SONGS. Currently, this insurance provides $450 million in coverage limits, the maximum amount available, including coverage for acts of terrorism. In addition, the Price-Anderson Act provides an additional $110 million of coverage. If a nuclear liability loss occurs at SONGS and exceeds the $450 million insurance limit, this additional coverage would be available to provide a total of $560 million in coverage limits per incident.

As a result of updated coverage assessments, the SONGS owners have nuclear property damage insurance of $130 million, which exceeds the minimum federal requirements of $50 million. This insurance coverage is provided through NEIL. The NEIL policies have specific exclusions and limitations that can result in reduced coverage. Insured members as a group are subject to retrospective premium assessments to cover losses sustained by NEIL under all issued policies. SDG&E could be assessed up to $3.5 million of retrospective premiums based on overall member claims.

The nuclear property insurance program includes an industry aggregate loss limit for non-certified acts of terrorism (as defined by the Terrorism Risk Insurance Act) of $3.24 billion. This is the maximum amount that will be paid to insured members who suffer losses or damages from these non-certified terrorist acts.

NOTE 16. COMMITMENTS AND CONTINGENCIES

LEGAL PROCEEDINGS

We accrue losses for a legal proceeding when it is probable that a loss has been incurred and the amount of the loss can be reasonably estimated. However, the uncertainties inherent in legal proceedings make it difficult to reasonably estimate the costs and effects of resolving these matters. Accordingly, actual costs incurred may differ materially from amounts accrued, may exceed applicable insurance coverage and could materially adversely affect our business, cash flows, results of operations, financial condition and prospects. Unless otherwise indicated, we are unable to estimate reasonably possible losses in excess of any amounts accrued.

At December 31, 2020, loss contingency accruals for legal matters, including associated legal fees and regulatory matters related to the Leak, that are probable and estimable were $616 million for Sempra Energy Consolidated and $471 million for SoCalGas. Amounts for Sempra Energy Consolidated and SoCalGas include $445 million for matters related to the Leak, which we discuss below. We discuss our policy regarding accrual of legal fees in Note 1.

SoCalGas

Aliso Canyon Natural Gas Storage Facility Gas Leak

From October 23, 2015 through February 11, 2016, SoCalGas experienced a natural gas leak from one of the injection-and-withdrawal wells, SS25, at its Aliso Canyon natural gas storage facility in Los Angeles County. As described below in "Civil and Criminal Litigation" and "Regulatory Proceedings," numerous lawsuits, investigations and regulatory proceedings have been

initiated in response to the Leak, resulting in significant costs, which together with other Leak-related costs are discussed below in “Cost Estimates, Accounting Impact and Insurance.”

Civil and Criminal Litigation. As of February 22, 2021, 395 lawsuits, including approximately 36,000 plaintiffs, are pending against SoCalGas related to the Leak, some of which have also named Sempra Energy. All these cases, other than a matter brought by the Los Angeles County District Attorney and the federal securities class action discussed below, are coordinated before a single court in the LA Superior Court for pretrial management.

In November 2017, in the coordinated proceeding, individuals and business entities filed a Third Amended Consolidated Master Case Complaint for Individual Actions, through which their separate lawsuits will be managed for pretrial purposes. The consolidated complaint asserts causes of action for negligence, negligence per se, private and public nuisance (continuing and permanent), trespass, inverse condemnation, strict liability, negligent and intentional infliction of emotional distress, fraudulent concealment, loss of consortium, wrongful death and violations of Proposition 65 against SoCalGas and Sempra Energy. The consolidated complaint seeks compensatory and punitive damages for personal injuries, lost wages and/or lost profits, property damage and diminution in property value, injunctive relief, costs of future medical monitoring, civil penalties (including penalties associated with Proposition 65 claims alleging violation of requirements for warning about certain chemical exposures), and attorneys’ fees. The initial trial previously scheduled for June 2020 for a small number of randomly selected individual plaintiffs was postponed, with a new trial date yet to be determined by the court.

In January 2017, two consolidated class action complaints were filed against SoCalGas and Sempra Energy, one on behalf of a putative class of persons and businesses who own or lease real property within a five-mile radius of the well (the Property Class Action), and a second on behalf of a putative class of all persons and entities conducting business within five miles of the facility (the Business Class Action). The Property Class Action asserts claims for strict liability for ultra-hazardous activities, negligence, negligence per se, violation of the California Unfair Competition Law, trespass, permanent and continuing public and private nuisance, and inverse condemnation. The Business Class Action asserts a claim for violation of the California Unfair Competition Law. Both complaints seek compensatory, statutory and punitive damages, injunctive relief and attorneys’ fees.

Three property developers filed complaints in July and October of 2018 against SoCalGas and Sempra Energy alleging causes of action for strict liability, negligence per se, negligence, continuing nuisance, permanent nuisance and violation of the California Unfair Competition Law, as well as claims for negligence against certain directors of SoCalGas. The complaints seek compensatory, statutory and punitive damages, injunctive relief and attorneys’ fees.

In October 2018 and January 2019, complaints were filed on behalf of 51 firefighters stationed near the Aliso Canyon natural gas storage facility who allege they were injured by exposure to chemicals released during the Leak. The complaints against SoCalGas and Sempra Energy assert causes of actions for negligence, negligence per se, private and public nuisance (continuing and permanent), trespass, inverse condemnation, strict liability, negligent and intentional infliction of emotional distress, fraudulent concealment and loss of consortium. The complaints seek compensatory and punitive damages for personal injuries, lost wages and/or lost profits, property damage and diminution in property value, and attorney’s fees.

Four shareholder derivative actions were filed alleging breach of fiduciary duties against certain officers and certain directors of Sempra Energy and/or SoCalGas. Three of the actions were joined in an Amended Consolidated Shareholder Derivative Complaint, which was dismissed with prejudice in January 2021. The remaining action was also dismissed but plaintiffs were given leave to amend their complaint.

In addition, a federal securities class action alleging violation of the federal securities laws was filed against Sempra Energy and certain of its officers in July 2017 in the U.S. District Court for the Southern District of California. In March 2018, the court dismissed the action with prejudice. The plaintiffs have appealed the dismissal.

In February 2019, the LA Superior Court approved a settlement between SoCalGas and the Los Angeles City Attorney’s Office, the County of Los Angeles, the California Office of the Attorney General and CARB of three actions filed by these entities under which SoCalGas made payments and agreed to provide funding for environmental projects totaling $120 million, including $21 million in civil penalties, as well as other safety-related commitments.

In September 2016, SoCalGas settled a misdemeanor criminal complaint filed in February 2016 by the Los Angeles County District Attorney’s Office against SoCalGas, pleading no contest to a charge that it failed to provide timely notice of the Leak pursuant to California Health and Safety Code section 25510(a), Los Angeles County Code section 12.56.030, and Title 19 California Code of Regulations section 2703(a). In November 2016, the LA Superior Court approved the settlement and entered judgment on the notice charge. Under the settlement, SoCalGas paid a $75,000 fine, $233,500 in penalties, and $246,673 to reimburse costs incurred by Los Angeles County Fire Department’s Health and Hazardous Materials Division, as well as completed operational commitments estimated to cost approximately $6 million. Certain individuals who objected to the settlement petitioned the Court of Appeal to vacate the judgment, contending they should be granted restitution. In July 2019, the

Court of Appeal denied the petition in part, but remanded the matter to the trial court to give the petitioners an opportunity to prove damages stemming from only the three-day delay in reporting the Leak. Following the hearing, the trial court denied restitution. In December 2020, the California Supreme Court denied review of the ruling.

Regulatory Proceedings. In January 2016, CalGEM and the CPUC directed an independent analysis of the technical root cause of the Leak to be conducted by Blade. In May 2019, Blade released its report, which concluded that the Leak was caused by a failure of the production casing of the well due to corrosion and that attempts to stop the Leak were not effectively conducted, but did not identify any instances of non-compliance by SoCalGas. Blade concluded that SoCalGas' compliance activities conducted prior to the Leak did not find indications of a casing integrity issue. Blade opined, however, that there were measures, none of which were required by gas storage regulations at the time, that could have been taken to aid in the early identification of corrosion and that, in Blade's opinion, would have prevented or mitigated the Leak. The report also identified well safety practices and regulations that have since been adopted by CalGEM and implemented by SoCalGas, which address most of the root cause of the Leak identified during Blade's investigation.

In June 2019, the CPUC opened an OII to consider penalties against SoCalGas for the Leak, which it later bifurcated into two phases. The first phase will consider whether SoCalGas violated California Public Utilities Code Section 451 or other laws, CPUC orders or decisions, rules or requirements, whether SoCalGas engaged in unreasonable and/or imprudent practices with respect to its operation and maintenance of the Aliso Canyon natural gas storage facility or its related record-keeping practices, whether SoCalGas cooperated sufficiently with the SED and Blade during the pre-formal investigation, and whether any of the mitigation proposed by Blade should be implemented to the extent not already done. In November 2019, the SED, based largely on the Blade report, alleged a total of 330 violations, asserting that SoCalGas violated California Public Utilities Code Section 451 and failed to cooperate in the investigation and to keep proper records. Hearings on a subset of issues are scheduled to begin in March 2021. The second phase will consider whether SoCalGas should be sanctioned for the Leak and what damages, fines or other penalties or sanctions, if any, should be imposed for any violations, unreasonable or imprudent practices, or failure to sufficiently cooperate with the SED as determined by the CPUC in the first phase. In addition, the second phase will determine the amounts of various costs incurred by SoCalGas and other parties in connection with the Leak and the ratemaking treatment or other disposition of such costs, which could result in little or no recovery of such costs by SoCalGas. SoCalGas has engaged in settlement discussions with the SED in connection with this proceeding.

In February 2017, the CPUC opened a proceeding pursuant to SB 380 OII to determine the feasibility of minimizing or eliminating the use of the Aliso Canyon natural gas storage facility while still maintaining energy and electric reliability for the region, but excluding issues with respect to air quality, public health, causation, culpability or cost responsibility regarding the Leak. The CPUC issued a decision on the interim range of gas inventory levels at the Aliso Canyon natural gas storage facility in November 2020 with a final determination to be made within the SB 380 OII proceeding. The first phase of the proceeding established a framework for the hydraulic, production cost and economic modeling assumptions for the potential reduction in usage or elimination of the Aliso Canyon natural gas storage facility. Phase 2 of the proceeding, which will evaluate the impacts of reducing or eliminating the Aliso Canyon natural gas storage facility using the established framework and models, began in the first quarter of 2019. In December 2019, the CPUC added a third phase of the proceeding and engaged a consultant to consider alternative means for meeting or avoiding the demand for the facility's services if it were eliminated in either the 2027 or 2045 timeframe, which is currently underway.

If the Aliso Canyon natural gas storage facility were to be permanently closed, or if future cash flows from its operation were otherwise insufficient to recover its carrying value, it could result in an impairment of the facility and significantly higher than expected operating costs and/or additional capital expenditures, and natural gas reliability and electric generation could be jeopardized. At December 31, 2020, the Aliso Canyon natural gas storage facility had a net book value of $821 million. Any significant impairment of this asset, or higher operating costs and additional capital expenditures incurred by SoCalGas that may not be recoverable in customer rates, could have a material adverse effect on SoCalGas' and Sempra Energy's results of operations, financial condition and cash flows.

Cost Estimates, Accounting Impact and Insurance. SoCalGas has incurred significant costs for temporary relocation of community residents; to control the well and stop the Leak; to mitigate the natural gas released; to purchase natural gas to replace what was lost through the Leak; to defend against and, in certain cases, settle, civil and criminal litigation arising from the Leak; to pay the costs of the government-ordered response to the Leak, including the costs for Blade to conduct the root cause analysis described above; to respond to various government and agency investigations regarding the Leak; and to comply with increased regulation imposed as a result of the Leak. At December 31, 2020, SoCalGas estimates its costs related to the Leak are $1,627 million (the cost estimate), which includes $1,279 million of costs recovered or probable of recovery from insurance. This cost estimate may increase significantly as more information becomes available. A substantial portion of the cost estimate has been paid, and $451 million is accrued as Reserve for Aliso Canyon Costs as of December 31, 2020 on SoCalGas' and Sempra Energy's Consolidated Balance Sheets.

In 2020, SoCalGas recorded $484 million in costs, inclusive of estimated legal costs, related to settlement discussions in connection with civil litigation and regulatory matters described above in “Civil and Criminal Litigation” and “Regulatory Proceedings.” Of this amount, $177 million was recorded in Insurance Receivable for Aliso Canyon Costs on the SoCalGas and Sempra Energy Consolidated Balance Sheets and $307 million ($233 million after tax) was recorded in Aliso Canyon Litigation and Regulatory Matters on the SoCalGas and Sempra Energy Consolidated Statements of Operations. These accruals are included in the cost estimate that we describe above.

Except for the amounts paid or estimated to settle certain actions, as described in “Civil and Criminal Litigation” and “Regulatory Proceedings” above, the cost estimate does not include litigation, regulatory proceedings or regulatory costs to the extent it is not possible to predict at this time the outcome of these actions or reasonably estimate the costs to defend or resolve the actions or the amount of damages, restitution, or civil, administrative or criminal fines, sanctions, penalties or other costs or remedies that may be imposed or incurred. The cost estimate also does not include certain other costs incurred by Sempra Energy associated with defending against shareholder derivative lawsuits and other potential costs that we currently do not anticipate incurring or that we cannot reasonably estimate. These costs not included in the cost estimate could be significant and could have a material adverse effect on SoCalGas’ and Sempra Energy’s cash flows, financial condition and results of operations.

We have received insurance payments for many of the costs included in the cost estimate, including temporary relocation and associated processing costs, control-of-well expenses, costs of the government-ordered response to the Leak, certain legal costs and lost gas. As of December 31, 2020, we recorded the expected recovery of the cost estimate related to the Leak of $445 million as Insurance Receivable for Aliso Canyon Costs on SoCalGas’ and Sempra Energy’s Consolidated Balance Sheets. This amount is exclusive of insurance retentions and $834 million of insurance proceeds we received through December 31, 2020. We intend to pursue the full extent of our insurance coverage for the costs we have incurred. Other than insurance for certain future defense costs we may incur as well as directors’ and officers’ liability, we have exhausted all of our insurance in this matter. We continue to pursue other sources of insurance coverage for costs related to this matter, but we may not be successful in obtaining additional insurance recovery for any of these costs. If we are not able to secure additional insurance recovery, if any costs we have recorded as an insurance receivable are not collected, if there are delays in receiving insurance recoveries, or if the insurance recoveries are subject to income taxes while the associated costs are not tax deductible, such amounts, which could be significant, could have a material adverse effect on SoCalGas’ and Sempra Energy’s cash flows, financial condition and results of operations.

Sempra Mexico

Energía Costa Azul

IEnova has been engaged in a long-running land dispute relating to property adjacent to its ECA Regas Facility that allegedly overlaps with land owned by the ECA Regas Facility (the facility, however, is not situated on the land that is the subject of this dispute). A claimant to the adjacent property filed complaints in the federal Agrarian Court challenging the refusal of SEDATU in 2006 to issue title to him for the disputed property. In November 2013, the federal Agrarian Court ordered that SEDATU issue the requested title and cause it to be registered. Both SEDATU and IEnova challenged the ruling due to lack of notification of the underlying process. In May 2019, a federal court in Mexico reversed the ruling and ordered a retrial.

Four other cases involving two adjacent areas of real property on which part of the ECA Regas Facility is situated, each brought by a single plaintiff or her descendants, remain pending against the facility. The first disputed area is subject to a claim in the federal Agrarian Court that has been ongoing since 2006, in which the plaintiffs seek to annul the property title for a portion of the land on which the ECA Regas Facility is situated and to obtain possession of a different parcel that allegedly overlaps with the site of the ECA Regas Facility. The second disputed area is one parcel adjacent to the ECA Regas Facility that allegedly overlaps with land on which the ECA Regas Facility is situated, which is subject to a claim in the Agrarian Court and two claims in civil courts. The Agrarian Court proceeding, which seeks an order that SEDATU issue title to the plaintiff, was initiated in 2013 and the parties are awaiting a final decision. The two civil court proceedings, which seek to invalidate the contract by which the ECA Regas Facility purchased the applicable parcel of land on which the ECA Regas Facility is situated on the grounds that the purchase price was allegedly unfair, are progressing at different stages. In the first, initiated in 2013, a lower court ruled in favor of the ECA Regas Facility and the ruling has been appealed by the plaintiff. The same plaintiff filed the second civil case in 2019, which is in its initial stages.

Certain of these land disputes involve land on which portions of the ECA LNG liquefaction facilities are proposed to be situated or on which portions of the ECA Regas Facility that would be necessary for the operation of the proposed ECA LNG liquefaction facilities are situated.

Several administrative challenges are pending before Mexico’s Secretariat of Environment and Natural Resources (the Mexican environmental protection agency) and Federal Tax and Administrative Courts, seeking revocation of the environmental impact

authorization issued to the ECA Regas Facility in 2003. These cases generally allege that the conditions and mitigation measures in the environmental impact authorization are inadequate and challenge findings that the activities of the terminal are consistent with regional development guidelines.

In 2018, two related claimants filed separate challenges in the federal district court in Ensenada, Baja California in relation to the environmental and social impact permits issued by each of Agencia de Seguridad, Energía y Ambiente (ASEA) and SENER to ECA LNG authorizing natural gas liquefaction activities at the ECA Regas Facility. In the first case, the court issued a provisional injunction in September 2018. In December 2018, ASEA approved modifications to the environmental permit that facilitate the development of the proposed natural gas liquefaction facility in two phases. In May 2019, the court canceled the provisional injunction. The claimant appealed the court's decision canceling the injunction, but was not successful. The claimant's underlying challenge to the permits remains pending. In the second case, the initial request for a provisional injunction was denied. That decision was reversed on appeal in January 2020, resulting in the issuance of a new injunction against the same environmental and social impact permits that were already issued by ASEA and SENER. This injunction has uncertain application absent clarification by the court. The reversal and issuance of the injunction in the second case is under further appeal.

In September 2020, parties claiming a property interest in the land on which the ECA Regas Facility is situated and the proposed ECA LNG liquefaction facilities are anticipated to be situated filed an administrative proceeding with the Municipality of Ensenada against the permit for the construction of the proposed liquefaction export projects at the ECA Regas Facility. The ECA Regas Facility and ECA LNG contested the validity of the claim and the Municipality of Ensenada has confirmed the validity of the construction permit and closed the proceeding.

In May 2020, the two third-party capacity customers at the ECA Regas Facility, Shell Mexico and Gazprom, asserted that a 2019 update of the general terms and conditions for service at the facility, as approved by the CRE, resulted in a breach of contract by IEnova and a force majeure event. Citing these circumstances, the customers subsequently stopped making payments of amounts due under their respective LNG storage and regasification agreements. IEnova has rejected the customers' assertions and has drawn (and expects to continue to draw) on the customers' letters of credit provided as payment security. The parties engaged in discussions under the applicable contractual dispute resolution procedures without coming to a mutually acceptable resolution. In July 2020, Shell Mexico submitted a request for arbitration of the dispute and although Gazprom has joined the proceeding, Gazprom has replenished the amounts drawn on its letter of credit and has resumed making regular monthly payments under its LNG storage and regasification agreement. IEnova intends to avail itself of its available claims, defenses, rights and remedies in the arbitration proceeding, including seeking dismissal of the customers' claims. In addition to the arbitration proceeding, Shell Mexico also filed a constitutional challenge to the CRE's approval of the update to the general terms and conditions. In October 2020, Shell Mexico's request to stay CRE's approval was denied and, subsequently, Shell Mexico filed an appeal of that decision.

One or more unfavorable final decisions on these disputes or challenges could materially and adversely affect our existing natural gas regasification operations and proposed natural gas liquefaction projects at the site of the ECA Regas Facility.

Guaymas-El Oro Segment of the Sonora Pipeline

IEnova's Sonora natural gas pipeline consists of two segments, the Sasabe-Puerto Libertad-Guaymas segment, and the Guaymas-El Oro segment. Each segment has its own service agreement with the CFE. In 2015, the Yaqui tribe, with the exception of some members living in the Bácum community, granted its consent and a right-of-way easement agreement for the construction of the Guaymas-El Oro segment of the Sonora natural gas pipeline that crosses its territory. Representatives of the Bácum community filed a legal challenge in Mexican federal court demanding the right to withhold consent for the project, the stoppage of work in the Yaqui territory and damages. In 2016, the judge granted a suspension order that prohibited the construction of such segment through the Bácum community territory. Because the pipeline does not pass through the Bácum community, IEnova did not believe the 2016 suspension order prohibited construction in the remainder of the Yaqui territory. Construction of the Guaymas-El Oro segment was completed, and commercial operations began in May 2017.

Following the start of commercial operations of the Guaymas-El Oro segment, IEnova reported damage to the Guaymas-El Oro segment of the Sonora pipeline in the Yaqui territory that has made that section inoperable since August 2017 and, as a result, IEnova declared a force majeure event. In 2017, an appellate court ruled that the scope of the 2016 suspension order encompassed the wider Yaqui territory, which has prevented IEnova from making repairs to put the pipeline back in service. In July 2019, a federal district court ruled in favor of IEnova and held that the Yaqui tribe was properly consulted and that consent from the Yaqui tribe was properly received. Representatives of the Bácum community appealed this decision, causing the suspension order preventing IEnova from repairing the damage to the Guaymas-El Oro segment of the Sonora pipeline in the Yaqui territory to remain in place until the appeals process is exhausted.

IEnova exercised its rights under the contract, which included seeking force majeure payments for the two-year period such force majeure payments were required to be made, which ended in August 2019.

In July 2019, the CFE filed a request for arbitration generally to nullify certain contract terms that provide for fixed capacity payments in instances of force majeure and made a demand for substantial damages in connection with the force majeure event. In September 2019, the arbitration process ended when IEnova and the CFE reached an agreement to restart natural gas transportation service on the earlier of completion of repair of the damaged pipeline or January 15, 2020, and to modify the tariff structure and extend the term of the contract by 10 years. Subsequently, IEnova and the CFE agreed to extend the service start date to May 15, 2020 and then again to September 15, 2020. In the third quarter of 2020, the parties agreed to further extend the service start date to March 14, 2021. Under the revised agreement, the CFE will resume making payments only when the damaged section of the Guaymas-El Oro segment of the Sonora pipeline is repaired. If the pipeline is not repaired by March 14, 2021 and the parties do not agree on a new service start date, IEnova retains the right to terminate the contract and seek to recover its reasonable and documented costs and lost profits.

If IEnova is unable to make such repairs and resume operations in the Guaymas-El Oro segment of the Sonora pipeline within this time frame or if IEnova terminates the contract and is unable to obtain recovery, there may be a material adverse impact on Sempra Energy's results of operations and cash flows and our ability to recover the carrying value of our investment. At December 31, 2020, the Guaymas-El Oro segment of the Sonora pipeline had a net book value of $447 million. The Sasabe-Puerto Libertad-Guaymas segment of the Sonora pipeline remains in full operation and is not impacted by these developments.

Regulatory Actions by the Mexican Government that Impact Renewable Energy Facilities

In April 2020, Mexico's CENACE issued an order that it claims would safeguard Mexico's national power grid from interruptions that may be caused by renewable energy projects. The main provision of the order suspends all legally mandated pre-operative testing that would be needed for new renewable energy projects to commence operations and prevents such projects from connecting to the national power grid until further notice. IEnova's renewable energy projects affected by the order filed for legal protection through amparo claims (constitutional protection lawsuits) and, in June 2020, received injunctive relief until the claims are resolved by the courts. We have since achieved commercial operations on two solar power generation projects, Tepezalá and Don Diego, and expect to achieve commercial operations on Border Solar in the first half of 2021. The second phase of ESJ is not impacted by the order because it is not interconnected to the Mexican electric grid.

In May 2020, Mexico's SENER published a resolution to establish guidelines intended to guarantee the security and reliability of the national grid's electricity supply by reducing the threat that it claims is caused by clean, intermittent energy. IEnova's renewable energy projects, including those in construction and in service, filed amparo claims against the SENER resolution in June 2020 and received injunctive relief in July 2020. In addition, in June 2020, COFECE, Mexico's antitrust regulator, filed a complaint with Mexico's Supreme Court against the SENER resolution. The court accepted COFECE's complaint and, in February 2021, issued its final ruling that the main proposed changes in the SENER resolution are unconstitutional.

In May 2020, the CRE approved an update to the transmission rates included in legacy renewables and cogeneration energy contracts, based on the claim that the legacy transmission rates did not reflect fair and proportional costs for providing the applicable services and, therefore, created inequitable competitive conditions. Three of IEnova's renewables facilities are currently holders of contracts with such legacy rates, and any increases in the transmission rates would be passed through directly to their customers. IEnova filed amparo claims for its affected facilities and, in August 2020, was granted injunctive relief.

IEnova and other companies affected by these new orders and regulations have challenged the orders and regulations by filing amparo claims, some of which have been granted injunctive relief. The court-ordered injunctions provide relief until Mexico's Federal District Court ultimately resolves the amparo claims. An unfavorable final decision on these amparo challenges, or the potential for an extended dispute, could impact our ability to successfully complete construction of our Border Solar project, which is not yet commercially operating, or to complete such construction in a timely manner and within expected budgets, may impact our ability to operate our wind and solar facilities already in service at existing levels or at all, and may adversely affect our ability to develop new projects, any of which may have a material adverse impact on our results of operations and cash flows and our ability to recover the carrying values of our renewable energy investments in Mexico.

In October 2020, the CRE approved a resolution to amend the rules for the inclusion of new offtakers of legacy generation and self-supply permits (the Offtaker Resolution), which became effective immediately. The Offtaker Resolution prohibits self-supply permit holders from adding new offtakers that were not included in the original development or expansion plans, making modifications to the amount of energy allocated to the named offtakers, and including load centers that have entered into a supply arrangement under Mexico's Electricity Industry Law. Don Diego Solar and Border Solar (two of IEnova's projects, the first of which has achieved commercial operations and the second of which is currently in construction) and the Ventika wind power generation facilities are holders of legacy self-supply permits and are impacted by the Offtaker Resolution. If IEnova is not able to obtain legal protection for these impacted facilities, IEnova expects it will sell Border Solar's capacity and a portion of Don Diego Solar's capacity affected by the Offtaker Resolution into the spot market. Currently, prices in the spot market are significantly

lower than the fixed prices in the PPAs that were entered into through self-supply permits. IEnova has filed lawsuits against the Offtaker Resolution. Currently, Border Solar and Don Diego Solar are prohibited from delivering electric power to all (with respect to Border Solar) or a portion (with respect to Don Diego Solar) of their respective offtakers pending final resolution of these lawsuits. IEnova is evaluating ways to obtain injunctive relief that would allow Border Solar and Don Diego Solar to deliver electric power to their offtakers pending a final decision in the lawsuits.

Other Litigation

RBS Sempra Commodities

Sempra Energy holds an equity method investment in RBS Sempra Commodities, a limited liability partnership in the process of being liquidated. RBS, now NatWest Markets plc, our partner in the JV, paid an assessment of £86 million (approximately $138 million in U.S. dollars) in October 2014 to HMRC for denied VAT refund claims filed in connection with the purchase of carbon credit allowances by RBS SEE, a subsidiary of RBS Sempra Commodities. RBS SEE has since been sold to J.P. Morgan Chase & Co. and later to Mercuria Energy Group, Ltd. HMRC asserted that RBS was not entitled to reduce its VAT liability by VAT paid on certain carbon credit purchases during 2009 because RBS knew or should have known that certain vendors in the trading chain did not remit their own VAT to HMRC. After paying the assessment, RBS filed a Notice of Appeal of the assessment with the First-Tier Tribunal. Trial on the matter, which could include the assessment of a penalty of up to 100% of the claimed amount, is scheduled to begin in June 2021.

In 2015, liquidators filed a claim in the High Court of Justice against RBS and Mercuria Energy Europe Trading Limited (the Defendants) on behalf of 10 companies (the Liquidating Companies) that engaged in carbon credit trading via chains that included a company that traded directly with RBS SEE. The claim alleges that the Defendants' participation in the purchase and sale of carbon credits resulted in the Liquidating Companies' carbon credit trading transactions creating a VAT liability they were unable to pay, and that the Defendants are liable to provide for equitable compensation due to dishonest assistance and for compensation under the U.K. Insolvency Act of 1986. Trial on the matter was held in June and July of 2018. In March 2020, the High Court of Justice rendered its judgment mostly in favor of the Liquidating Companies and awarded damages of approximately £45 million (approximately $61 million in U.S. dollars at December 31, 2020), plus costs and interest. In October 2020, the High Court of Justice issued an order granting the Defendants permission to appeal its March 2020 judgment to the Court of Appeal, and the Defendants have filed an application for such appeal.

Although the final outcome of both the High Court of Justice case and First-Tier Tribunal case remains uncertain, we recorded $100 million in equity losses from our investment in RBS Sempra Commodities in Equity Earnings on the Sempra Energy Consolidated Statement of Operations in the year ended December 31, 2020, which represents an estimate of our obligations to settle pending tax matters and related legal costs.

Asbestos Claims Against EFH Subsidiaries

Certain EFH subsidiaries that we acquired as part of the merger of EFH with an indirect subsidiary of Sempra Energy are defendants in personal injury lawsuits brought in state courts throughout the U.S. As of February 22, 2021, 209 such lawsuits are pending with 77 such lawsuits having been served. These cases allege illness or death as a result of exposure to asbestos in power plants designed and/or built by companies whose assets were purchased by predecessor entities to the EFH subsidiaries, and generally assert claims for product defects, negligence, strict liability and wrongful death. They seek compensatory and punitive damages. Additionally, in connection with the EFH bankruptcy proceeding, approximately 28,000 proofs of claim were filed on behalf of persons who allege exposure to asbestos under similar circumstances and assert the right to file such lawsuits in the future. None of these claims or lawsuits were discharged in the EFH bankruptcy proceeding. The costs to defend or resolve these lawsuits and the amount of damages that may be imposed or incurred could have a material adverse effect on Sempra Energy's cash flows, financial condition and results of operations.

We are also defendants in ordinary routine litigation incidental to our businesses, including personal injury, employment litigation, product liability, property damage and other claims. Juries have demonstrated an increasing willingness to grant large awards, including punitive damages, in these types of cases.

LEASES

A lease exists when a contract conveys the right to control the use of an identified asset for a period of time in exchange for consideration. We determine if an arrangement is or contains a lease at inception of the contract.

Some of our lease agreements contain nonlease components, which represent activities that transfer a separate good or service to the lessee. As the lessee for both operating and finance leases, we have elected to combine lease and nonlease components as a single lease component for real estate, fleet vehicles, power generating facilities, and pipelines, whereby fixed or in-substance fixed payments allocable to the nonlease component are accounted for as part of the related lease liability and ROU asset. As the lessor, we have elected to combine lease and nonlease components as a single lease component for real estate and power generating facilities if the timing and pattern of transfer of the lease and nonlease components are the same and the lease component would be classified as an operating lease if accounted for separately.

Lessee Accounting

We have operating and finance leases for real and personal property (including office space, land, fleet vehicles, machinery and equipment, warehouses and other operational facilities) and PPAs with renewable energy and peaker plant facilities.

Some of our leases include options to extend the lease terms for up to 20 years, or to terminate the lease within one year. Our lease liabilities and ROU assets are based on lease terms that may include such options when it is reasonably certain that we will exercise the option.

Certain of our contracts are short-term leases, which have a lease term of 12 months or less at lease commencement. We do not recognize a lease liability or ROU asset arising from short-term leases for all existing classes of underlying assets. In such cases, we recognize short-term lease costs on a straight-line basis over the lease term. Our short-term lease costs for the period reasonably reflect our short-term lease commitments.

Certain of our leases contain escalation clauses requiring annual increases in rent ranging from 2% to 4% or based on the Consumer Price Index. The rentals payable under these leases may increase by a fixed amount each year or by a percentage of a base year. Variable lease payments that are based on an index or rate are included in the initial measurement of our lease liability and ROU asset based on the index or rate at lease commencement and are not remeasured because of changes to the index or rate. Rather, changes to the index or rate are treated as variable lease payments and recognized in the period in which the obligation for those payments is incurred.

Similarly, PPAs for the purchase of renewable energy at SDG&E require lease payments based on a stated rate per MWh produced by the facilities, and we are required to purchase substantially all the output from the facilities. SDG&E is required to pay additional amounts for capacity charges and actual purchases of energy that exceed the minimum energy commitments. Under these contracts, we do not recognize a lease liability or ROU asset for leases for which there are no fixed lease payments. Rather, these variable lease payments are recognized separately as variable lease costs. SDG&E estimates these variable lease payments to be $297 million in each of 2021 and 2022, $296 million in 2023, $297 million in 2024, $296 million in 2025 and $3,069 million thereafter.

As of the lease commencement date, we recognize a lease liability for our obligation to make future lease payments, which we initially measure at present value using our incremental borrowing rate at the date of lease commencement, unless the rate implicit in the lease is readily determinable. We determine our incremental borrowing rate based on the rate of interest that we would have to pay to borrow, on a collateralized basis over a similar term, an amount equal to the lease payments in a similar economic environment. We also record a corresponding ROU asset, initially equal to the lease liability and adjusted for lease payments made at or before lease commencement, lease incentives, and any initial direct costs. We test ROU assets for recoverability whenever events or changes in circumstances have occurred that may affect the recoverability or the estimated useful lives of the ROU assets.

For our operating leases, our non-regulated entities recognize a single lease cost on a straight-line basis over the lease term in operating expenses. The California Utilities recognize this single lease cost on a basis that is consistent with the recovery of such costs in accordance with U.S. GAAP governing rate-regulated operations.

For our finance leases, the interest expense on the lease liability and amortization of the ROU asset are accounted for separately. Our non-regulated entities use the effective interest rate method to account for the imputed interest on the lease liability and amortize the ROU asset on a straight-line basis over the lease term. The California Utilities recognize amortization of the ROU asset on a basis that is consistent with the recovery of such costs in accordance with U.S. GAAP governing rate-regulated operations.

Our leases do not contain any material residual value guarantees, restrictions or covenants.

Classification of ROU assets and lease liabilities and the weighted-average remaining lease term and discount rate associated with operating and finance leases are summarized in the table below.

LESSEE INFORMATION ON THE CONSOLIDATED BALANCE SHEETS
(Dollars in millions)

	Sempra Energy Consolidated		SDG&E		SoCalGas	
	December 31,					
	2020	2019	2020	2019	2020	2019
Right-of-use assets:						
Operating leases:						
Right-of-use assets	$ 543	$ 591	$ 102	$ 130	$ 74	$ 94
Finance leases:						
Property, plant and equipment	1,429	1,353	1,356	1,326	73	27
Accumulated depreciation	(99)	(64)	(80)	(57)	(19)	(7)
Property, plant and equipment, net	1,330	1,289	1,276	1,269	54	20
Total right-of-use assets	$ 1,873	$ 1,880	$ 1,378	$ 1,399	$ 128	$ 114
Lease liabilities:						
Operating leases:						
Other current liabilities	$ 52	$ 52	$ 27	$ 27	$ 18	$ 18
Deferred credits and other	407	445	73	102	56	75
	459	497	100	129	74	93
Finance leases:						
Current portion of long-term debt and finance leases	36	26	26	20	10	6
Long-term debt and finance leases	1,294	1,263	1,250	1,250	44	13
	1,330	1,289	1,276	1,270	54	19
Total lease liabilities	$ 1,789	$ 1,786	$ 1,376	$ 1,399	$ 128	$ 112
Weighted-average remaining lease term (in years):						
Operating leases	13	13	6	6	5	6
Finance leases	18	19	19	20	7	6
Weighted-average discount rate:						
Operating leases	5.81 %	6.01 %	3.62 %	3.55 %	2.03 %	3.73 %
Finance leases	14.45 %	14.76 %	14.65 %	14.83 %	2.83 %	3.23 %

The components of lease costs were as follows:

LESSEE INFORMATION ON THE CONSOLIDATED STATEMENTS OF OPERATIONS[1]

(Dollars in millions)

	Sempra Energy Consolidated		SDG&E		SoCalGas	
	Years ended December 31,					
	2020	2019	2020	2019	2020	2019
Operating lease costs	$ 92	$ 96	$ 31	$ 33	$ 24	$ 27
Finance lease costs:						
Amortization of ROU assets[2]	35	24	23	18	12	6
Interest on lease liabilities	188	173	186	173	2	—
Total finance lease costs	223	197	209	191	14	6
Short-term lease costs[3]	7	6	3	2	—	—
Variable lease costs[3]	477	482	467	471	10	10
Total lease costs	$ 799	$ 781	$ 710	$ 697	$ 48	$ 43

[1] *Includes costs capitalized in PP&E.*

[2] *Included in O&M, except for $18 million in 2020 and $15 million in 2019, which is included in Depreciation and Amortization Expense at Sempra Energy Consolidated and SDG&E.*

[3] *Short-term leases with variable lease costs are recorded and presented as variable lease costs.*

Cash paid for amounts included in the measurement of lease liabilities was as follows:

LESSEE INFORMATION ON THE CONSOLIDATED STATEMENTS OF CASH FLOWS

(Dollars in millions)

	Sempra Energy Consolidated		SDG&E		SoCalGas	
	Years ended December 31					
	2020	2019	2020	2019	2020	2019
Operating activities:						
Cash paid for operating leases	$ 79	$ 101	$ 31	$ 33	$ 24	$ 27
Cash paid for finance leases	173	173	171	173	2	—
Financing activities:						
Cash paid for finance leases	35	24	23	18	12	6
Increase (decrease) in operating lease obligations for right-of-use assets	20	585	(1)	158	1	118
Increase in finance lease obligations for investment in PP&E	77	38	30	16	47	22

The table below presents the maturity analysis of our lease liabilities and reconciliation to the present value of lease liabilities:

LESSEE MATURITY ANALYSIS OF LIABILITIES
(Dollars in millions)

	December 31, 2020					
	Sempra Energy Consolidated		SDG&E		SoCalGas	
	Operating leases	Finance leases[1]	Operating leases	Finance leases[1]	Operating leases	Finance leases
2021	$ 73	$ 206	$ 30	$ 194	$ 19	$ 12
2022	64	203	22	194	17	9
2023	55	203	17	194	13	9
2024	51	198	15	189	11	9
2025	40	193	5	185	9	8
Thereafter	415	2,465	22	2,453	8	12
Total undiscounted lease payments	698	3,468	111	3,409	77	59
Less: imputed interest	(239)	(2,138)	(11)	(2,133)	(3)	(5)
Total lease liabilities	459	1,330	100	1,276	74	54
Less: current lease liabilities	(52)	(36)	(27)	(26)	(18)	(10)
Long-term lease liabilities	$ 407	$ 1,294	$ 73	$ 1,250	$ 56	$ 44

[1] *Substantially all amounts are related to purchased-power contracts.*

Lease Disclosures Under Previous U.S. GAAP

Rent expense for operating leases was as follows:

RENT EXPENSE – OPERATING LEASES
(Dollars in millions)

	Year ended December 31, 2018
Sempra Energy Consolidated	$ 122
SDG&E	27
SoCalGas	41

The annual amortization charge for PPAs accounted for as capital leases at both Sempra Energy Consolidated and SDG&E was $11 million in 2018. The annual depreciation charge for fleet vehicles and other assets in 2018 was $8 million at Sempra Energy Consolidated, including $2 million at SDG&E and $6 million at SoCalGas.

Lessor Accounting

Sempra Mexico is a lessor for certain of its natural gas and ethane pipelines, compressor stations and LPG storage facilities. These operating leases expire at various dates from 2021 through 2039.

Sempra Mexico expects to continue to derive value from the underlying assets associated with its pipelines following the end of their respective lease terms based on the expected remaining useful life, expected market conditions and plans to re-market and re-contract the underlying assets.

Generally, we recognize operating lease income on a straight-line basis over the lease term and evaluate the underlying asset for impairment. Certain of our leases contain rate adjustments or are based on foreign currency exchange rates that may result in lease payments received that vary in amount from one period to the next.

We provide information below for leases for which we are the lessor.

LESSOR INFORMATION – SEMPRA ENERGY
(Dollars in millions)

	December 31, 2020	December 31, 2019
Assets subject to operating leases:		
Property, plant and equipment[1]	$ 1,092	$ 1,038
Accumulated depreciation	(228)	(179)
Property, plant and equipment, net	$ 864	$ 859

	December 31, 2020
Maturity analysis of operating lease payments:	
2021	$ 207
2022	202
2023	202
2024	202
2025	202
Thereafter	2,344
Total undiscounted cash flows	$ 3,359

(1) *Included in Machinery and Equipment — Pipelines and Storage within the major functional categories of PP&E.*

LESSOR INFORMATION ON THE CONSOLIDATED STATEMENTS OF OPERATIONS – SEMPRA ENERGY
(Dollars in millions)

	Years ended December 31, 2020	2019	2018
Fixed lease payments	$ 195	$ 200	$ 194
Variable lease payments	1	6	72
Total revenues from operating leases[1]	$ 196	$ 206	$ 266
Depreciation expense	$ 39	$ 38	$ 72

(1) *Included in Revenues: Energy-Related Businesses on the Consolidated Statements of Operations.*

CONTRACTUAL COMMITMENTS

Natural Gas Contracts

SoCalGas has responsibility for procuring natural gas for both SDG&E's and SoCalGas' core customers in a combined portfolio. SoCalGas buys natural gas under short-term and long-term contracts for this portfolio from various producing regions in the southwestern U.S., U.S. Rockies and Canada, primarily based on published monthly bid-week indices.

SoCalGas transports natural gas primarily under long-term firm interstate pipeline capacity agreements that provide for annual reservation charges, which are recovered in rates. SoCalGas has commitments with interstate pipeline companies for firm pipeline capacity under contracts that expire at various dates through 2032.

Sempra LNG has various capacity agreements for natural gas storage and transportation. Transportation costs on these agreements vary based on pipeline capacity.

Payments on our natural gas contracts could exceed the minimum commitment based on portfolio needs. At December 31, 2020, the future minimum payments under existing natural gas contracts and natural gas storage and transportation contracts are as follows:

FUTURE MINIMUM PAYMENTS – SEMPRA ENERGY CONSOLIDATED
(Dollars in millions)

	Storage and transportation	Natural gas[1]	Total[1]
2021	$ 216	$ 61	$ 277
2022	203	13	216
2023	189	12	201
2024	166	12	178
2025	131	6	137
Thereafter	1,014	—	1,014
Total minimum payments	$ 1,919	$ 104	$ 2,023

(1) *Excludes amounts related to the LNG purchase agreement discussed below.*

FUTURE MINIMUM PAYMENTS – SOCALGAS
(Dollars in millions)

	Transportation	Natural gas	Total
2021	$ 134	$ 41	$ 175
2022	126	—	126
2023	123	—	123
2024	103	—	103
2025	68	—	68
Thereafter	359	—	359
Total minimum payments	$ 913	$ 41	$ 954

Total payments under natural gas contracts and natural gas storage and transportation contracts as well as payments to meet additional portfolio needs at Sempra Energy Consolidated and SoCalGas were as follows:

PAYMENTS UNDER NATURAL GAS CONTRACTS
(Dollars in millions)

	Years ended December 31,		
	2020	2019	2018
Sempra Energy Consolidated	$ 989	$ 1,326	$ 1,345
SoCalGas	935	1,181	1,169

LNG Purchase Agreement

Sempra LNG has a sale and purchase agreement for the supply of LNG to the ECA Regas Facility. The commitment amount is calculated using a predetermined formula based on estimated forward prices of the index applicable from 2021 to 2029. Although this agreement specifies a number of cargoes to be delivered, under its terms, the customer may divert certain cargoes, which would reduce amounts paid under the agreement by Sempra LNG.

At December 31, 2020, the following LNG commitment amounts are based on the assumption that all cargoes, less those already confirmed to be diverted, under the agreement are delivered:

LNG COMMITMENT AMOUNTS
(Dollars in millions)

2021	$ 320
2022	422
2023	389
2024	386
2025	390
Thereafter	1,452
Total	$ 3,359

Actual LNG purchases in 2020, 2019 and 2018 have been significantly lower than the maximum amount provided under the agreement due to the customer electing to divert cargoes as allowed by the agreement.

Purchased-Power Contracts

For 2021, SDG&E expects to meet its customer power requirements from the following resource types:

- Long-term contracts: 28% (of which 27% is provided by renewable energy contracts expiring on various dates through 2041)
- Other SDG&E-owned generation and tolling contracts: 43%
- Spot market purchases: 29%

Payments on our purchased-power contracts could exceed the minimum commitments based on energy needs. At December 31, 2020, the future minimum payments under long-term purchased-power contracts for Sempra Energy Consolidated and SDG&E are as follows:

FUTURE MINIMUM PAYMENTS – PURCHASED-POWER CONTRACTS *(Dollars in millions)*		
2021	$	222
2022		208
2023		173
2024		145
2025		88
Thereafter		794
Total minimum payments[1]	$	1,630

[1] *Excludes purchase agreements accounted for as finance leases.*

Payments on these contracts represent capacity charges and minimum energy and transmission purchases that exceed the minimum commitment. SDG&E is required to pay additional amounts for actual purchases of energy that exceed the minimum energy commitments. SDG&E estimates these variable payments to be $66 million in each of 2021 and 2022, $67 million in 2023, $65 million in 2024, $66 million in 2025 and $541 million thereafter. Total payments under purchased-power contracts for Sempra Energy Consolidated and SDG&E were $534 million in 2020, $744 million in 2019 and $712 million in 2018.

Construction and Development Projects

Sempra Energy Consolidated has various capital projects in progress in the U.S. and Mexico. Our total contractual commitments at December 31, 2020 under these projects are approximately $696 million, requiring future payments of $525 million in 2021, $22 million in 2022, $19 million in 2023, $16 million in each of 2024 and 2025 and $98 million thereafter. The following is a summary by segment of contractual commitments and contingencies related to such projects.

SDG&E

At December 31, 2020, SDG&E has commitments to make future payments of $25 million for construction projects that include:

- $1 million for infrastructure improvements for electric and natural gas transmission and distribution systems; and
- $24 million related to spent fuel management at SONGS.

SDG&E expects future payments under these contractual commitments to be $2 million in 2021, $1 million in each of 2022 through 2025 and $19 million thereafter.

Sempra Mexico

At December 31, 2020, Sempra Mexico has commitments to make future payments of $610 million for construction projects that include:

- $349 million for liquid fuels terminals;
- $249 million for natural gas pipelines and ongoing maintenance services; and
- $12 million for renewables projects.

Sempra Mexico expects future payments under these contractual commitments to be $466 million in 2021, $19 million in 2022, $16 million in 2023, $15 million in each of 2024 and 2025 and $79 million thereafter.

Sempra LNG

At December 31, 2020, Sempra LNG has commitments to make future payments of $61 million primarily for natural gas liquefaction development costs and natural gas transportation projects. Sempra LNG expects future payments under these contractual commitments to be $57 million in 2021, $2 million in each of 2022 and 2023.

OTHER COMMITMENTS

SDG&E

We discuss nuclear insurance and nuclear fuel disposal related to SONGS in Note 15.

In connection with the completion of the Sunrise Powerlink project in 2012, the CPUC required that SDG&E establish a fire mitigation fund to minimize the risk of fire as well as reduce the potential wildfire impact on residences and structures near the Sunrise Powerlink. The future payments for these contractual commitments, for which a liability has been recorded, are expected to be $4 million per year in 2021 through 2025 and $279 million thereafter, subject to escalation of 2% per year, for a remaining 49-year period. At December 31, 2020, the present value of these future payments of $121 million has been recorded as a regulatory asset as the amounts represent a cost that we expect will be recovered from customers in the future.

Sempra LNG

Additional consideration for a 2006 comprehensive legal settlement with the State of California to resolve the Continental Forge litigation included an agreement that, for a period of 18 years beginning in 2011, Sempra LNG would sell to the California Utilities, subject to annual CPUC approval, up to 500 MMcf per day of regasified LNG from Sempra Mexico's ECA Regas Facility that is not delivered or sold in Mexico at the price indexed to the California border minus $0.02 per MMBtu. There are no specified minimums required, and to date, Sempra LNG has not been required to deliver any natural gas pursuant to this agreement.

ENVIRONMENTAL ISSUES

Our operations are subject to federal, state and local environmental laws. We also are subject to regulations related to hazardous wastes, air and water quality, land use, solid waste disposal and the protection of wildlife. These laws and regulations require that we investigate and correct the effects of the release or disposal of materials at sites associated with our past and our present operations. These sites include those at which we have been identified as a PRP under the federal Superfund laws and similar state laws.

In addition, we are required to obtain numerous governmental permits, licenses and other approvals to construct facilities and operate our businesses. The related costs of environmental monitoring, pollution control equipment, cleanup costs, and emissions fees are significant. Increasing national and international concerns regarding global warming and mercury, carbon dioxide, nitrogen oxide and sulfur dioxide emissions could result in requirements for additional pollution control equipment or significant emissions fees or taxes that could adversely affect Sempra LNG and Sempra Mexico. The California Utilities' costs to operate their facilities in compliance with these laws and regulations generally have been recovered in customer rates.

We disclose any proceeding under environmental laws to which a government authority is a party when the potential monetary sanctions, exclusive of interest and costs, exceed the lesser of $1 million or 1% of current assets, which was $45 million for Sempra Energy Consolidated, $16 million for SDG&E and $15 million for SoCalGas at December 31, 2020.

We discuss environmental matters related to the natural gas leak at SoCalGas' Aliso Canyon natural gas storage facility above in "Legal Proceedings – SoCalGas – Aliso Canyon Natural Gas Storage Facility Gas Leak."

Other Environmental Issues

We generally capitalize the significant costs we incur to mitigate or prevent future environmental contamination or extend the life, increase the capacity, or improve the safety or efficiency of property used in current operations. The following table shows our capital expenditures (including construction work in progress) in order to comply with environmental laws and regulations:

CAPITAL EXPENDITURES FOR ENVIRONMENTAL ISSUES
(Dollars in millions)

	Years ended December 31,		
	2020	2019	2018
Sempra Energy Consolidated	$ 76	$ 80	$ 100
SDG&E	39	39	38
SoCalGas	37	41	62

We have not identified any significant environmental issues outside the U.S.

At the California Utilities, costs that relate to current operations or an existing condition caused by past operations are generally recorded as a regulatory asset due to the probability that these costs will be recovered in rates.

The environmental issues currently facing us, except for those related to the Aliso Canyon natural gas storage facility leak as we discuss above or resolved during the last three years, include (1) investigation and remediation of the California Utilities' manufactured-gas sites, (2) cleanup of third-party waste-disposal sites used by the California Utilities at which we have been identified as a PRP and (3) mitigation of damage to the marine environment caused by the cooling-water discharge from SONGS.

The table below shows the status at December 31, 2020 of the California Utilities' manufactured-gas sites and the third-party waste-disposal sites for which we have been identified as a PRP:

STATUS OF ENVIRONMENTAL SITES

	# Sites complete[(1)]	# Sites in process
SDG&E:		
Manufactured-gas sites	3	—
Third-party waste-disposal sites	2	1
SoCalGas:		
Manufactured-gas sites	39	3
Third-party waste-disposal sites	5	2

(1) *There may be ongoing compliance obligations for completed sites, such as regular inspections, adherence to land use covenants and water quality monitoring.*

We record environmental liabilities when our liability is probable and the costs can be reasonably estimated. In many cases, however, investigations are not yet at a stage where we can determine whether we are liable or, if the liability is probable, to reasonably estimate the amount or range of amounts of the costs. Estimates of our liability are further subject to uncertainties such as the nature and extent of site contamination, evolving cleanup standards and imprecise engineering evaluations. We review our accruals periodically and, as investigations and cleanups proceed, we make adjustments as necessary.

The following table shows our accrued liabilities for environmental matters at December 31, 2020. Of the total liability, $9 million at SoCalGas is recorded on a discounted basis, with a discount rate of 1.5%.

ACCRUED LIABILITIES FOR ENVIRONMENTAL MATTERS
(Dollars in millions)

	Manufactured-gas sites	Waste disposal sites (PRP)[1]	Other hazardous waste sites	Total[2]
SDG&E[3]	$ —	$ 6	$ 13	$ 19
SoCalGas[4]	36	3	1	40
Other	—	1	—	1
Total Sempra Energy	$ 36	$ 10	$ 14	$ 60

(1) *Sites for which we have been identified as a PRP.*

(2) *Includes $11 million, $1 million and $10 million classified as current liabilities, and $49 million, $18 million and $30 million classified as noncurrent liabilities on Sempra Energy's, SDG&E's and SoCalGas' Consolidated Balance Sheets, respectively.*

(3) *Does not include SDG&E's liability for SONGS marine environment mitigation.*

(4) *Does not include SoCalGas' liability for environmental matters for the Leak. We discuss matters related to the Leak above in "Legal Proceedings – SoCalGas – Aliso Canyon Natural Gas Storage Facility Gas Leak."*

In connection with the issuance of operating permits, SDG&E and the other owners of SONGS previously reached an agreement with the CCC to mitigate the damage to the marine environment caused by the cooling-water discharge from SONGS during its operation. SONGS' early retirement, described in Note 15, does not reduce SDG&E's mitigation obligation. SDG&E's share of the estimated mitigation costs is $84 million, of which $47 million has been incurred through December 31, 2020 and $37 million is accrued for remaining costs through 2053, which is recoverable in rates and included in noncurrent Regulatory Assets on Sempra Energy's and SDG&E's Consolidated Balance Sheets.

We expect future payments related to our environmental liabilities on an undiscounted basis to be $12 million in 2021, $16 million in 2022, $3 million in 2023, $6 million in 2024, $3 million in 2025 and $58 million thereafter.

NOTE 17. SEGMENT INFORMATION

We have five separately managed reportable segments, as follows:

- *SDG&E* provides electric service to San Diego and southern Orange counties and natural gas service to San Diego County.
- *SoCalGas* is a natural gas distribution utility, serving customers throughout most of Southern California and part of central California.
- *Sempra Texas Utilities* holds our investment in Oncor Holdings, which owns an 80.25% interest in Oncor, a regulated electric transmission and distribution utility serving customers in the north-central, eastern, western and panhandle regions of Texas; and our indirect, 50% interest in Sharyland Holdings, which owns Sharyland Utilities, a regulated electric transmission utility serving customers near the Texas-Mexico border. As we discuss in Note 5, we acquired our investment in Sharyland Holdings in May 2019.
- *Sempra Mexico* develops, owns and operates, or holds interests in, natural gas, electric, LNG, LPG, ethane and liquid fuels infrastructure, and has marketing operations for the purchase of LNG and the purchase and sale of natural gas in Mexico.
- *Sempra LNG* develops and builds natural gas liquefaction export facilities, holds an interest in a facility for the export of LNG, owns and operates natural gas pipelines, and buys, sells and transports natural gas through its marketing operations, all within the U.S. and Mexico. In February 2019, we completed the sale of our natural gas storage assets at Mississippi Hub and Bay Gas.

In April 2019, Sempra Renewables completed the sale of its remaining wind assets and investments. Upon completion of this sale, remaining nominal business activities at Sempra Renewables were subsumed into Parent and other and the Sempra Renewables segment ceased to exist. The tables below include amounts from Sempra Renewables up until cessation of the segment.

As we discuss in Note 5, the financial information related to our businesses that constituted the Sempra South American Utilities segment is presented as discontinued operations for all periods presented. The information in the tables below excludes amounts from discontinued operations unless otherwise noted. We completed the sales of our discontinued operations in the second quarter of 2020.

We evaluate each segment's performance based on its contribution to Sempra Energy's reported earnings and cash flows. The California Utilities operate in essentially separate service territories, under separate regulatory frameworks and rate structures set by the CPUC and the FERC. We describe the accounting policies of all of our segments in Note 1.

The cost of common services shared by the business segments is assigned directly or allocated based on various cost factors, depending on the nature of the service provided. Interest income and expense is recorded on intercompany loans. The loan balances and related interest are eliminated in consolidation.

The following tables show selected information by segment from our Consolidated Statements of Operations and Consolidated Balance Sheets. We provide information about our equity method investments by segment in Note 6. Amounts labeled as "All other" in the following tables consist primarily of activities of parent organizations and include certain nominal amounts from our South American businesses that did not qualify for treatment as discontinued operations.

SEGMENT INFORMATION
(Dollars in millions)

	Years ended December 31,		
	2020	2019	2018
REVENUES			
SDG&E	$ 5,313	$ 4,925	$ 4,568
SoCalGas	4,748	4,525	3,962
Sempra Mexico	1,256	1,375	1,376
Sempra LNG	374	410	472
Sempra Renewables	—	10	124
All other	2	3	—
Adjustments and eliminations	(3)	(3)	(3)
Intersegment revenues[1]	(320)	(416)	(397)
Total	$ 11,370	$ 10,829	$ 10,102
INTEREST EXPENSE			
SDG&E[2]	$ 413	$ 411	$ 221
SoCalGas	158	141	115
Sempra Mexico	132	119	120
Sempra LNG	43	35	21
Sempra Renewables	—	3	19
All other	389	450	496
Intercompany eliminations	(54)	(82)	(106)
Total	$ 1,081	$ 1,077	$ 886
INTEREST INCOME			
SDG&E	$ 2	$ 4	$ 4
SoCalGas	2	2	2
Sempra Mexico	60	78	65
Sempra LNG	81	61	49
Sempra Renewables	—	11	12
All other	7	4	14
Intercompany eliminations	(56)	(73)	(61)
Total	$ 96	$ 87	$ 85
DEPRECIATION AND AMORTIZATION			
SDG&E	$ 801	$ 760	$ 688
SoCalGas	654	602	556
Sempra Mexico	189	183	175
Sempra LNG	9	10	26
Sempra Renewables	—	—	27
All other	13	14	19
Total	$ 1,666	$ 1,569	$ 1,491
INCOME TAX EXPENSE (BENEFIT)			
SDG&E	$ 190	$ 171	$ 173
SoCalGas	96	120	92
Sempra Texas Utilities	1	—	—
Sempra Mexico	57	227	185
Sempra LNG	92	(5)	(435)
Sempra Renewables	—	4	71
All other	(187)	(202)	(135)
Total	$ 249	$ 315	$ (49)

SEGMENT INFORMATION (CONTINUED)
(Dollars in millions)

	Years ended December 31 or at December 31,		
	2020	2019	2018
EARNINGS (LOSSES) ATTRIBUTABLE TO COMMON SHARES			
SDG&E	$ 824	$ 767	$ 669
SoCalGas	504	641	400
Sempra Texas Utilities	579	528	371
Sempra Mexico	259	253	237
Sempra LNG	320	(6)	(617)
Sempra Renewables	—	59	328
Discontinued operations	1,840	328	156
All other	(562)	(515)	(620)
Total	$ 3,764	$ 2,055	$ 924
EXPENDITURES FOR PROPERTY, PLANT & EQUIPMENT			
SDG&E	$ 1,942	$ 1,522	$ 1,542
SoCalGas	1,843	1,439	1,538
Sempra Mexico	611	624	368
Sempra LNG	268	112	31
Sempra Renewables	—	2	51
All other	12	9	14
Total	$ 4,676	$ 3,708	$ 3,544
ASSETS			
SDG&E	$ 22,311	$ 20,560	$ 19,225
SoCalGas	18,460	17,077	15,389
Sempra Texas Utilities	12,542	11,619	9,652
Sempra Mexico	10,752	9,938	9,165
Sempra LNG	2,205	3,901	4,060
Sempra Renewables	—	—	2,549
Discontinued operations	—	3,958	3,718
All other	1,209	749	1,070
Intersegment receivables	(856)	(2,137)	(4,190)
Total	$ 66,623	$ 65,665	$ 60,638
GEOGRAPHIC INFORMATION			
Long-lived assets[3]:			
United States	$ 46,902	$ 43,719	$ 40,611
Mexico	6,929	6,355	5,800
Total	$ 53,831	$ 50,074	$ 46,411
Revenues[4]:			
United States	$ 10,205	$ 9,574	$ 8,840
Mexico	1,165	1,255	1,262
Total	$ 11,370	$ 10,829	$ 10,102

(1) *Revenues for reportable segments include intersegment revenues of $5 million, $88 million, $91 million and $136 million for 2020; $5 million, $69 million, $120 million and $222 million for 2019; and $4 million, $64 million, $114 million and $215 million for 2018 for SDG&E, SoCalGas, Sempra Mexico and Sempra LNG, respectively.*

(2) *In accordance with adoption of the lease standard on January 1, 2019, on a prospective basis, a significant portion of finance lease costs for PPAs that have historically been presented in Cost of Electric Fuel and Purchased Power are now presented in Interest Expense.*

(3) *Includes net PP&E and investments.*

(4) *Amounts are based on where the revenue originated, after intercompany eliminations.*

NOTE 18. QUARTERLY FINANCIAL DATA (UNAUDITED)

We provide quarterly financial information for Sempra Energy Consolidated, SDG&E and SoCalGas below:

SEMPRA ENERGY
(In millions, except per share amounts)

	Quarters ended			
	March 31	June 30	September 30	December 31
2020:				
Revenues	$ 3,029	$ 2,526	$ 2,644	$ 3,171
Expenses and other income	$ 2,632	$ 2,063	$ 2,443	$ 2,743
Income from continuing operations, net of income tax	$ 867	$ 528	$ 428	$ 432
Income (loss) from discontinued operations, net of income tax	80	1,777	(7)	—
Net income	$ 947	$ 2,305	$ 421	$ 432
Earnings attributable to common shares	$ 760	$ 2,239	$ 351	$ 414
Basic EPS[1]:				
Earnings from continuing operations	$ 2.35	$ 1.58	$ 1.23	$ 1.43
Earnings (losses) from discontinued operations	$ 0.25	$ 6.06	$ (0.02)	$ —
Earnings	$ 2.60	$ 7.64	$ 1.21	$ 1.43
Weighted-average common shares outstanding	292.8	293.1	289.5	289.0
Diluted EPS[1]:				
Earnings from continuing operations[2]	$ 2.30	$ 1.58	$ 1.23	$ 1.43
Earnings (losses) from discontinued operations	$ 0.23	$ 6.03	$ (0.02)	$ —
Earnings[2]	$ 2.53	$ 7.61	$ 1.21	$ 1.43
Weighted-average common shares outstanding	313.9	294.2	290.6	290.2
2019:				
Revenues	$ 2,898	$ 2,230	$ 2,758	$ 2,943
Expenses and other income	$ 2,397	$ 1,944	$ 2,310	$ 2,444
Income from continuing operations, net of income tax	$ 560	$ 357	$ 653	$ 429
(Loss) income from discontinued operations, net of income tax	(42)	78	256	71
Net income	$ 518	$ 435	$ 909	$ 500
Earnings attributable to common shares	$ 441	$ 354	$ 813	$ 447
Basic EPS[1]:				
Earnings from continuing operations	$ 1.79	$ 1.03	$ 2.04	$ 1.36
(Losses) earnings from discontinued operations	$ (0.19)	$ 0.26	$ 0.89	$ 0.21
Earnings	$ 1.60	$ 1.29	$ 2.93	$ 1.57
Weighted-average common shares outstanding	274.7	275.0	277.4	284.6
Diluted EPS[1]:				
Earnings from continuing operations[2]	$ 1.78	$ 1.01	$ 2.00	$ 1.34
(Losses) earnings from discontinued operations	$ (0.19)	$ 0.25	$ 0.84	$ 0.21
Earnings[2]	$ 1.59	$ 1.26	$ 2.84	$ 1.55
Weighted-average common shares outstanding	277.2	279.6	295.8	288.8

(1) *EPS is computed independently for each of the quarters and therefore may not sum to the total for the year.*

(2) *In the quarters ended March 31, 2020 and September 30, 2019, due to the dilutive effect of certain mandatory convertible preferred stock, the numerator used to calculate diluted EPS included an add-back of related mandatory convertible preferred dividends declared in those quarters.*

In April 2020, we completed the sale of our equity interests in our Peruvian businesses for cash proceeds of $3,549 million, net of transaction costs and as adjusted for post-closing adjustments, and recorded a pretax gain of $2,271 million ($1,499 million after tax). In June 2020, we completed the sale of our equity interests in our Chilean businesses for cash proceeds of $2,216 million, net of transaction costs and as adjusted for post-closing adjustments, and recorded a pretax gain of $628 million ($248 million after tax). We discuss the sale of these discontinued operations and related gains in Note 5.

In March, September and December of 2020, SoCalGas recorded charges of $100 million ($72 million after tax), $27 million ($22 million after tax) and $180 million ($139 million after tax), respectively, in Aliso Canyon Litigation and Regulatory Matters on the SoCalGas and Sempra Energy Consolidated Statements of Operations related to settlement discussions in connection with civil litigation and regulatory matters. We discuss these matters in Note 16.

In April 2019, Sempra Renewables completed the sale of its remaining wind assets and investments and recognized a pretax gain on sale of $61 million ($45 million after tax). We discuss the sale and related gain in Note 5.

SDG&E
(Dollars in millions)

	Quarters ended			
	March 31	June 30	September 30	December 31
2020:				
Operating revenues	$ 1,269	$ 1,235	$ 1,472	$ 1,337
Operating expenses	880	887	1,157	1,016
Operating income	$ 389	$ 348	$ 315	$ 321
Net income/Earnings attributable to common shares	$ 262	$ 193	$ 178	$ 191
2019:				
Operating revenues	$ 1,145	$ 1,094	$ 1,427	$ 1,259
Operating expenses	883	831	1,004	894
Operating income	$ 262	$ 263	$ 423	$ 365
Net income	$ 177	$ 146	$ 266	$ 185
Earnings attributable to noncontrolling interest	(1)	(3)	(3)	—
Earnings attributable to common shares	$ 176	$ 143	$ 263	$ 185

SOCALGAS
(Dollars in millions)

	Quarters ended			
	March 31	June 30	September 30	December 31
2020:				
Operating revenues	$ 1,395	$ 1,010	$ 842	$ 1,501
Operating expenses	1,031	773	826	1,333
Operating income	$ 364	$ 237	$ 16	$ 168
Net income (loss)	$ 303	$ 147	$ (24)	$ 79
Dividends on preferred stock	—	(1)	—	—
Earnings (losses) attributable to common shares	$ 303	$ 146	$ (24)	$ 79
2019:				
Operating revenues	$ 1,361	$ 806	$ 975	$ 1,383
Operating expenses	1,060	747	762	1,000
Operating income	$ 301	$ 59	$ 213	$ 383
Net income	$ 264	$ 31	$ 143	$ 204
Dividends on preferred stock	—	(1)	—	—
Earnings attributable to common shares	$ 264	$ 30	$ 143	$ 204

SoCalGas recognizes annual authorized revenue for core natural gas customers using seasonal factors established in the Triennial Cost Allocation Proceeding. Accordingly, a significant portion of SoCalGas' annual earnings are recognized in the first and fourth quarters each year.

SCHEDULE I – SEMPRA ENERGY

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SEMPRA ENERGY
CONDENSED STATEMENTS OF OPERATIONS
(Dollars in millions, except per share amounts; shares in thousands)

	Years ended December 31,		
	2020	2019	2018
Interest income	$ 4	$ 3	$ 14
Interest expense	(495)	(521)	(495)
Operating expenses	(86)	(124)	(82)
Other (expense) income, net	(38)	59	(16)
Income tax benefit	176	163	154
Loss before equity in earnings of subsidiaries	(439)	(420)	(425)
Equity in earnings of subsidiaries, net of income taxes	4,371	2,617	1,474
Net income	3,932	2,197	1,049
Preferred dividends	(168)	(142)	(125)
Earnings	$ 3,764	$ 2,055	$ 924
Basic EPS:			
Earnings	$ 12.93	$ 7.40	$ 3.45
Weighted-average common shares outstanding	291,077	277,904	268,072
Diluted EPS:			
Earnings	$ 12.88	$ 7.29	$ 3.42
Weighted-average common shares outstanding	292,252	282,033	269,852

See Notes to Condensed Financial Information of Parent.

SEMPRA ENERGY
CONDENSED STATEMENTS OF COMPREHENSIVE INCOME (LOSS)
(Dollars in millions)

	Years ended December 31, 2020, 2019 and 2018		
	Pretax amount	Income tax benefit (expense)	Net-of-tax amount
2020:			
Net income	$ 3,756	$ 176	$ 3,932
Other comprehensive income (loss):			
Foreign currency translation adjustments	547	—	547
Financial instruments	(146)	33	(113)
Pension and other postretirement benefits	11	1	12
Total other comprehensive income	412	34	446
Comprehensive income	$ 4,168	$ 210	$ 4,378
2019:			
Net income	$ 2,034	$ 163	$ 2,197
Other comprehensive income (loss):			
Foreign currency translation adjustments	(43)	—	(43)
Financial instruments	(161)	53	(108)
Pension and other postretirement benefits	25	(7)	18
Total other comprehensive loss	(179)	46	(133)
Comprehensive income	$ 1,855	$ 209	$ 2,064
2018:			
Net income	$ 895	$ 154	$ 1,049
Other comprehensive income (loss):			
Foreign currency translation adjustments	(144)	—	(144)
Financial instruments	64	(21)	43
Pension and other postretirement benefits	(38)	4	(34)
Total other comprehensive loss	(118)	(17)	(135)
Comprehensive income	$ 777	$ 137	$ 914

See Notes to Condensed Financial Information of Parent.

SEMPRA ENERGY
CONDENSED BALANCE SHEETS
(Dollars in millions)

	December 31, 2020	December 31, 2019
Assets:		
Cash and cash equivalents	$ 366	$ 6
Due from affiliates	58	98
Income taxes receivable, net	42	—
Other current assets	26	34
Total current assets	492	138
Investments in subsidiaries	33,898	32,604
Due from affiliates	1	3
Deferred income taxes	2,187	1,766
Other long-term assets	717	682
Total assets	$ 37,295	$ 35,193
Liabilities and shareholders' equity:		
Current portion of long-term debt	$ 850	$ 1,399
Due to affiliates	224	369
Income taxes payable, net	—	274
Other current liabilities	536	561
Total current liabilities	1,610	2,603
Long-term debt	7,317	8,856
Due to affiliates	4,375	3,138
Other long-term liabilities	620	667
Commitments and contingencies (Note 4)		
Shareholders' equity	23,373	19,929
Total liabilities and shareholders' equity	$ 37,295	$ 35,193

See Notes to Condensed Financial Information of Parent.

SEMPRA ENERGY
CONDENSED STATEMENTS OF CASH FLOWS
(Dollars in millions)

	Years ended December 31,		
	2020	2019	2018
Net cash (used in) provided by operating activities	(978)	$ 294	$ 213
Expenditures for property, plant and equipment	(9)	(8)	(11)
Expenditures for acquisition	—	—	(329)
Capital contributions to investees	(364)	(1,528)	(9,457)
Distribution from investments	3,616	—	—
Decrease (increase) in loans to affiliates, net	2	—	(1)
Other	—	4	—
Net cash provided by (used in) investing activities	3,245	(1,532)	(9,798)
Common stock dividends paid	(1,174)	(993)	(877)
Preferred dividends paid	(157)	(142)	(89)
Issuances of preferred stock, net	891	—	2,258
Issuances of common stock, net	11	1,830	2,272
Repurchases of common stock	(566)	(26)	(21)
Issuances of long-term debt	1,599	758	4,969
Payments on long-term debt	(3,700)	(1,500)	(500)
Increase in loans from affiliates, net	1,194	1,328	1,520
Equity transaction costs with third parties	(4)	—	—
Debt issuance costs	(1)	(25)	(37)
Net cash (used in) provided by financing activities	(1,907)	1,230	9,495
Increase (decrease) in cash and cash equivalents	360	(8)	(90)
Cash and cash equivalents, January 1	6	14	104
Cash and cash equivalents, December 31	$ 366	$ 6	$ 14
SUPPLEMENTAL DISCLOSURE OF NONCASH INVESTING AND FINANCING ACTIVITIES			
Preferred dividends declared but not paid	$ 47	$ 36	$ 36
Common dividends issued in stock	22	55	54
Common dividends declared but not paid	301	283	245

See Notes to Condensed Financial Information of Parent.

NOTE 1. BASIS OF PRESENTATION

The condensed financial information of Sempra Energy has been prepared in accordance with SEC Regulation S-X Rule 5-04 and Rule 12-04. We apply the same accounting policies as in the financial statements of Sempra Energy Consolidated, except that Sempra Energy accounts for the earnings of its subsidiaries under the equity method in this unconsolidated financial information.

Other (Expense) Income, Net, on the Condensed Statements of Operations includes:

- $41 million, $61 million and $(6) million of gains (losses) on dedicated assets in support of our executive retirement and deferred compensation plans in 2020, 2019 and 2018, respectively;
- $3 million net gains primarily from the settlement of foreign currency derivatives to hedge Sempra Mexico parent's exposure to movements in the Mexican peso from its controlling interest in IEnova in 2018; and
- $3 million and $15 million of losses in 2020 and 2019, respectively, from foreign currency derivatives used to hedge exposure to fluctuations in the Peruvian sol and Chilean peso related to the sale of our operations in Peru and Chile.

Sempra Energy received cash dividends from its consolidated subsidiaries totaling $300 million, $150 million and $300 million in 2020, 2019 and 2018, respectively.

Additional information on Sempra Energy's foreign currency derivatives is provided in Note 11 of the Notes to Consolidated Financial Statements.

NOTE 2. NEW ACCOUNTING STANDARDS

We describe below and in Note 2 of the Notes to Consolidated Financial Statements recent pronouncements that have had a significant effect on Sempra Energy's financial condition, results of operations, cash flows or disclosures.

ASU 2020-04, "Facilitation of the Effects of Reference Rate Reform on Financial Reporting": ASU 2020-04 provides optional expedients and exceptions for applying U.S. GAAP to contract modifications that replace LIBOR or another reference rate affected by reference rate reform and to hedging relationships that reference LIBOR or another reference rate affected or expected to be affected by reference rate reform. ASU 2020-04 was effective March 12, 2020 and can be applied through December 31, 2022, with certain exceptions for hedging relationships that continue to exist after this date, and may be applied from January 1, 2020. For contract modifications, the standard allows entities to account for modifications as an event that does not require reassessment or remeasurement (i.e., as a continuation of the existing contract). The standard also allows entities to amend their formal designation and documentation of hedging relationships affected or expected to be affected by reference rate reform, without having to de-designate the hedging relationship. Entities may elect the optional expedients and exceptions on an individual hedging relationship basis and independently from one another. We elected the optional expedients for contract modifications. We elected the cash flow hedging expedients to disregard the potential discontinuation of a reference rate when assessing whether a hedged forecasted interest payment is probable and to disregard certain mismatches between the designated hedging instrument and the hedged item when assessing the hedge effectiveness. We are applying these expedients prospectively from January 1, 2020. Application of these expedients preserves the presentation of derivatives consistent with the past presentation.

ASU 2020-06, "Accounting for Convertible Instruments and Contracts in an Entity's Own Equity": ASU 2020-06 simplifies the accounting for certain financial instruments with characteristics of liabilities and equity, including convertible instruments and contracts on an entity's own equity. In addition to other changes, this standard amends ASC 470-20, "Debt with Conversion and Other Options," by removing the accounting models for instruments with beneficial conversion features and cash conversion features. The standard also amends ASC 260, "Earnings Per Share," as follows:

- requires an entity to apply the if-converted method when calculating diluted EPS for convertible instruments and no longer use the treasury stock method, which was previously allowed for certain convertible instruments;

- requires an entity to include the effect of potential share settlement in the diluted EPS calculation when an instrument may be settled in cash or shares, and no longer allows an entity to rebut the presumption of share settlement if it has a history or policy of cash settlement;
- requires an entity to include equity-classified convertible preferred stock that contains down-round features whereby, if the down-round feature is triggered, its effect is treated as a dividend and as a reduction of income available to common shareholders in basic EPS;
- clarifies that the average market price should be used to calculate the diluted EPS denominator when the exercise price or the number of shares that may be issued is variable, except for certain contingently issuable shares; and
- clarifies that the weighted-average share count from each quarter should be used when calculating the year-to-date weighted-average share count.

For public entities, ASU 2020-06 is effective for fiscal years beginning after December 15, 2021, including interim periods therein, with early adoption permitted for fiscal years beginning after December 15, 2020. An entity can use either a full or modified retrospective approach to adopt ASU 2020-06 and must disclose, in the period of adoption, EPS transition information about the effect of the change on affected per-share amounts. We plan to adopt the standard on January 1, 2022 and are currently evaluating the effect of the standard on our ongoing financial reporting.

NOTE 3. LONG-TERM DEBT

The following table shows the detail and maturities of long-term debt outstanding:

LONG-TERM DEBT
(Dollars in millions)

	December 31,	
	2020	2019
2.4% Notes February 1, 2020	$ —	$ 500
2.4% Notes March 15, 2020	—	500
2.85% Notes November 15, 2020	—	400
Notes at variable rates (2.50% at December 31, 2019) January 15, 2021[(1)]	—	700
Notes at variable rates (3.069% after floating-to-fixed rate swaps effective 2019) March 15, 2021	850	850
2.875% Notes October 1, 2022	500	500
2.9% Notes February 1, 2023	500	500
4.05% Notes December 1, 2023	500	500
3.55% Notes June 15, 2024	500	500
3.75% Notes November 15, 2025	350	350
3.25% Notes June 15, 2027	750	750
3.4% Notes February 1, 2028	1,000	1,000
3.8% Notes February 1, 2038	1,000	1,000
6% Notes October 15, 2039	750	750
4% Notes February 1, 2048	800	800
5.75% Junior Subordinated Notes July 1, 2079[(1)]	758	758
	8,258	10,358
Current portion of long-term debt	(850)	(1,399)
Unamortized discount on long-term debt	(32)	(35)
Unamortized debt issuance costs	(59)	(68)
Total long-term debt	$ 7,317	$ 8,856

[(1)] *Callable long-term debt not subject to make-whole provisions.*

In October 2020, Sempra Energy redeemed $700 million of floating-rate notes, prior to a scheduled maturity in January 2021, utilizing a portion of the proceeds received from the sales of our South American businesses.

Maturities of long-term debt at December 31, 2020 are $850 million in 2021, $500 million in 2022, $1.0 billion in 2023, $500 million in 2024, $350 million in 2025 and $5.1 billion thereafter.

Additional information on Sempra Energy's long-term debt is provided in Note 7 of the Notes to Consolidated Financial Statements.

NOTE 4. COMMITMENTS AND CONTINGENCIES

Sempra Energy has an operating lease commitment related to its corporate headquarters building of approximately $257 million. Sempra Energy expects payments for its operating lease to be $10 million in 2021, $11 million in 2022, $12 million in 2023, $12 million in 2024, $12 million in 2025 and $200 million thereafter.

For other contingencies and guarantees related to Sempra Energy, refer to Notes 6, 7 and 16 of the Notes to Consolidated Financial Statements.

SEMPRA ENERGY
DESCRIPTION OF THE REGISTRANT'S SECURITIES REGISTERED PURSUANT TO SECTION 12 OF THE SECURITIES EXCHANGE ACT OF 1934

At December 31, 2020, Sempra Energy ("we," "us" or "our") had the following four classes of securities registered under Section 12 of the Securities Exchange Act of 1934, as amended ("Exchange Act"):

Capital Stock:

- Common Stock, no par value (the "common stock")
- 6% Mandatory Convertible Preferred Stock, Series A, no par value (the "series A preferred stock")
- 6.75% Mandatory Convertible Preferred Stock, Series B, no par value (the "series B preferred stock")

Debt Securities:

- 5.75% Junior subordinated notes due 2079 (the "notes")

At December 31, 2020, Sempra Energy also had outstanding shares of 4.875% Fixed-Rate Reset Cumulative Redeemable Perpetual Preferred Stock, Series C, no par value (the "series C preferred stock"), which are not registered under Section 12 of the Exchange Act. However, because the rights of the series C preferred stock in many cases impact the rights of our other series of preferred stock, we have included the material terms of the series C preferred stock in this description. Generally, in this exhibit, we use the term "preferred stock" to describe our series A preferred stock (when it was outstanding, see below), series B preferred stock and series C preferred stock collectively, and we use the term "mandatory convertible preferred stock" to describe our series A preferred stock (when it was outstanding, see below) and series B preferred stock collectively, in each case unless the context otherwise indicates or requires.

DESCRIPTION OF CAPITAL STOCK

The following description of our capital stock is a summary and does not purport to be complete. It is subject to and qualified in its entirety by reference to our amended and restated articles of incorporation (as they may be amended from time to time and including any Certificate of Determination of Preferences that has been filed and is then in effect, the "Articles of Incorporation") and bylaws (as they may be amended from time to time, the "Bylaws"), each of which is an exhibit to the Annual Report on Form 10-K with which this Exhibit 4.2 is filed or incorporated by reference, as well as applicable provisions of California law. We encourage you to read our Articles of Incorporation and Bylaws and applicable provisions of California law for additional information. Our Articles of Incorporation were most recently amended and restated effective May 23, 2008, and our Bylaws were most recently amended on April 14, 2020.

The total number of shares of all classes of capital stock that Sempra Energy is authorized to issue is 800,000,000, of which 750,000,000 are shares of common stock and 50,000,000 are shares of preferred stock. Shares of preferred stock may be issued from time to time in one or more series as determined by the Board of Directors. Of such preferred stock, at December 31, 2020, 17,250,000 shares were designated as series A preferred stock, 5,750,000 shares were designated as series B preferred stock and 900,000 shares were designated as series C preferred stock. On January 15, 2021, all outstanding shares of series A preferred stock were converted into 13,781,025 shares of Sempra Energy's common stock pursuant to the terms of the series A preferred stock, based on a conversion rate of 0.7989 shares of common stock for each issued and outstanding share of series A preferred stock. As a consequence, no shares of series A preferred stock were outstanding after January 15, 2021 and the 17,250,000 shares that were formerly designated as series A preferred stock have returned to the status of authorized and unissued shares of preferred stock. No other classes of capital stock are authorized under our Articles of Incorporation.

Common Stock

Dividend Rights

The holders of our common stock are entitled to receive, ratably, such dividends as the Board of Directors may from time to time declare, subject to any rights of holders of outstanding shares of our preferred stock to receive dividends before dividends may be paid on our common stock.

Liquidation Rights

In the event of any liquidation, dissolution or winding up of Sempra Energy, whether voluntary or involuntary, the holders of shares of our common stock are entitled, subject to any rights of the holders of outstanding shares of our preferred stock to receive distributions in such event before any distributions are made to holders of our common stock, to receive, ratably, any of our remaining assets after the discharge of our liabilities.

Voting Rights

Except as otherwise provided by law, each holder of our common stock is entitled to one vote per share on each matter submitted to a vote of our shareholders, subject to the voting rights, if any, of holders of outstanding shares of any series of our preferred stock, which could include the right to vote separately as a class or series, or the right to vote together with the common stock as a single class.

At each annual meeting of our shareholders, directors will be elected to hold office until the next annual meeting of shareholders and until their successors have been elected and qualified. Pursuant to our Bylaws, directors standing for election in an uncontested election (as defined below) will be elected by the affirmative vote of a majority of the shares entitled to vote for them represented and voting at a duly held meeting at which a quorum is present (and such affirmative votes must also represent more than 25% of the outstanding shares entitled to vote in the election of such directors). In any election of directors that is not an uncontested election, the candidates receiving the highest number of affirmative votes of the shares entitled to vote for them, up to the number of directors to be elected by those shares, will be elected and votes against a director and votes withheld will have no effect. The rights of holders of our common stock to elect directors are subject to the voting rights, if any, of holders of outstanding shares of any series of our preferred stock, which could include: (i) voting as a separate class or series, the right to elect one or more directors, or (ii) voting together with our common stock as a single class, the right to vote in the election of directors generally. Our Bylaws define an “uncontested election” as, in general, an election of directors in which the number of candidates for election does not exceed the number of directors to be elected by our shareholders at that election, determined at the times specified in our Bylaws. None of our shareholders may cumulate votes in the election of directors.

Other Rights

Our common stock does not contain any conversion rights or sinking fund or redemption provisions. Holders of our common stock are not entitled to preemptive rights to subscribe for or purchase any part of any new or additional issue of stock or securities convertible into stock.

Bylaws

The Board of Directors is expressly authorized to make, amend or repeal the Bylaws, without any action on the part of the shareholders, except as otherwise required by applicable California law, solely by the affirmative vote of at least two-thirds of the authorized number of directors. The Bylaws may also be amended or repealed by the shareholders, by the approval of the outstanding shares (as defined in Section 152 of the General Corporation Law of the State of California) of Sempra Energy.

Listing

Our common stock is listed on the New York Stock Exchange under the symbol “SRE.”

Preferred Stock

Ranking

Each series of preferred stock ranks with respect to dividend rights and distribution rights upon our liquidation, winding-up or dissolution:

- senior to our common stock and each other class or series of our capital stock established after the original issue date of shares of the applicable series of preferred stock, unless the terms of such capital stock expressly provide otherwise (collectively, “junior stock”);
- on parity with each class or series of our capital stock established after the initial issue date of shares of the applicable series of preferred stock, if the terms of such class or series expressly provide for such parity ranking (collectively, “parity stock”);
- junior to each class or series of our capital stock established after the initial issue date of shares of the applicable series of preferred stock, if the terms of such class or series expressly provide for such senior ranking (collectively, “senior stock”);
- junior to our existing and future indebtedness and other liabilities; and

- structurally subordinated to any existing and future indebtedness and other liabilities of our subsidiaries and capital stock of our subsidiaries held by third parties.

The series B preferred stock and series C preferred stock rank on parity with each other, and also ranked on parity with the series A preferred stock when it was outstanding, with respect to dividend rights and distribution rights upon our liquidation, winding-up or dissolution.

Redemption at the Option of Sempra Energy

The series B preferred stock is not subject to redemption at the option of Sempra Energy, nor was the series A preferred stock when it was outstanding.

We may, at our option, redeem the series C preferred stock in whole or in part, from time to time, on any day during the period from and including the July 15 immediately preceding October 15, 2025 and July 15 of every fifth year after 2025 through and including such October 15, at a redemption price in cash equal to $1,000 per share. Additionally, in the event that a credit rating agency then publishing a rating for us makes certain amendments, clarifications or changes to the criteria it uses to assign equity credit to securities such as the series C preferred stock (a "Ratings Event"), we may redeem the series C preferred stock, in whole but not in part, at any time within 120 days after the conclusion of any review or appeal process instituted by us following the occurrence of the Ratings Event or, if no such review or appeal process is available or sought, the occurrence of such Ratings Event, at a redemption price in cash equal to $1,020 per share (102% of the Liquidation Preference (as defined below)).

Dividend Rights

All dividends ceased to accrue on the series A preferred stock upon their mandatory conversion on January 15, 2021. When the series A preferred stock was outstanding, its dividend rights were substantially the same as those of the series B preferred stock described below, except that dividends were payable at a rate of 6.0% per annum of its Liquidation Preference and its floor price was $37.0449.

Dividends on our series B preferred stock are payable quarterly and dividends on our series C preferred stock are payable semi-annually, in each case on a cumulative basis when, as and if declared by the Board of Directors, or an authorized committee thereof, out of funds legally available for payment, at a rate of 6.75% per annum of the Liquidation Preference for the series B preferred stock and a resetting fixed-rate on our series C preferred stock equal to 4.875% per annum of the Liquidation Preference for the series C preferred stock from and including June 19, 2020 to, but excluding, October 15, 2025 and, for each five-year period following October 15, 2025 and October 15 of every fifth year after 2025, a per annum rate equal to the Five-year U.S. Treasury Rate (as defined in the Certificate of Determination of Preferences of the series C preferred stock) as of the second U.S. Business Day prior to such reset date, plus a spread of 4.550%, of the Liquidation Preference for the series C preferred stock. With respect to the series B preferred stock, we may, in our discretion, pay quarterly declared dividends in cash or, subject to certain limitations, in shares of our common stock or any combination of cash and shares of our common stock. Shares of common stock used to pay dividends will be valued at 97% of the volume-weighted average price per share over the five-consecutive trading day period beginning on, and including, the sixth trading day prior to the applicable dividend payment date, except that in no event will the number of shares of common stock to be delivered per share of series B preferred stock in connection with any declared dividend exceed a number equal to the total dividend payment per share divided by a floor price of $39.8125, subject to certain anti-dilution adjustments.

So long as any share of preferred stock remains outstanding, no dividend or distribution will be declared or paid on common stock or any other junior stock, and no common stock or any other junior stock will be purchased, redeemed or otherwise acquired for consideration by us or any of our subsidiaries unless, in each case, all accumulated and unpaid dividends for all preceding dividend periods have been declared and paid, or a sufficient sum of cash or number of shares of common stock has been set apart for the payment of such dividends, on all outstanding shares of preferred stock. The foregoing limitation will not apply to (i) any dividend or distribution payable in shares of common stock or other junior stock, together with cash in lieu of any fractional share; (ii) purchases, redemptions or other acquisitions of common stock or other junior stock in connection with the administration of any benefit or other incentive plan, including any employment contract, in the ordinary course of business, including, without limitation, (x) purchases to offset the share dilution amount pursuant to a publicly announced repurchase plan; provided that any purchases to offset the share dilution amount will in no event exceed the share dilution amount; (y) the forfeiture of unvested shares of restricted stock or share withholdings or other surrender of shares to which the holder may otherwise be entitled upon exercise, delivery or vesting of equity awards (whether in payment of applicable taxes, the exercise price or otherwise); and (z) the payment of cash in lieu of fractional shares; (iii) purchases of fractional interests in shares of common stock or other junior stock pursuant to the conversion or exchange provisions of such shares of other junior stock or any securities exchangeable for or convertible into shares of common stock or other junior stock, (iv) any dividends or

distributions of rights or common stock or junior stock in connection with a shareholders' rights plan or any redemption or repurchase of rights pursuant to any shareholders' rights plan; (v) purchases of common stock or other junior stock pursuant to a contractually binding requirement to buy common stock or other junior stock existing prior to the preceding dividend period, including under a contractually binding stock repurchase plan; (vi) the deemed purchase or acquisition of fractional interests in shares of common stock or other junior stock pursuant to the conversion or exchange provisions of such shares or the security being converted or exchanged; (vii) the acquisition by us or any of our subsidiaries of record ownership in common stock or other junior stock or parity stock for the beneficial ownership of any other persons (other than for us or any of our subsidiaries), including as trustees or custodians, and the payment of cash in lieu of fractional shares; and (viii) the exchange or conversion of junior stock for or into other junior stock or of parity stock for or into other parity stock (with the same or lesser aggregate liquidation amount) or junior stock and the payment of cash in lieu of fractional shares. The phrase "share dilution amount" means the increase in the number of diluted shares outstanding (determined in accordance with accounting principles generally accepted in the United States of America and as measured from the initial issue date) resulting from the grant, vesting or exercise of equity-based compensation to directors, employees and agents and equitably adjusted for any stock split, stock dividend, reverse stock split, reclassification or similar transaction.

When dividends on shares of preferred stock (A) have not been declared and paid in full on any dividend payment date; or (B) have been declared but a sum of cash or number of shares of common stock sufficient for payment thereof has not been set aside for the benefit of the holders thereof on the applicable record date, no dividends may be declared or paid on any parity stock unless dividends are declared on the shares of preferred stock such that the respective amounts of such dividends declared on the shares of preferred stock and such parity stock bear the same ratio to each other as all accumulated dividends and all declared and unpaid dividends per share on the shares of preferred stock and such parity stock bear to each other; provided, however, that any unpaid dividends will continue to accumulate.

Subject to the foregoing, and not otherwise, such dividends (payable in cash, securities or other property) as may be determined by the Board of Directors, or an authorized committee thereof, may be declared and paid on any securities, including common stock, from time to time out of any funds legally available for such payment, and holders of our preferred stock will not be entitled to participate in any such dividends declared on securities other than the preferred stock.

Liquidation Rights

All liquidation rights of the series A preferred stock were terminated upon their mandatory conversion on January 15, 2021. When the series A preferred stock was outstanding, its liquidation rights were substantially the same as those of the series B preferred stock described below.

In the event of our liquidation, winding-up or dissolution, whether voluntary or involuntary, each holder of our preferred stock will be entitled to receive, with respect to the series B preferred stock, $100 per share, and with respect to the series C preferred stock, $1,000 per share (the "Liquidation Preference") of preferred stock, plus an amount (the "Liquidation Dividend Amount") equal to accumulated and unpaid dividends on such shares to (but excluding) the date fixed for liquidation, winding-up or dissolution to be paid out of our assets legally available for distribution to our shareholders, after satisfaction of debt and other liabilities owed to our creditors and holders of shares of any senior stock and before any payment or distribution is made to holders of any junior stock, including, without limitation, common stock.

If, upon our voluntary or involuntary liquidation, winding-up or dissolution, the amounts payable with respect to (i) the Liquidation Preference plus the Liquidation Dividend Amount on the shares of preferred stock and (ii) the liquidation preference of, and the amount of accumulated and unpaid dividends (to, but excluding, the date fixed for liquidation, winding-up or dissolution) on, all other parity stock are not paid in full, the holders of our preferred stock and all holders of any such other parity stock will share equally and ratably in any distribution of our assets in proportion to the respective liquidation preferences and amounts equal to the accumulated and unpaid dividends to which they are entitled.

After the payment to any holder of our preferred stock of the full amount of the Liquidation Preference and the Liquidation Dividend Amount for each of such holder's shares of preferred stock, such holder as such will have no right or claim to any of our remaining assets.

Neither the sale, lease or exchange of all or substantially all of our assets, nor our merger or consolidation into or with any other person, will be deemed to be our voluntary or involuntary liquidation, winding-up or dissolution.

Voting Rights

All voting rights of the series A preferred stock were terminated upon their mandatory conversion on January 15, 2021. When the series A preferred stock was outstanding, its voting rights were substantially the same as those of the series B preferred stock described below.

The holders of the preferred stock do not have voting rights with respect to their preferred stock, except as described below and as specifically required by applicable California law from time to time.

Whenever dividends on a series of preferred stock have not been declared or paid or have been declared but not paid for six or more quarterly dividend periods with respect to the series B preferred stock or three or more semi-annual dividend periods with respect to the series C preferred stock, whether or not consecutive, the authorized number of directors on the Board of Directors will automatically be increased by two and the holders of each series of preferred stock, voting together as a single class with holders of any and all other outstanding preferred stock of equal rank having similar voting rights, will be entitled to elect two directors who satisfy certain requirements to fill such newly created directorships. Such directors will stand for reelection annually, and at each subsequent annual meeting of shareholders, so long as the holders of preferred stock continue to have this voting right. This right will terminate when all accumulated and unpaid dividends on the applicable series of preferred stock have been paid in full, subject to the revesting of the right in the event of each subsequent nonpayment. Upon the termination of this voting right for all series of preferred stock, the term of office of each director elected pursuant to the right will terminate and the authorized number of directors will automatically decrease by two.

So long as any shares of preferred stock are outstanding, we must obtain the affirmative vote or consent of the holders of at least two-thirds of the outstanding shares of preferred stock, voting together as a single class, in order to, subject to certain exceptions and limitations, amend or alter our Articles of Incorporation so as to authorize, create or increase the authorized amount of any class or series of senior stock or adversely affect the special rights, preferences, privileges or voting powers of the preferred stock, consummate a binding share exchange or reclassification involving the shares of the preferred stock or consummate a merger or consolidation of us with another entity; provided that if any such amendment, alteration, repeal, share exchange, reclassification, merger or consolidation would adversely affect one or more but not all series of preferred stock, then only the series of preferred stock adversely affected and entitled to vote will so vote as a class. We may amend, alter, supplement or repeal any terms of the preferred stock without the vote or consent of the holders thereof, so long as such action does not adversely affect the special rights, preferences, privileges, voting powers, limitations or restrictions of the preferred stock, to cure any ambiguity or mistake, to correct or supplement any provision that may be defective or inconsistent with any other provision in the applicable Certificate of Determination of Preferences, to make any provision with respect to matters or questions relating to the preferred stock that is not inconsistent with the provisions of our Articles of Incorporation or to waive any of our rights with respect thereto.

Terms of Conversion

The series B preferred stock is (and, when it was outstanding, the series A preferred stock was) subject to conversion to shares of our common stock as described below. The series C preferred stock is not convertible to any other security.

Mandatory Conversion. Unless earlier converted, each share of the series A preferred stock automatically converted on the mandatory conversion date of January 15, 2021 and each share of series B preferred stock will automatically convert on the mandatory conversion date of July 15, 2021, in each case pursuant to the conversion procedures set forth in the applicable Certificate of Determination of Preferences. The number of shares of our common stock issuable upon conversion of each share of mandatory convertible preferred stock is to be determined based on the volume-weighted average market value per share of our common stock over the 20-consecutive trading day period beginning on and including the 21st scheduled trading day immediately preceding the applicable mandatory conversion date, subject to certain anti-dilution adjustments and certain adjustments in the event of any undeclared, accumulated and unpaid dividends.

The terms of our series A preferred stock (when it was outstanding) and series B preferred stock require a notice to holders when the aggregate adjustment to the conversion rates at which shares of such series of mandatory convertible preferred stock are convertible into shares of our common stock is more than 1%. On July 6, 2020, we notified the holders of the series A preferred stock of such an adjustment. These adjustments, which resulted from the incremental impact of our second quarter dividend declared on our common stock and which became effective as of June 25, 2020, the ex-dividend date for such

dividend, include adjustments to the minimum and maximum conversion rates and the related initial and threshold appreciation prices.

The following table illustrates the conversion rate per share of our series A preferred stock following the adjustment described above, as well as the conversion rate per share of the series B preferred stock, in each case subject to anti-dilution and other adjustments:

Applicable market value per share of our common stock	Conversion rate (number of shares of common stock to be received upon conversion of each share of preferred stock)
Series A preferred stock	
Greater than $129.668 (which is the adjusted threshold appreciation price)	0.7712 shares (the minimum conversion rate, approximately equal to $100.00 divided by the adjusted threshold appreciation price)
Equal to or less than $129.668 but greater than or equal to $105.8425	Between 0.7712 and 0.9448 shares, determined by dividing $100.00 by the applicable market value of our common stock
Less than $105.8425 (which is the adjusted initial price)	0.9448 shares (approximately equal to $100.00 divided by the adjusted initial price)
Series B preferred stock	
Greater than $136.50 (which is the threshold appreciation price)	0.7326 shares (the minimum conversion rate, approximately equal to $100.00 divided by the threshold appreciation price)
Equal to or less than $136.50 but greater than or equal to $113.75	Between 0.7326 and 0.8791 shares, determined by dividing $100.00 by the applicable market value of our common stock
Less than $113.75 (which is the initial price)	0.8791 shares (approximately equal to $100.00 divided by the initial price)

Conversion at the Option of the Holder. Generally, subject to the terms of the respective series of mandatory convertible preferred stock and pursuant to the conversion procedures set forth in the applicable Certificate of Determination of Preferences of each such series, at any time prior to January 15, 2021 for the series A preferred stock and July 15, 2021 for the series B preferred stock, holders were (with respect to the series A preferred stock) or are (with respect to the series B preferred stock) entitled to elect to convert each share of their mandatory convertible preferred stock into shares of common stock at the minimum conversion rate (as it may be adjusted pursuant to certain anti-dilution provisions), plus certain additional shares of common stock if there are undeclared, accumulated and unpaid dividends on the mandatory convertible preferred stock being converted. No holders of series A preferred stock elected such a conversion before the January 15, 2021 mandatory conversion of all then-outstanding shares of such series.

In addition, if holders elect to convert any shares of mandatory convertible preferred stock during a specified period beginning on the effective date of a fundamental change, as defined in the applicable Certificate of Determination of Preferences, such shares of mandatory convertible preferred stock will be converted into shares of our common stock at a fundamental change conversion rate as set forth in such Certificate of Determination of Preferences, and the holders will also be entitled to receive a fundamental change dividend make-whole amount and accumulated dividend amount, in each case payable in cash or shares of common stock and as defined in such Certificate of Determination of Preferences. For this purpose, a “fundamental change” will be deemed to have occurred upon (i) the consummation of any transaction or event in connection with which 90% or more of our common stock is exchanged for, converted into, acquired for or constitutes solely the right to receive, consideration 10% or more of which (excluding cash payments for fractional shares or pursuant to appraisal rights) is not common stock that is listed on, or immediately after the transaction or event will be listed on, certain specified U.S. national securities exchanges; (ii) any “person” or “group” (as such terms are used for purposes of Sections 13(d) and 14(d) of the Exchange Act and the rules and regulations thereunder, whether or not applicable), other than us, any of our majority-owned subsidiaries or any of our or our majority-owned subsidiaries’ employee benefit plans, filing a Schedule TO or any schedule, form or report under the Exchange Act disclosing that such person or group has become the “beneficial owner” (as defined in Rule 13d-3 under the Exchange Act), directly or indirectly, of more than 50% of the total voting power in the aggregate of all classes of capital stock then outstanding entitled to vote generally in elections of our directors or we otherwise become aware of such beneficial ownership; or (iii) our common stock ceasing to be listed for trading on a U.S. national securities exchange. No such fundamental change, and therefore no such fundamental change conversion, occurred with respect to the series A preferred stock before the January 15, 2021 mandatory conversion of all then-outstanding shares of such series.

Other Rights

Our preferred stock does not contain any sinking fund or redemption provisions. Holders of our preferred stock are not entitled to preemptive rights to subscribe for or purchase any part of any new or additional issue of stock or securities convertible into stock.

Listing

Until its mandatory conversion, our series A preferred stock was listed on the New York Stock Exchange under the symbol “SREPRA.” Our series B preferred stock is listed on the New York Stock Exchange under the symbol “SREPRB.” Our series C preferred stock is not listed on any securities exchange or trading facility or included in any automated dealer quotation system.

Anti-Takeover Effects of our Articles of Incorporation and Bylaws

Certain provisions of our Articles of Incorporation and Bylaws could have the effect of delaying, deterring or preventing another party from acquiring or seeking to acquire control of us. These provisions are intended to discourage certain types of coercive takeover practices and inadequate takeover bids and to encourage anyone seeking to acquire control of us to negotiate first with the Board of Directors. However, these provisions could also delay, deter or prevent a change of control or other takeover of our company that our shareholders might consider to be in their best interests, including transactions that might result in a premium being paid over the market prices of our common stock and any outstanding preferred stock, and may also limit the prices that investors are willing to pay in the future for our common stock and any outstanding preferred stock. These provisions may also have the effect of preventing changes in our management. Our Articles of Incorporation and Bylaws include anti-takeover provisions that:

- authorize the Board of Directors, without a vote or other action by our shareholders, to cause the issuance of preferred stock in one or more series and, with respect to each series, to fix the number of shares constituting that series and to establish the rights, preferences, privileges and restrictions of that series, which may include, among other things, dividend and liquidation rights and preferences, rights to convert such shares into common stock, voting rights and other rights which may dilute or otherwise adversely affect the voting or other rights and the economic interests of holders of our common stock or one or more other series of our preferred stock, if any, then outstanding;
- establish advance notice requirements and procedures for shareholders to submit nominations of candidates for election to the Board of Directors and to propose other business to be brought before a shareholders’ meeting;
- provide that vacancies in the Board of Directors, including vacancies created by the removal of any director, may be filled by a majority of the directors then in office or by a sole remaining director;
- provide that no shareholder may cumulate votes in the election of directors, which means that the holders of a majority of our outstanding shares of common stock can elect all directors standing for election by our common shareholders;
- require that any action to be taken by our shareholders must be taken either (1) at a duly called annual or special meeting of shareholders, or (2) by the unanimous written consent of all of our shareholders, unless the Board of Directors, by resolution adopted by two-thirds of the authorized number of directors, waives the foregoing provision in any particular circumstance; and
- require action by shareholders holding not less than 1/10th of the voting power of our capital stock in order for our shareholders to call a special meeting of shareholders.

DESCRIPTION OF DEBT SECURITIES

The following description of the notes is a summary and does not purport to be complete. It is subject to and qualified in its entirety by reference to the subordinated indenture, dated as of June 26, 2019 (the "indenture"), between Sempra Energy and the U.S. Bank National Association, as trustee (the "trustee"). The indenture is an exhibit to the Annual Report on Form 10-K with which this Exhibit 4.2 is filed or incorporated by reference. We encourage you to read the indenture, as supplemented, for additional information.

The notes constitute a separate series of our subordinated debt securities under the indenture and were issued in the aggregate principal amount of $758 million, which remains the aggregate principal amount outstanding.

Maturity

The maturity date of the notes is July 1, 2079. The notes are subject to early redemption at our option as described under "Redemption – Optional Redemption" below.

Interest

The notes bear interest at the rate of 5.75% per year. Subject to our right to defer interest payments as described below, interest on the notes is payable quarterly in arrears on January 1, April 1, July 1 and October 1 of each year.

So long as no event of default under the indenture with respect to the notes has occurred and is continuing, we may, at our option, defer interest payments on the notes, from time to time, for one or more deferral periods of up to 40 consecutive quarterly interest payment periods each (each such deferral period, commencing on the interest payment date on which the first such deferred interest payment otherwise would have been made, an "optional deferral period"), except that no such optional deferral period may extend beyond the final maturity date of the notes. In other words, we may declare at our discretion up to a 10-year interest payment moratorium on the notes and we may choose to do that on more than one occasion, except that we cannot begin a new optional deferral period until we have paid all accrued and unpaid interest on the notes from any previous optional deferral period. No interest on the notes will be payable during any optional deferral period unless we elect, at our option, to redeem notes during such optional deferral period, in which case accrued and unpaid interest will be paid on the notes, and only on the notes, being redeemed, or unless the principal of and interest on the notes has been declared due and payable as a result of an event of default under the indenture with respect to the notes, in which case accrued and unpaid interest will be paid on all of the notes. We may elect, at our option, to extend the length of any optional deferral period that is shorter than 40 consecutive quarterly interest payment periods (but not beyond the final maturity date of the notes) and to shorten the length of any optional deferral period.

During any optional deferral period, interest on the notes will continue to accrue at the rate of 5.75% per year and interest on deferred interest will accrue at the rate of 5.75% per year, compounded quarterly, to the extent permitted by applicable law. In addition, during any optional deferral period, we are prohibited from taking certain specified actions as set forth in the indenture, including, subject to certain exceptions and limitations, declaring or paying any dividends or distributions on our capital stock; redeeming, purchasing, acquiring or making a liquidation payment with respect to our capital stock; paying any principal, interest or premium on, or repaying, repurchasing or redeeming, any of our indebtedness that ranks equal with or junior to the notes in right of payment; or making any payments with respect to any guarantees by us of any indebtedness if such guarantees rank equal with or junior to the notes in right of payment.

Redemption

At our option, we may redeem some or all of the notes before their maturity, as follows:

- on or after October 1, 2024, at any time in whole or from time to time in part, at a redemption price equal to 100% of the principal amount of the notes to be redeemed plus, subject to certain interest payment procedures as set forth in the indenture, accrued and unpaid interest on the notes to be redeemed to the redemption date;
- before October 1, 2024, in whole but not in part, following the occurrence and during the continuance of a Tax Event (as defined below), at a redemption price equal to 100% of the principal amount of the notes, plus, subject to certain interest payment procedures as set forth in the indenture, accrued and unpaid interest on the notes to the redemption date; or
- before October 1, 2024, in whole but not in part, following the occurrence and during the continuance of a Rating Agency Event (as defined below), at a redemption price equal to 102% of the principal amount of the notes, plus, subject to certain interest payment procedures as set forth in the indenture, accrued and unpaid interest on the notes to the redemption date.

A "Tax Event" means that we have received an opinion of counsel experienced in such matters to the effect that, as a result of:

- any amendment to, clarification of, or change, including any announced prospective change, in the laws or treaties of the United States or any of its political subdivisions or taxing authorities, or any regulations under those laws or treaties;
- an administrative action, which means any judicial decision or any official administrative pronouncement, ruling, regulatory procedure, notice or announcement including any notice or announcement of intent to issue or adopt any administrative pronouncement, ruling, regulatory procedure or regulation;
- any amendment to, clarification of, or change in the official position or the interpretation of any administrative action or judicial decision or any interpretation or pronouncement that provides for a position with respect to an administrative action or judicial decision that differs from the previously generally accepted position, in each case by any legislative body, court, governmental authority or regulatory body, regardless of the time or manner in which that amendment, clarification or change is introduced or made known; or
- a threatened challenge asserted in writing in connection with a tax audit of us or any of our subsidiaries, or a publicly-known threatened challenge asserted in writing against any other taxpayer that has raised capital through the issuance of securities that are substantially similar to the notes,

which amendment, clarification or change is effective or the administrative action is taken or judicial decision, interpretation or pronouncement is issued or threatened challenge is asserted or becomes publicly-known after June 13, 2019, there is more than an insubstantial risk that interest payable by us on the notes is not deductible, or within 90 days would not be deductible, in whole or in part, by us for United States federal income tax purposes.

“Rating Agency Event” means a change in the methodology published by any nationally recognized statistical rating organization within the meaning of Section 3(a)(62) of the Exchange Act that published a rating for Sempra Energy as of June 13, 2019 (a “rating agency”) in assigning equity credit to securities such as the notes, as such methodology was in effect on June 13, 2019 (the “current methodology”), that results in (i) any shortening of the length of time for which equity credit pertaining to the notes by such rating agency would have been in effect had the current methodology not been changed or (ii) a lower equity credit being assigned by such rating agency to the notes as of the date of such change than the equity credit that would have been assigned to the notes by such rating agency had the current methodology not been changed.

Subordination and Security

The notes are our unsecured obligations. The notes rank junior and subordinate in right of payment to our existing and future Senior Indebtedness (as defined below), to the extent and in the manner described below. At December 31, 2020, we had outstanding Senior Indebtedness of approximately $13 billion. The notes rank equally in right of payment with any existing and future unsecured indebtedness if the terms of such indebtedness provide that it ranks equally with the notes in right of payment. The notes are effectively subordinated in right of payment to any secured indebtedness that we have or may incur and to all indebtedness and other liabilities of our subsidiaries. At December 31, 2020, we had no outstanding secured indebtedness and our subsidiaries had outstanding total indebtedness and liabilities owed to unaffiliated third parties of approximately $32 billion and total liabilities owed to us of approximately $487 million.

The notes are subordinated in right of payment to the prior payment in full of all our Senior Indebtedness. This means that upon:

(a) any payment by, or distribution of the assets of, Sempra Energy upon our dissolution, winding-up, liquidation or reorganization, whether voluntary or involuntary or in bankruptcy, insolvency, receivership or other proceedings; or

(b) a failure to pay any interest, principal or other monetary amounts due on any of our Senior Indebtedness when due and continuance of that default beyond any applicable grace period; or

(c) acceleration of the maturity of any Senior Indebtedness as a result of a default;

the holders of all of our Senior Indebtedness will be entitled to receive:

- in the case of clause (a) above, payment of all amounts due or to become due on all Senior Indebtedness; or
- in the case of clauses (b) and (c) above, payment of all amounts due on all Senior Indebtedness,

before the holders of the notes are entitled to receive any payment. So long as any of the events in clauses (a), (b), or (c) above has occurred and is continuing, any amounts payable or assets distributable on the notes will instead be paid or distributed, as the case may be, directly to the holders of Senior Indebtedness to the extent necessary to pay, in the case of clause (a) above, all amounts due or to become due upon all such Senior Indebtedness, or, in the case of clauses (b) and (c) above, all amounts due on all such Senior Indebtedness, and, if any such payment or distribution is received by the trustee under the indenture or the holders of any of the notes before all Senior Indebtedness due and to become due or due, as applicable, is paid, such payment or distribution must be paid over to the holders of the unpaid Senior Indebtedness. Subject to paying the Senior Indebtedness due and to become due in the case of clause (a) or the Senior Indebtedness due in the case of clauses (b) and (c), the holders of the

notes will be subrogated to the rights of the holders of the Senior Indebtedness to receive payments applicable to the Senior Indebtedness until the notes are paid in full.

Neither the notes nor the indenture limit our ability to incur Senior Indebtedness or our or any of our subsidiaries' ability to incur other secured and unsecured indebtedness or liabilities.

"Senior Indebtedness" means, with respect to the notes, (i) indebtedness of Sempra Energy, whether outstanding at the date of the indenture or incurred, created or assumed after such date, (a) in respect of money borrowed by Sempra Energy (including any financial derivative, hedging or futures contract or similar instrument, to the extent any such item is primarily a financing transaction) and (b) evidenced by debentures, bonds, notes, credit or loan agreements or other similar instruments or agreements issued or entered into by Sempra Energy; (ii) all finance lease obligations of Sempra Energy; (iii) all obligations of Sempra Energy issued or assumed as the deferred purchase price of property, all conditional sale obligations of Sempra Energy and all obligations of Sempra Energy under any title retention agreement (but excluding, for the avoidance of doubt, trade accounts payable arising in the ordinary course of business and long-term purchase obligations); (iv) all obligations of Sempra Energy for the reimbursement of any letter of credit, banker's acceptance, security purchase facility or similar credit transaction; and (v) all obligations of the type referred to in clauses (i) through (iv) above of other persons for the payment of which Sempra Energy is responsible or liable as obligor, guarantor or otherwise, except for any obligations, instruments or agreements of the type referred to in any of clauses (i) through (v) above that, by the terms of the instruments or agreements creating or evidencing the same or pursuant to which the same is outstanding, are subordinated or equal in right of payment to the notes.

Events of Default

An "event of default" occurs with respect to the notes if:

- we do not pay any interest on any note when it becomes due and payable and such default continues for 30 days (whether or not such payment is prohibited by the subordination provisions applicable to the notes);
- we do not pay any principal of or premium, if any, on any note when it becomes due and payable (whether or not such payment is prohibited by the subordination provisions applicable to the notes);
- we remain in breach of any other covenant or warranty (excluding covenants and warranties solely applicable to one or more other series of subordinated debt securities issued under the indenture) in the indenture or the notes for 60 days after there has been given to us, by registered or certified mail, a written notice of default sent by either the trustee or registered holders of at least 25% of the principal amount of the outstanding notes that specifies the default or breach and requires remedy of the default or breach; or
- we file for bankruptcy or other specified events of bankruptcy, insolvency, receivership or reorganization occur with respect to us.

No event of default with respect to the notes will necessarily constitute an event of default with respect to the subordinated debt securities of any other series issued under the indenture, and no event of default with respect to any such other series of subordinated debt securities issued under the indenture will necessarily constitute an event of default with respect to the notes.

Under the terms of the indenture, we furnish the trustee with an annual statement as to our compliance with the conditions and covenants in the indenture.

Modification

Without Registered Holder Consent. Without the consent of any registered holders of debt securities outstanding under the indenture, Sempra Energy and the trustee may enter into one or more supplemental indentures to such indenture for any of the following purposes:

- to evidence the succession of another entity to Sempra Energy;
- to add one or more covenants for the benefit of the holders of all or any series of debt securities issued under such indenture or to surrender any right or power conferred upon Sempra Energy;
- to add any additional events of default for all or any series of debt securities issued under such indenture;
- to add or change any of the provisions of such indenture to the extent necessary to permit or facilitate the issuance of debt securities in bearer form or to facilitate the issuance of debt securities in uncertificated form;
- to change or eliminate any provision of such indenture so long as the change or elimination does not apply to any debt securities entitled to the benefit of such provision or to add any new provision to such indenture provided that any such addition does not apply to any outstanding debt securities issued under such indenture;
- to provide security for the debt securities of any series issued under such indenture;
- to establish the form or terms of debt securities of any series issued under such indenture, as permitted by such indenture;

- to evidence and provide for the acceptance of appointment of a separate or successor trustee;
- to cure any ambiguity, defect or inconsistency, or to make any other changes that do not adversely affect the interests of the holders of debt securities of any series under such indenture in any material respect; or
- in the case of subordinated debt of any series, to conform the terms of such debt securities, any officers' certificate or supplemental indenture establishing the form or terms of such debt securities or, insofar as relates to such debt securities, the subordinated indenture to any terms set forth in the description of such debt securities appearing in the offering memorandum, prospectus supplement or other like offering document relating to the initial offering of the debt securities.

With Registered Holder Consent. Subject to the following sentence, Sempra Energy and the trustee may, with some exceptions, amend or modify the applicable indenture with the consent of the registered holders of at least a majority in aggregate principal amount of the debt securities of each series affected by the amendment or modification. However, no amendment or modification may, without the consent of the registered holder of each outstanding debt security affected thereby:

- change the stated maturity of the principal or interest on any debt security or reduce the principal amount, interest or premium payable or change any place of payment where or the currency in which any debt security is payable, or impair the right to bring suit to enforce any payment, or, if Sempra Energy has the right to extend or defer the payment of interest on such debt security, to increase the maximum time period of any such extension or deferral or increase the maximum number of times Sempra Energy may extend or defer any such interest payment;
- reduce the percentages of registered holders whose consent is required for any supplemental indenture or waiver;
- modify certain provisions in the applicable indenture relating to supplemental indentures and waivers of certain covenants and past defaults; or
- in the case of the subordinated indenture, modify, delete or supplement any of the subordination provisions or the definition of Senior Indebtedness applicable to the subordinated debt securities of any series then outstanding in a manner adverse to the holders of such subordinated debt securities.

Consolidation, Merger or Conveyance of Assets

We have agreed not to consolidate or merge with or into any other entity, or to sell, transfer, lease or otherwise convey our properties and assets as an entirety or substantially as an entirety to any entity, unless:

- (i) in the case of a merger, we are the continuing entity, or (ii) the successor entity formed by any such consolidation or into which we are merged or which acquires by sale, transfer, lease or other conveyance our properties and assets as an entirety or substantially as an entirety, is a corporation organized and existing under the laws of the United States of America or any State thereof or the District of Columbia and expressly assumes, by supplemental indenture, the due and punctual payment of the principal, premium and interest on all of the notes outstanding under the indenture and the performance of all of the covenants under the indenture; and
- immediately after giving effect to the transaction, no event of default, and no event which after notice or lapse of time or both would become an event of default under the indenture, has or will have occurred and be continuing.

Defeasance, Satisfaction and Discharge

The indenture provides that we may, upon satisfying several conditions, be discharged from our obligations, with some exceptions, with respect to the notes, which we refer to as "defeasance". One such condition is the irrevocable deposit with the trustee, in trust, of money and/or government obligations that, through the scheduled payment of principal and interest on those obligations, would provide sufficient moneys to pay the principal of and any premium and interest on the notes on the maturity dates of the payments or upon redemption. In addition, we would be required to deliver an opinion of counsel to the effect that a holder of the notes would not recognize income, gain or loss for federal income tax purposes as a result of the defeasance and would be subject to federal income tax on the same amounts, at the same times and in the same manner as if that defeasance had not occurred. The opinion of counsel must be based upon a ruling of the Internal Revenue Service or a change in law after the date of the indenture.

The indenture will cease to be of further effect with respect to the notes, and we will be deemed to have satisfied and discharged all of our obligations under the indenture with respect to the notes, except as noted below, when all outstanding notes have become due or will become due within one year at their stated maturity or on a redemption date and we deposit with the trustee, in trust, funds that are sufficient to pay and discharge all remaining indebtedness on the notes. We will remain obligated to pay all other amounts due under the indenture and to perform certain ministerial tasks as described in the indenture.

Other Rights

The notes do not contain any conversion rights or sinking fund provisions.

Trustee

U.S. Bank National Association is the trustee under the indenture governing the notes. U.S. Bank National Association is a national banking association that provides trust services and acts as indenture trustee for numerous corporate securities issuances, including for other series of notes of which we or our affiliates are the issuer. In addition, affiliates of U.S. Bank National Association may perform various commercial banking and investment banking services for us and our subsidiaries from time to time in the ordinary course of business.

Listing

The notes are listed on the New York Stock Exchange under the symbol “SREA.”

Exhibit 10.1

Execution Copy

CERTAIN INFORMATION IN THIS DOCUMENT HAS BEEN OMITTED BECAUSE IT BOTH (I) IS NOT MATERIAL AND (II) IS THE TYPE OF INFORMATION THAT SEMPRA ENERGY TREATS AS PRIVATE OR CONFIDENTIAL AND WOULD LIKELY CAUSE COMPETITIVE HARM TO SEMPRA ENERGY IF PUBLICLY DISCLOSED. INFORMATION THAT HAS BEEN OMITTED ON THAT BASIS IS DENOTED IN THIS DOCUMENT AS "[***]."

CERTAIN INFORMATION IN THIS DOCUMENT HAS BEEN OMITTED BECAUSE ITS DISCLOSURE WOULD CONSTITUTE AN UNWARRANTED INVASION OF PERSONAL PRIVACY. INFORMATION THAT HAS BEEN OMITTED ON THAT BASIS IS DENOTED IN THIS DOCUMENT AS "[###]."

AMENDED AND RESTATED ENGINEERING, PROCUREMENT AND CONSTRUCTION CONTRACT

NUMBER 4188P000092

BETWEEN

PORT ARTHUR LNG, LLC,

PALNG COMMON FACILITIES COMPANY, LLC
(FOR THE PURPOSES DESCRIBED HEREIN)

AND

BECHTEL OIL, GAS AND CHEMICALS, INC.

RELATING TO THE

PORT ARTHUR LIQUEFACTION PROJECT

Dated as of

December 11, 2020

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AMENDED AND RESTATED ENGINEERING, PROCUREMENT AND CONSTRUCTION CONTRACT

This **AMENDED AND RESTATED ENGINEERING, PROCUREMENT AND CONSTRUCTION CONTRACT** is entered into as of December 11, 2020 (the "**Effective Date**"), between PORT ARTHUR LNG, LLC, a Delaware limited liability company ("**Owner**"), PALNG COMMON FACILITIES COMPANY, LLC, a Delaware limited liability company ("**Common Facilities Owner**"), but only for the limited purposes set forth herein, and BECHTEL OIL, GAS AND CHEMICALS, INC., a Delaware corporation ("**Contractor**"). Contractor, Owner and Common Facilities Owner are each referred to herein from time to time as a "**Party**" and together as the "**Parties**".

RECITALS

WHEREAS, Owner and the Common Facilities Owner desire to develop and construct a large-scale natural gas treatment, gas processing and liquefaction facility, including two (2) LNG Trains, two (2) LNG Tanks, with an option for a third LNG Tank, two (2) marine Berths and associated loading facilities, NGL extraction, storage and delivery facilities, cryogenic pipelines and infrastructure, utilities and facilities necessary to provide liquefaction services (the "**LNG Facility**").

WHEREAS, Owner, Common Facilities Owner and Contractor have previously entered into the Engineering and Design Services Agreement dated as of August 6, 2018 (together with any Work Authorizations issued thereunder, the "**EDSA**"), whereby Contractor has provided and will provide the engineering and other services described therein, and pursuant to which Contractor has, among other things, developed the Contract Price and the Baseline CPM Schedule.

WHEREAS, Owner, Common Facilities Owner and Contractor have previously entered into the Site Works Services Agreement dated as of December 20, 2019 (together with any Work Authorizations issued thereunder, the "**SWSA**"), whereby Contractor has provided and will provide certain Site preparation and other on-Site services described therein, and pursuant to which Contractor has, among other things, developed the Contract Price and the Baseline CPM Schedule.

WHEREAS, Owner, Common Facilities Owner and Contractor have previously entered into the Engineering, Procurement and Construction Contract dated as of February 28, 2020 (the "**February 2020 Agreement**"), whereby Contractor, itself and through its Suppliers, was engaged to provide the engineering, procurement, construction, pre-commissioning, commissioning, start-up, testing and operating services for the LNG Facility, on a fixed, separated price basis.

WHEREAS, the Parties desire to amend and restate the February 2020 Agreement on the terms and conditions set forth herein, to, among other things, reflect certain updates to the Contract Price and the Project Schedule and the occurrence of the COVID-19 pandemic.

NOW, THEREFORE, in consideration of the premises and the agreements herein contained and other good and valuable consideration, the receipt and sufficiency of which is hereby acknowledged, Owner, Common Facilities Owner and Contractor hereby agree as follows:

ARTICLE 1

INTRODUCTION, DEFINITIONS AND INTERPRETATION

1.1 Agreement Structure. This Agreement consists of the Terms and Conditions (Articles 1 through 23) and the Appendices attached hereto (Appendix A through Appendix TT) and the Attachments thereto, each of which is incorporated herein by this reference.

1.2 Definitions. The following capitalized terms have the respective meanings set forth below, unless the context requires otherwise:"**313 Agreement**" means the Agreement for Limitation on Appraised Value of Property for School District Maintenance and Operations Taxes, dated as of October 24, 2016 (as modified, supplemented, or amended from time to time, the), by and among Sabine Pass Independent School District, Owner and the Common Facilities Owner (as successor in interest to Port Arthur LNG Holdings, LLC), together with the related approval of the 313 Agreement by the Texas Comptroller of Public Accounts, dated October 13, 2016, and the related Certificate for a Limitation on Appraised Value issued by the Texas Comptroller of Public Accounts to Owner and the Common Facilities Owner (as successor in interest to Port Arthur LNG Holdings, LLC) on May 16, 2016 under the provisions of Texas Tax Code Chapter 313.

"**AAA**" means the American Arbitration Association.

"**AAA Rules**" means the Construction Industry Arbitration Rules and Mediation Procedures (Including Procedures for Large, Complex Construction Disputes) of the AAA.

"**Abandonment**" means prior to Substantial Completion, Contractor has at any time stopped, suspended, or refused to perform all or substantially all of the remaining Work under this Agreement (including a significant reduction in Contractor Personnel performing Work to such a degree that objectively evidences the intent not to complete the Work) if such stoppage, suspension or refusal continues for five (5) consecutive Days or longer and, after notice from Company, Contractor fails to confirm, within five (5) Days of such notice, its intent to resume performance of the Work within a period of time reasonably acceptable to Owner, and Contractor fails to resume such performance within such agreed time; provided that Abandonment shall not include stoppage, suspension or refusal to perform the Work for which Contractor has the express right to do so under the Agreement.

"**Acceleration Plan**" has the meaning set forth in Section 4.4.4.

"**Additional COVID-19 Counter-Measures**" means COVID-19 Type A Counter-Measures, COVID-19 Type B Counter-Measures, [***] and any extensions thereto pursuant to a COVID-19 Type A Counter-Measure Extension, COVID-19 Type B Counter-Measure Extension and/or [***], as applicable.

"**Affiliate**" means, with respect to any Person, any other Person which directly or indirectly controls, is controlled by or is under common control with such Person. For purposes

of this definition, “control” (including, with correlative meanings, the terms “controlled by” and “under common control with”) means the possession, directly or indirectly, of the power to direct or cause the direction of the management and policies of a Person, whether through the ownership of voting securities or otherwise. Without limiting the foregoing, ownership of fifty percent (50%) or more of the equity interests of each class holding voting rights shall be deemed to be control of a Person. Notwithstanding the foregoing, Parent, the members of Parent and their respective Affiliates shall be considered Affiliates of Owner and Common Facilities Owner for purposes of this Agreement.

“**Agreement**” means this Engineering, Procurement and Construction Contract, and all Appendices and Attachments hereto and thereto, as amended from time to time in accordance with the terms of this Agreement.

“**Air Permit**” means the Existing Air Permit unless and until the Final New Air Permit is issued by TCEQ, after which issuance the Final New Air Permit shall be deemed the “Air Permit” for all purposes under the Agreement.

“**Applicable Codes and Standards**” means those codes and standards that are applicable to the Liquefaction Project, the LNG Facility or the Work, under Applicable Laws and as set forth in Appendix A, Appendix B or the Deliverables.

“**Applicable Laws**” means (a) all laws, statutes, rules, regulations, ordinances, codes, Applicable Codes and Standards required under Applicable Laws, and executive orders or proclamations by the U.S. President that are enforceable by Governmental Authorities against the Parties; (b) rules of common law, and judgments, decisions, interpretations, orders, directives; (c) all Permits and requirements or conditions contained in any Permit, including any condition on or with respect to the issuance, maintenance, renewal or transfer of any Permit; (d) all Import Laws; and (e) any injunctions, writs, decrees, stipulations, or awards of any applicable Governmental Authority or duly authorized official, court or arbitrator thereof, in each case, now existing or, without limiting what may constitute a Change In Law, which may be enacted or issued after the Effective Date, and that are applicable to the Parties, the Liquefaction Project, the LNG Facility, the Site, any other location where the Work is performed, or this Agreement or the performance or enforcement hereof.

“**Archeological Finds**” means discoveries of subsurface fossils, antiquities, biofacts, cultural artifacts, cultural landscapes, or other archaeological materials or similar items, required to be reported to any Governmental Authority or protected under Applicable Laws, and which are not disclosed by Owner (including the location thereof) or otherwise known to Contractor prior to [***].

“**As-Built Drawings**” means redlined Drawings as prepared in the field that show all current “as-built” conditions, as required under Attachment A-1 to Appendix A and Appendix U.

“**Audit Period**” has the meaning set forth in Section 2.23.2(a).

[***].

"**Baseline CPM Schedule**" means the Level III detailed resource work-hour loaded critical path method schedule that incorporates all of the Key Date Items and reflects the Milestones, as attached hereto as Appendix E-2, and which, if Owner issues the Full Notice to Proceed pursuant to Section 4.2.1(a)(ii), (A), (iv) or (v), shall be updated pursuant to Section 4.2.3. Upon any such update pursuant to Section 4.2.3, such updated schedule shall be deemed the Baseline CPM Schedule for all purposes hereunder.

"**Basis of Design**" means the basis of design and parameters of the Liquefaction Project and the Work as set forth in Appendix B.

"**Books and Records**" has the meaning set forth in Section 2.23.1.

"**Berth**" means each berth at the LNG Facility for the berthing and Loading of LNG Tankers.

"**Bid Validity Date**" has the meaning set forth in Section 4.1.4.

"**British Thermal Unit**" and "**Btu**" means a unit of thermal energy equal to the amount of heat required to raise one (1) pound of pure water one (1) degree Fahrenheit at Standard Conditions for LNG, or Standard Conditions for Natural Gas, as the case may be.

"**Business Day**" means each calendar day, Monday through Friday, excluding U.S. federal banking holidays.

"**CAD**" has the meaning set forth in Section 2.25.7.

"**Capital Spare Parts**" has the meaning set forth in Section 2.14.3.

"**Cargo**" means a quantity of LNG expressed in MMBtu to be Loaded onto an LNG Tanker at the LNG Facility.

"**Central Time**" means U.S. Central Standard Time, as may be adjusted for daylight savings.

[***].

[***].

"**Change in Law**" means the enactment, adoption, promulgation or imposition of any new Applicable Laws with different terms, or the repeal, amendment, or change to, including the binding interpretation, enforcement or application by any Governmental Authority of, any Applicable Laws that occurs after the date that is [***], which, for purposes of this Agreement with respect to Taxes, shall include only newly enacted or increases or decreases in Taxes for which Contractor is responsible for under this Agreement and that are not otherwise excluded below. Notwithstanding the foregoing, a Change in Law shall not include any such enactment, adoption, promulgation, imposition or repeal, amendment, or change in binding interpretation, enforcement or application: (a) in accordance with a proposed regulatory change that was

published prior to the date that is sixty (60) Days prior to [***] but not yet made effective; (b) that (i) increases or decreases any Taxes, or establishes, imposes or assesses any new Taxes, on corporate income or profits/losses, or on Construction Equipment; [***]; (iv) any increase or decrease in, or the establishment, imposition or assessment of new, Texas Sales and Use Taxes, Customs Duties or property Taxes for which Contractor is not entitled to reimbursement, in each case either because (A) with respect to property Taxes only, title has not passed to Owner pursuant to Section 11.1.1; or (B) as described in Sections 2.12.4, 7.1, 7.3.2, 7.4 or 7.5.2, including Taxes on (1) the real property of Owner; and (2) Equipment and materials to be incorporated into, affixed to, or installed into the LNG Facility; (c) with respect to any purported change in enforcement or application by a Governmental Authority which is within the discretionary authority of such Governmental Authority where such change in enforcement or application is triggered by or is in reaction to the fault, act or omission of a member of the Contractor Group; (d) to the extent such enactment, adoption, promulgation, imposition or repeal, amendment, or change in binding interpretation, enforcement or application results wholly or partially from the act or omission of the Party or Affiliates of the Party claiming the Change in Law, or the affected Party's or its Affiliates' noncompliance with any Applicable Laws (other than such non-compliance resulting from a separate Excusable Event or event of Force Majeure); or (e) any event which would otherwise constitute a COVID-19 Event.

"**Change Order**" means a written order authorizing a change in the Work, or an adjustment to the Contract Price, the Milestones, the Payment Schedule, the Key Date Schedule, including the Guaranteed Substantial Completion Dates, or the Guaranteed Performance Levels, as applicable, as a result of the occurrence of one of the events described in Section 8.2.1 or 8.3.1, as agreed in a document substantially in the form of either Appendix F-1, if required to be signed by both of the Parties, or Appendix F-2, if signed solely by Owner in accordance with Section 8.6.

"**CIMTAS**" means Cimtas Boru Imalatlari ve Ticaret Limited Sirke.

"**Claim**" or "**Claims**" means any and all claims or actions, threatened or filed, that directly or indirectly relate to the matters in question, including all Losses, whether incurred by settlement or otherwise, and whether such claims or actions are threatened or filed prior to or after the expiration or earlier termination of this Agreement, subject to any applicable statutes of limitation.

"**Claim Submission Deadline**" means with respect to the occurrence of any Claim Submission Event [***], the date that is [***] Days after Contractor first became aware, or should have become aware, of the occurrence of the applicable Claim Submission Event; provided, that in the case of the occurrence of any such event, if Contractor submits a preliminary Claim to Owner within such [***] Day period, together with an explanation for why Contractor requires additional time to prepare a final Claim submission, the Claim Submission Deadline shall be extended for the period of time that Contractor reasonably demonstrates is necessary to prepare the final Claim submission, but in any event to no more than [***] Days after Contractor first became aware, or should have become aware, of the occurrence of the

Claim Submission Event; provided, however, that notwithstanding anything to the contrary in the foregoing:

(a) [***]; and

(b) [***].

(c) [***].

"**Claim Submission Event**" has the meaning set forth in Section 8.3.1.

"**CO Cost Threshold**" means [***].

"**Commission**" and "**FERC**" means the U.S. Federal Energy Regulatory Commission, or any successor agency having jurisdiction over the LNG Facility and the provision of services by Owner from such LNG Facility.

"**Common Facilities**" means those portions of the Work that are used or are constructed to be used by more than one (1) LNG Train, including the Equipment and facilities described in Appendix SS.

"**Common Facilities Owner**" has the meaning set forth in the Preamble.

"**Comparable Facilities**" means domestic or international LNG facilities of a size, type and design comparable to the LNG Facility.

"**Competitors**" means any of the following, including their Affiliates, [***]; provided, however, that notwithstanding that a Person is included in the foregoing list, Competitors shall not include (a) any such Person or its Affiliates that the Parties have agreed will act as Owner's Engineer, subject to such Persons entering into a confidentiality agreement with Owner with substantially similar terms to those stated in Section 14.2; (b) any Person who has an equity interest in the Liquefaction Project; and (c) any individual who serves on the governing body of Owner or any of its Affiliates.

"**Completions Database**" has the meaning set forth in Section 9.1.3.

"**Confidential Information**" means either or both of Contractor Confidential Information and Owner Confidential Information, as the context requires.

"**Construction Equipment**" means the equipment, machinery, structures, scaffolding, materials, tools, supplies, consumables, systems and temporary buildings, in each case owned, rented or leased by Contractor or its Subcontractors for use in accomplishing the Work, but not intended for incorporation into the LNG Facility.

"**Contract Price**" means the fixed, separated price for all Stages of the Work as indicated in Appendix C, including any Work performed under the Ramp-Up LNTP (if issued), in each case as adjusted from time to time under the provisions of this Agreement.

"**Contractor**" has the meaning set forth in the Preamble.

"**Contractor Confidential Information**" means: (a) data and information disclosed by Contractor or another member of the Contractor Group in the course of performing the Work and that has clearly been identified in writing by the Disclosing Party as being confidential; provided, however, that in no event shall Contractor Confidential Information include any of the Work Product (other than Non-Technical Documents) even if marked as confidential; (b) the Non-Technical Documents; or (c) financial information of Contractor or any other member of the Contractor Group, whether or not marked and identified in writing as confidential.

"**Contractor Event of Default**" has the meaning set forth in Section 19.3.1.

"**Contractor Group**" means Contractor, its Affiliates, its Suppliers, and its and their respective directors, officers, employees (including agency personnel), consultants, agents and Invitees, but does not include any Owner Group member.

"**Contractor Guarantee**" means a guarantee executed by the Contractor Guarantor in favor of Owner and the Common Facilities Owner in the form attached hereto as Appendix Y.

"**Contractor Guarantor**" means Bechtel Global Energy, Inc., a Delaware corporation.

"**Contractor Guarantor Letter of Credit**" has the meaning set forth in Section 17.3.

"**Contractor Guarantor Minimum Net Worth**" has the meaning set forth in Section 17.3.

"**Contractor HSSE Program**" has the meaning set forth in Section 2.18.2.

"**Contractor Indemnified Parties**" means Contractor and its Affiliates and each of their respective officers, directors, shareholders, employees, agents and advisers.

"**Contractor Intellectual Property**" has the meaning set forth in Section 12.3.

"**Contractor Key Dates**" means the Key Date Items that are obligations of Contractor hereunder and are identified as "Contractor Key Dates" on Appendix E-1.

"**Contractor Lien**" means any Lien on the Work, the Site, the LNG Facility, the Liquefaction Project or other property of Owner or the Common Facilities Owner or any part thereof or interest therein, created by any member of Contractor Group or otherwise arising as a consequence of Contractor's performance of the Work.

"**Contractor-Furnished Items**" means all the Equipment, including spare parts, furnished by or on behalf of Contractor and its Suppliers to perform the Work and intended to be incorporated into the LNG Facility.

"**Contractor Mitigation Plan**" means the mitigation plan implemented by Contractor as described in Appendix VV.

"**Contractor Permits**" means each and every Permit other than the Owner Permits that is required by any Applicable Laws or that is otherwise necessary for the performance of the Work, including all Permits listed as Contractor Permits on Appendix J-2 and all:

(a) Permits required to be maintained in Contractor's or a Supplier's name;

(b) building Permits required for the construction of the LNG Facility;

(c) labor or health standard Permits and approvals reasonably related to construction of the LNG Facility;

(d) business Permits reasonably related to the conduct of the operations of Contractor and all Subcontractors in the State of Texas and any other location where such Permits may be required;

(e) Permits, approvals, consents or agreements from or with any Person necessary (including all contractors' licenses, engineering licenses and related documents) (i) for the performance by Contractor of the Work or its warranty obligations hereunder; (ii) for the transportation or importation of Equipment; or (iii) for the transportation or importation of Construction Equipment;

(f) Permits for the temporary Work, disposal Permits necessary to perform Contractor's Scope of Work, road use Permits necessary to perform Contractor's Scope of Work, Permits related to the use, storage and disposal of Hazardous Materials brought onto the Site by or on behalf of any member of Contractor Group, and Permits issued pursuant to any building, mechanical, electrical, plumbing or similar Applicable Codes and Standards; and

(g) Permits, visas, approvals and certifications necessary for Contractor's employees to legally perform the Work in the State of Texas (including documentation of citizenship or legal residency in the U.S.).

"**Contractor Representative**" means that Person or Persons designated by Contractor as the Senior Project Manager on Appendix H or in accordance with Section 2.6.1.

"**Core Team Individuals**" means (a) if Owner has issued the Essential Team LNTP, the thirty (33) members of Contractor's core team as described in the Essential LNTP; and (b) if Owner has not issued the Essential Team LNTP, the eighteen (18) members of Contractor's core team as described in Part I of the Ramp-Up LNTP.

"**Corrective Work**" has the meaning set forth in Section 10.3.1.

"**COVID-19**" means the SARS-CoV-2 virus and any infectious respiratory disease or diseases that it causes, as identified by the World Health Organization and further abbreviated by such organization as "COVID-19," including any additional Outbreaks of COVID-19 or any other worsening of the COVID-19 pandemic, or any related strains and mutations of COVID-19, wherever the same may occur.

"**COVID-19 Applicable Law Event**" means the occurrence of any of the following:

(a) a COVID-19 Applicable Law Issuance; or

(b) a COVID-19 Type A Counter-Measure Extension.

"**COVID-19 Applicable Law Issuance**" means the enactment, adoption, promulgation, imposition, repeal, amendment, or change in binding interpretation, enforcement or application of an Applicable Law by a Governmental Authority that:

(a) is issued in response to the COVID-19 pandemic, or to protect those performing the Work from the spread of COVID-19, or to otherwise fight against the spread of COVID-19;

(b) is issued after the date that is [***] Days prior to [***]; and

(c) with respect to Contractor, results in Contractor being required to employ additional or different counter-measures or other means and methods in performing the Work at the Site [***] from those counter-measures or means and methods set forth in Appendix YY so as to protect those performing the Work from the spread of COVID-19, or to otherwise fight against the spread of COVID-19, and perform the Work in accordance with all Applicable Laws related to COVID-19 (such additional or different counter-measures, means or methods required pursuant to the above, collectively, "**COVID-19 Type A Counter-Measures**").

"**COVID-19 Event**" means the occurrence of any of the following:

(a) a COVID-19 Applicable Law Event;

(b) a COVID-19 PCSC Event;

(c) with respect to any Supplier, the enactment, adoption, promulgation, imposition, repeal, amendment, or change in binding interpretation, enforcement or application of an Applicable Law by a Governmental Authority that:

(i) is issued in response to the COVID-19 pandemic, or to protect those performing the Work from the spread of COVID-19, or to otherwise fight against the spread of COVID-19;

(ii) is issued after the date that is [***] Days prior to [***]; and

(iii) results in such Supplier being required to employ additional or different counter-measures or other means and methods in performing the Work at any location (other than the Site) where the Work is being performed by such Supplier from those counter-measures or means and methods set forth in such Supplier's COVID-19 response plan so as to protect those performing the Work from the spread of COVID-19, or to otherwise fight against the spread of COVID-19, and perform the Work in accordance with all Applicable Laws related to COVID-19; or

(d) [***].

"**COVID-19 Guidelines**" means:

(a) the publication of a guideline, recommendation or suggested practice (or revisions, amendments or supplements thereto);

(b) issued [***] Days prior to [***];

(c) issued by (i) a Governmental Authority, or (ii) [***] (including the Centers for Disease Control and Prevention (CDC) or the Occupational Safety & Health Administration (OSHA)); and

(d) such guideline, recommendation or suggested practice (or revisions, amendments or supplements thereto) is applicable to the performance of the Work; and (i) is issued to protect those performing the Work from the spread of COVID-19; or (ii) issued to otherwise fight against the spread of COVID-19.

"**COVID-19 Guidelines Issuance**" means: (a) COVID-19 Guidelines have been issued after the date that is [***] Days prior to [***] which recommend the adoption of additional or different counter-measures or other means and methods in performing the Work from those counter-measures or means and methods set forth in Appendix YY as of [***] which are in addition to those set forth in Appendix YY; and (b) the adoption or extension, as the case may be, of such COVID-19 Guideline is reasonably necessary to protect those performing the Work from the spread of COVID-19, or to otherwise fight against the spread of COVID-19 (such means and methods and counter-measures, collectively, "**COVID-19 Type B Counter-Measures**").

[***].

"**COVID-19 PCSC Event**" means the occurrence of any of the following:

(a) a COVID-19 Guideline Issuance;

(b) [***];

(c) a COVID-19 Type B Counter-Measure Extension; or

(d) [***].

[***].

"**COVID-19 Recommended Additional Counter-Measures**" has the meaning set forth in Section 2.30(c).

[***].

"**COVID-19 Type A Counter-Measures**" has the meaning set forth in the definition of "COVID-19 Applicable Law Issuance".

"**COVID-19 Type A Counter-Measure Extension**" means a circumstance following the date that is [***] Days prior to [***] where the time period for the implementation of any of the means, methods and counter-measures included as part of Part III of Appendix YY has expired and Contractor is required under Applicable Law to continue implementing such means, methods and counter-measures in order to perform the Work in compliance with Applicable Laws, but only for the duration of the extension required by Applicable Laws.

"**COVID-19 Type B Counter-Measures**" has the meaning set forth in the definition of "COVID-19 Guidelines Issuance".

"**COVID-19 Type B Counter-Measure Extension**" means a circumstance following the date that is [***] Days prior to [***] where the time period for the implementation of any of the means, methods and counter-measures included as part of Part III of Appendix YY has expired and either: (a) COVID-19 Guidelines recommend the continuance of the means, methods and counter-measures identified in Part III of Appendix YY for time-periods extending beyond the period then currently indicated in Part III of Appendix YY (but only for the duration of such required extension); or (b) the COVID-19 Guidelines that originally precipitated the previous adoption of COVID-19 Type B Counter-Measures are still in effect, and, in each case ((a) and (b)), keeping such means, methods and counter-measures in effect, as applicable, is reasonably necessary to protect those performing the Work from the spread of COVID-19, or to otherwise fight against the spread of COVID-19;

[***].

[***].

"**CPM Schedule**" means the most recent Level III critical path method schedule provided by Contractor that meets the requirements of Section 4.4.1 and Appendix S.

"**Credit Rating**" means for any Person the senior unsecured long term Dollar debt rating of such Person (without any form of credit enhancement), as determined by Moody's or Standard & Poor's.

"**Creditworthy Bank**" means a commercial bank having at the applicable time: (a) combined total assets of at least [***]; and (b) a Credit Rating of: (i) A- or better from Standard & Poor's; or (ii) A3 or better from Moody's; or (iii) if such bank has a Credit Rating at such time from both Standard & Poor's and Moody's, A- or better from Standard & Poor's and A3 or better from Moody's.

"**Critical Path Item(s)**" means the items identified as critical path items on the CPM Schedule.

"**Customs Duties**" means U.S. import Taxes, customs duties, antidumping duties, countervailing duties, quotas, tariff-rate quotas, quantitative restrictions and other tariffs, duties,

or restrictions imposed under any statutory authority, including Section 232 of the Trade Expansion Act of 1962 (as amended), Section 301 of the Trade Act of 1974 (as amended), Section 201 of the Trade Act of 1974 (as amended), and any additional or different tariffs or quotas on certain imported products and materials imposed by executive orders or proclamations by the U.S. President that constitute Applicable Laws.

"**Daily Quantity**" has the meaning set forth in Section 9.5.3(d).

"**Day**" means a period of twenty-four (24) consecutive hours commencing at midnight Central Time on any calendar day.

"**Defect**" means any failure of the Work to comply with the standards set out in Section 10.1.1.

"**Defective**" means that the applicable Work contains a Defect.

"**Delay LD Cap**" means an amount equal to [***] for Stage I, and an amount equal to [***] for Stage II.

"**Delay Liquidated Damages**" means any or all of the: (a) Stage I Delay Liquidated Damages; or (b) Stage II Delay Liquidated Damages.

"**Deliverable**" means any documentation or written information required to be delivered to Owner pursuant to this Agreement, including the Drawings and Specifications and design Deliverables as described in Attachment A-1 to Appendix A, the Plans, and the reports, manuals, schedules and related information, logs, data books, calculations, models, simulations, manufacturers' drawings and data as described herein.

"**Direct Agreement**" has the meaning set forth in Section 2.29.1.

"**Disclosing Party**" means the Party that has disclosed Confidential Information hereunder in accordance with Article 14, or on whose behalf Confidential Information has been disclosed, and to whom confidentiality obligations are owed with respect to such Confidential Information pursuant to Article 14.

[***].

"**Dispute**" has the meaning set forth in Article 20.

"**Dispute Notice**" has the meaning set forth in Section 20.1.

"**Disputing Parties**" has the meaning set forth in Article 20.

"**DOE**" means the U.S. Department of Energy (or a successor regulatory agency).

"**Dollars**" and "**$**" means the lawful currency of the U.S.

"**Draft New Air Permit**" means the draft new Air Permit (TCEQ 158420, PSDTX1572, and GHGPSDTX198) that was issued July 6, 2020.

"**Dredge Disposal Areas**" means as of the FNTP Date, dredge disposal placement area 9 as identified in the applicable Owner Permit, and dredge disposal placement area 8 as identified in the applicable Owner Permit, but with respect to placement area 8, only as of the date set forth in the Key Date Schedule that Owner is required to obtain access to such placement area.

"**Dredge Disposal Placement Areas**" means dredge disposal placement areas PA-09A, PA-09B, PA-08, and the J.D. Murphree beneficial use area.

"**Drawings**" means the graphic and pictorial documents (in written or electronic format) showing the design, location and dimensions of the Work, generally including plans, elevations, sections, details, lists, data sheets and diagrams, which are prepared as a part of and during the performance of the Work.

"**EDSA**" has the meaning set forth in the Recitals.

"**Effective Date**" means the date identified in the opening Preamble of this Agreement and upon which this Agreement shall become effective and the Parties shall be bound.

"**Emissions Guarantee**" means the guarantee with respect to emissions as described in Section 3.1 of Appendix G.

"**Entergy**" means Entergy Texas, Inc. and its successors or assigns.

"**Environmental Plan**" shall mean the Port Arthur Liquefaction Project Environmental Plan as set forth in Attachment A-2 to Appendix A, to the extent applicable to the Work, and the policies and procedures described therein with respect to discoveries of Archeological Finds or Pre-Existing Hazardous Materials.

"**Equipment**" means any and all materials, supplies, equipment and facilities, of whatever nature, including each LNG Tank, intended to become a permanent part of the LNG Facility.

"**Essential Team LNTP**" means a limited notice to proceed issued by Owner and signed by Contractor to fund the thirty three (33) members of Contractor's core team as described in the notice, in the form as set forth in Appendix NN.

"**Event of Default**" means either a Contractor Event of Default or an Owner Event of Default.

"**Exchange Rate**" means the last published rate expressed in terms of foreign currency units per one (1) Dollar as quoted by Bloomberg FX Fixings, as applicable, for the last Business Day immediately preceding the Day on which the conversion is deemed to be made.

"**Excepted Risk**" means (a) war (whether declared or undeclared), civil war, act of terrorism, blockade, insurrection; or (b) ionizing radiation, or contamination by radioactivity from nuclear fuel, or from any nuclear waste from the combustion of nuclear fuel properties of any explosive nuclear assembly or nuclear component thereof; or (c) Named Windstorms which result in loss or damage in excess of the sublimits with respect to Named Windstorms under the Contractor's All Risk property insurance policy(ies) obtained by Contractor pursuant to and in accordance with Article 16 and Appendix MM, and then only to the extent of such excess.

"**Excusable Event**" means the occurrence of: (a) an Owner-Caused Delay; (b) a Change In Law; (c) an Unforeseen Excused Site Condition; or (d) [***]. For purposes of clarity, Excusable Events shall not include any event of Force Majeure or COVID-19 Event.

"**Existing Air Permit**" means the existing air permit received on February 17, 2018 (131769, PSDTX1456, GHGPSDTX134) from the TCEQ and is the Owner Permit identified in #4 of Appendix J-1.

"**Extended Warranty Items**" has the meaning set forth in Section 10.2.2.

"**February 2020 Agreement**" has the meaning set forth in the Recitals.

"**Feed Gas**" means Natural Gas that is provided to be used for processing to produce LNG, not including Fuel Gas.

"**Feed Gas Specifications**" means the pressure, temperature and quality specifications for Feed Gas set forth in Table 6 of Appendix B, and the Process Basis of Design (PAL-PJT-PRO-BOD-00-GEN-0002) as referenced in Appendix B.

"**FEIS**" means the final environmental impact statement for the Liquefaction Project.

"**FERC Order**" means Order No. 167 FERC ¶ 61,052 issued by the FERC on April 18, 2019 with respect to the FERC Construction and Operating Authorization issued under Section 3 of the Natural Gas Act, as set forth in Appendix J-1.

"**Final Acceptance**" means, with respect to a Stage, that the following conditions have been satisfied for the applicable Stage:

(a) Substantial Completion of such Stage shall have occurred;

(b) such Stage shall have satisfied the Noise Guarantee, or if the Performance Tests for such Stage failed to demonstrate that such Stage satisfied the Noise Guarantee, FERC shall have agreed that Contractor has demonstrated to FERC's satisfaction through the Noise Model or other information that such Stage satisfies the Noise Guarantee;

(c) Contractor shall have completed all Punch List Items with respect to such Stage in accordance with this Agreement, unless Owner has notified Contractor in accordance with Section 9.9.4 that Owner has elected to complete the Punch List Items with respect to such Stage;

(d) Contractor shall have satisfied each of the Guaranteed Performance Levels, except to the extent that a Guaranteed Performance Levels Correction Period and a GPL Correction Plan is in effect in accordance with Section 9.10.2; provided that with respect to any Guaranteed Performance Levels for which a Guaranteed Performance Levels Correction Period and GPL Correction Plan is in effect, such Stage shall meet the Emissions Guarantees and the Minimum Performance Standards for such Guaranteed Performance Levels based on the last Performance Test conducted with respect to such Guaranteed Performance Levels;

(e) Contractor shall have fully complied with its obligations under Section 2.11.9 following Substantial Completion of a Stage, including the removal of all of Contractor's and Suppliers' personnel, supplies, equipment, Hazardous Materials for which Contractor is responsible under Section 2.17.2 or 2.17.3, waste materials, rubbish and temporary facilities from the areas of the Site related to that Stage, except for such personnel and Construction Equipment needed to fulfill Contractor's obligations during the Warranty Period, as agreed to by Owner;

(f) all warranty Work identified prior to the date of Final Acceptance shall have been completed, or the Parties shall have agreed on a plan for completion of such warranty Work in accordance with Article 10;

(g) to the extent that the Warranty Period, as extended, has expired, Contractor shall have assigned to Owner all Supplier warranties required to be assigned to Owner as of such date pursuant to Section 10.2.1;

(h) all Record As-Built Drawings for such Stage shall have been completed and issued by Contractor, and delivered to Owner;

(i) with respect to such Stage, Owner shall have received: (i) all Deliverables required by Appendix A; and (ii) all test data and other technical information and Deliverables required under this Agreement;

(j) with respect to such Stage, Owner shall have received final O&M Manuals and instruction books as are necessary to operate the LNG Facility with respect to such Stage in a safe, efficient and effective manner, including as specified in Appendix U;

(k) Owner shall have received from Contractor each Contractor Permit, if any, that is required for continuous use and operation of such Stage (all such Permits to be in Owner's name or to have been assigned to Owner, in accordance with Applicable Laws) and, to the extent any Contractor Permit is required to be "closed out" or a similar process is required by the applicable Governmental Authority, Contractor shall have complied with all such requirements for such Contractor Permits;

(l) no Contractor Event of Default shall exist; and

(m) all of Contractor's representations and warranties contained in Sections 13.1.6, 13.1.7, 13.1.10 and 23.13 shall be true and correct, or shall be cured to be true

and correct, and Contractor shall have performed its obligations under its covenants and agreements in Section 23.13.

"**Final Acceptance Certificate**" means a certificate substantially in the form of Appendix CC.

"**Final Acceptance Date**" means, with respect to a Stage, the date on which Final Acceptance of such Stage occurs: (a) as set forth on a Final Acceptance Certificate that has been countersigned by Owner; (b) as determined in accordance with Article 20; or (c) as otherwise agreed by the Parties.

"**Final New Air Permit**" means the final form of the Draft New Air Permit when issued by the TCEQ.

"**Final Completion**" means that the following conditions have been satisfied:

(a) Final Acceptance of each of Stage I and Stage II shall have occurred;

(b) if a Guaranteed Performance Levels Correction Period was in effect for a Stage, such Guaranteed Performance Levels Correction Period shall have expired as to such Stage, and, based on the results of the last Performance Tests conducted with respect to such Stage, such Stage shall have either (i)(A) met the Emissions Guarantees and all of the Guaranteed Performance Levels applicable to such Stage pursuant to Appendix G; or (B) met the Emissions Guarantees and satisfied at least the Minimum Performance Standard with respect to all Guaranteed Performance Levels for which Contractor has not achieved the Guaranteed Performance Levels; and (ii) Contractor shall have paid all applicable Performance Liquidated Damages in accordance with Section 9.10.6;

(c) all warranty Work identified prior to the date of Final Completion shall have been completed, or the Parties shall have agreed on a plan for completion of such warranty Work in accordance with Article 10;

(d) to the extent that the Warranty Period, as extended, has expired, Contractor shall have delivered to Owner for its acceptance a copy of the assignment of all Supplier warranties required to be assigned to Owner, assigned by Contractor, as of such date pursuant to Section 10.2.1;

(e) Owner shall have received from Contractor the final statement with respect to Texas Sales and Use Taxes in accordance with Section 7.5.3;

(f) Owner shall have received a statement from Contractor summarizing and reconciling all invoices submitted prior to the date of this Final Completion Certificate, payments and Change Orders;

(g) Contractor shall have fully complied with its obligations under Section 2.11.9, including the removal of all of Contractor's and Suppliers' personnel, supplies, equipment, Hazardous Materials for which Contractor is responsible under Section 2.17.2 or

2.17.3, waste materials, rubbish and temporary facilities from the Site, except for such personnel and Construction Equipment needed to fulfill Contractor's obligations during the Warranty Period, as agreed to by Owner;

(h) Owner shall have received from Contractor and each Major Supplier a Final Lien and Claim Waiver, or a Final Unconditional Lien and Claim Waiver, as applicable, covering all of the Work in accordance with Section 6.3.5 or 6.6;

(i) an affidavit of completion of the Work that complies with the requirements of Texas Prop. Code Section 53.106 and is otherwise in form and substance acceptable to Owner shall have been filed in the records of Jefferson County of the State of Texas no later than ten (10) Days after the Final Acceptance Date of the last Stage to achieve Final Acceptance, and Contractor shall have provided Owner with a copy of such recorded affidavit;

(j) no Contractor Event of Default shall exist; and

(k) all of Contractor's representations and warranties contained in Sections 13.1.6, 13.1.7, 13.1.10 and 23.13 shall be true and correct, or shall have been cured to be true and correct, and Contractor shall have performed its obligations under its covenants and agreements in Section 23.13.

"**Final Completion Certificate**" means a certificate substantially in the form of Appendix DD.

"**Final Completion Date**" means the date on which Final Completion occurs: (a) as set forth on a Final Completion Certificate that has been countersigned by Owner; (b) as determined in accordance with Article 20; or (c) as otherwise agreed by the Parties.

"**Final Invoice**" has the meaning set forth in Section 6.6.

"**Final Lien and Claim Waiver**" means the waiver and release provided to Owner by Contractor or a Major Supplier in accordance with the requirements of Section 6.6, which shall be in the form of Appendix GG-1 for Contractor and in the form of Appendix GG-2 for such Major Supplier, or, if another form is required under Applicable Law for a final lien and claim waiver to accomplish the waivers and releases contemplated by Appendix GG-1 or Appendix GG-2, as applicable, in the form required under Applicable Law.

"**Final Loading Window**" has the meaning set forth in Section 9.6.3.

"**Final Unconditional Lien and Claim Waiver**" means the unconditional waiver and release provided to Owner by Contractor or a Major Supplier in accordance with the requirements of Section 6.6, which shall be in the form of Appendix HH-1 for Contractor and in the form of Appendix HH-2 for such Major Supplier, or, if another form is required under Applicable Law for a final unconditional lien and claim waiver to accomplish the waivers and

releases contemplated by Appendix HH-1 or Appendix HH-2, as applicable, in the form required under Applicable Law.

"**First Source Referral Agreement**" means the First Source Referral Agreement dated June 12, 2019 between Owner and the City of Port Arthur.

"**First-Tier Supply Contract**" has the meaning set forth in Section 2.7.3(b).

"**Fixed Asset Schedule**" has the meaning set forth in Section 7.6.

"**FNTP Date**" means the date, subject to Section 6.2.6, on which the Full Notice to Proceed as issued by Owner becomes effective in accordance with its terms, which effective date shall be set forth in the Full Notice to Proceed when issued by Owner and which date shall in any event shall not be any sooner than five (5) Business Days after the date on which Owner issues the Full Notice to Proceed.

"**Force Majeure**" means any event that meets all of the following criteria: (a) the event and its effects are not within the reasonable control, directly or indirectly, of the Party affected, and, in the case of Contractor, is beyond the reasonable control of the Contractor Group (it being understood that if an event is within the reasonable control of an affected Person, the direct consequences thereof shall also deemed to be within such Person's reasonable control); (b) the event and its effects are unavoidable or could not be prevented, overcome or removed by the commercially reasonable efforts and due diligence of the Party claiming the Force Majeure event (and, in the case of Contractor, the Suppliers), including the expenditure of reasonable sums of money or the pursuit of alternative means of performance; and (c) the event and its effects do not result from such Party's negligence or fault (or, in the case of Contractor, the negligence or fault of the Suppliers);

provided that and subject to the event meeting all of the criteria described above, Force Majeure events include:

(i) Unusually Severe Weather, earthquake, landslide, or other acts of God;

(ii) fire, explosion, accident, destruction of facilities, plant or Equipment, structural collapse or chemical contamination, in each case in the case of Contractor or any Supplier not being due to:

(A) Defects in the LNG Facility or any Equipment;

(B) the failure to construct the LNG Facility in accordance with this Agreement; or

(C) damage to or destruction of the LNG Facility due to the actions or omissions of Contractor or any Supplier;

(iii) act of war (whether declared or undeclared), invasion, armed conflict, revolution, sabotage, terrorism or threat thereof, piracy on the high seas, perils of the sea which

could not be reasonably foreseen and guarded against, in each case, as probable incidents of the intended voyage, riot, civil war, blockade, embargo, expropriation or confiscation by a Governmental Authority (other than as a result of any violation of Applicable Law), insurrection, acts of public enemies, civil disturbances, or, subject to clause 13 in the proviso immediately below, epidemics or pandemics;

(iv) national or regional strikes, lockouts or other industrial disturbances that are not solely directed at Contractor or a Supplier(s), or both; and

(v) delays by a Governmental Authority in issuing a Permit, but only to the extent such delay was not due to the acts or omissions of Contractor or its Suppliers;

provided, however, that the Parties expressly agree that the following shall not constitute Force Majeure:

(1) the non-availability or lack of funds or failure to pay money when due;

(2) economic hardship, including Contractor's ability to sell its services at a higher or more advantageous price than the Contract Price;

(3) the cost, shortage or unavailability of labor;

(4) the mere shortage of Equipment (including delays of Vendors in supplying same) and commodities or materials or normal wear and tear or flaws in materials or breakdowns in equipment, unless caused by circumstances that are themselves Force Majeure events;

(5) strikes, lockouts or other industrial disturbances other than those described in subclause (iv) above;

(6) all weather conditions and events caused by or resulting from any weather conditions, including due to acts of God, other than Unusually Severe Weather;

(7) the condition of the Site or any Site Conditions encountered by Contractor or a Supplier, but without limiting the rights of Contractor hereunder with respect to Unforeseen Excused Site Conditions and excluding physical conditions of the Site created as a result of a Force Majeure Event;

(8) general economic or industry conditions that increase the cost of the Work or otherwise impact the performance of the Work;

(9) the mere declaration of an emergency or disaster by any Governmental Authority; provided that the underlying circumstance or event that led to such declaration may itself constitute a Force Majeure event if the event satisfies the definition of a Force Majeure event;

(10) late delivery of Equipment, unless caused by circumstances that are themselves Force Majeure events;

(11) failure of any of Contractor's Suppliers to perform, unless caused by circumstances that are themselves Force Majeure events;

(12) any matter reviewed and deemed accepted by Contractor pursuant to Section 2.4, but without limiting the rights of Contractor hereunder with respect to Unforeseen Excused Site Conditions; and

(13) without limiting what may constitute a COVID-19 Event, any and all impacts to the Work resulting from the COVID-19 pandemic, including any additional outbreaks of COVID-19 or any other worsening of the COVID-19 pandemic, wherever the same may occur.

"**Foreign Currency Amount**" has the meaning set forth in Section 6.9.

"**Foreign-Trade Zone**" or "**FTZ**" means a foreign-trade zone under the Foreign-Trade Zones Act of 1934 (19 U.S.C. 81a-81u), as amended to date.

"**Fuel Gas**" means Natural Gas to be used in connection with the performance of the Work that is intended to be consumed by Equipment.

"**Full Cargo**" has the meaning set forth in Section 9.6.1.

"**Full Notice to Proceed**" means a notice to be delivered by Owner to Contractor that Contractor may commence the performance of all of the Work, in the form provided in Appendix JJ.

"**Fully Functional**" means native electronic files prepared using the software as described in Appendix U that has not been corrupted, is virus-free and malware-free, and is not password protected.

"**GAAP**" means generally accepted accounting principles, consistently applied.

"**General Services Subcontracts**" means (a) Subcontracts under which the relevant Subcontractor: (i) does not supply Equipment or other Contractor-Furnished Items; (ii) does not provide services or perform any part of the Work that is a necessary precursor (including Subcontracts for grading or welding services) to successfully install the Equipment or other Contractor-Furnished Items; and (iii) is not an Affiliate of Contractor; and (b) such Subcontract: (i) is fully assignable to Owner without the consent of the Subcontractor that is a party to such Subcontract in the event Contractor is terminated pursuant to this Agreement for any reason; and (ii) the value of such Subcontract, in the aggregate based on all Supply Contracts with each such Subcontractor and its Affiliates, is less than [***].

"**Geotechnical Reports**" means the geotechnical data described in Table 3 of Appendix B.

"**Good Engineering and Construction Practices**" or "**GECP**" means the generally accepted practices, methods, skills, care, techniques and standards employed in the LNG industry, that are commonly used by a skilled and experienced Person exercising that degree of professional skill, diligence and judgment that would ordinarily be expected to be used in prudent engineering, procurement and construction to safely design, construct, pre-commission, commission, start-up and test Comparable Facilities, in accordance with Applicable Laws and Applicable Codes and Standards, as such practices and methods are appropriate in the circumstances for the LNG Facility and the Liquefaction Project.

"**Governmental Authority**" means: (a) any governmental body, or any subdivision, agency, court, commission (including the Commission) or authority thereof, of any nation or state, region or local jurisdiction, or any quasi-governmental body exercising any regulatory or taxing authority thereunder, including with respect to the United States, the United States Coast Guard, U.S. Citizenship and Immigration Services, U.S. Immigration and Customs Enforcement, Transportation Safety Administration, including PHMSA, U.S. Customs and Border Protection and the U.S. Department of Homeland Security; and (b) the Sabine Neches Navigation District.

"**Government Official**" means an official of a Governmental Authority, a candidate for political office, an official of a political party, a political party and an employee of a public international organization.

"**GPL Correction Plan**" has the meaning set forth in Section 9.10.2.

"**Guaranteed Performance Levels**" means for each Stage the guaranteed performance levels for the LNG Production Rate, the Fuel Consumption Rate, Specific Power Consumption, Electric Power Consumption Rate and the Ship Loading Rate, each as described in Appendix G.

"**Guaranteed Performance Levels Correction Period**" has the meaning set forth in Section 9.10.2.

"**Guaranteed Stage I Substantial Completion Date**" has the meaning set forth in Section 4.2.1(a)(i).

"**Guaranteed Stage II Substantial Completion Date**" has the meaning set forth in Section 4.2.1(a)(i).

"**Guaranteed Substantial Completion Date**" means, as the context provides, either the Guaranteed Stage I Substantial Completion Date, or the Guaranteed Stage II Substantial Completion Date, and "**Guaranteed Substantial Completion Dates**" means the Guaranteed Stage I Substantial Completion Date and the Guaranteed Stage II Substantial Completion Date, collectively.

"**Hazardous Materials**" means any substance that under Applicable Laws is considered to be hazardous or toxic or is or may be required to be remediated, including: (a) any petroleum or petroleum products, radioactive materials, asbestos in any form that is or could become friable, transformers or other equipment that contain dielectric fluid containing polychlorinated biphenyls and processes and certain cooling systems that use chlorofluorocarbons; (b) any chemicals, materials or substances which are now or hereafter become defined as or included in the definition of "hazardous substances," "hazardous wastes," "hazardous materials," "extremely hazardous wastes," "restricted hazardous wastes," "toxic substances," "toxic pollutants," or any words of similar import pursuant to Applicable Laws; or (c) any other chemical, material, substance or waste, exposure to which is now or hereafter prohibited, limited or regulated by any Governmental Authority, or which may be the subject of liability for damages, costs or remediation.

"**HAZOP**" means hazardous operations.

"**HUB/DBE Suppliers**" has the meaning set forth in Section 2.7.10.

"**Impact Notice**" has the meaning set forth in Section 18.2.2.

"**Import Law**" means all U.S. import laws, regulations, tariffs, duties and restrictions, that impose additional or different Customs Duties from those Customs Duties in effect [***], and all other such measures adopted by Governmental Authorities with jurisdiction over such matters.

"**Indemnitee**" means an Owner Indemnified Party or a Contractor Indemnified Party, as the case may be.

"**Indemnitor**" means a Party required to provide indemnification to an Indemnitee under this Agreement.

"**Independent Engineer**" means any technical consultant, environmental consultant or engineering firm appointed to represent the Lenders.

"**Infrastructure Relocation**" means the relocation of the portion of Texas State Highway 87 which is presently located on part of the Site.

"**Initial Production Date**" means, for each LNG Train, the first Day that LNG is produced by such LNG Train and delivered to an LNG storage tank during the commissioning and start-up of such LNG Train under this Agreement.

"**Initial Tanker**" has the meaning set forth in Section 9.6.5.

"**Integrated Digital Asset Management System**" means the digital asset management system that Owner will implement and Contractor will support as part of the Work in accordance with the requirements of Appendix II.

"**Intellectual Property**" means patents, trademarks, service marks, copyrights, applications for any of the preceding, any foreign counterparts to and divisionals, provisionals, reversions, continuations, continuations-in-part, reissues, reexaminations, renewals and extensions of any of the foregoing, trade secrets and other forms of comparable property rights protected by any Applicable Laws.

[***].

"**Interim Lien and Claim Waiver**" means the waiver and release provided to Owner by Contractor or a Major Supplier in accordance with the requirements of Section 6.3.5, which shall be in the form of Appendix EE-1 for Contractor and in the form of Appendix EE-2 for such Major Supplier, or, if another form is required under Applicable Law for an interim lien and claim waiver to accomplish the waivers and releases contemplated by Appendix EE-1 or Appendix EE-2, as applicable, in the form required under Applicable Law.

"**Interim Unconditional Lien and Claim Waiver**" means the unconditional waiver and release provided to Owner by Contractor or a Major Supplier in accordance with the requirements of Section 6.3.5, which shall be in the form of Appendix FF-1 for Contractor and in the form of Appendix FF-2 for such Major Supplier, or, if another form is required under Applicable Law for an interim unconditional lien and claim waiver to accomplish the waivers and releases contemplated by Appendix FF-1 or Appendix FF-2, as applicable, in the form required under Applicable Law.

"**Invitee**" means a third party invited to the Site by a Party in connection with the Work. Owner's Invitees shall not include any Contractor Group members and the Other Contractors. Contractor's Invitees shall not include any Owner Group members.

"**Invoice**" means Contractor's request for a payment pursuant to Section 6.3.1 and pursuant to Section 6.6 for final payment, which invoice shall be in the form of Appendix V-1 for Milestone Payments and Progress Payments, and Appendix V-2 for final payment.

"**ISO**" means the International Organization for Standardization and the standards developed by such organization, as applicable.

"**Key Date Item(s)**" means a discrete portion of the Work to be completed by the applicable date set forth in the Key Date Schedule.

"**Key Date Schedule**" means the listing of dates attached as Appendix E-1, including the Guaranteed Substantial Completion Dates, describing the dates of completion of each Key Date Item and for completion of the Work by Contractor, as amended from time to time in accordance with this Agreement.

"**Key Personnel**" has the meaning set forth in Section 2.6.1.

"**KPIs**" means the key performance indicators associated with compliance with Contractor's obligations under the Local Engagement Program and Section 2.7.10, as developed by the Parties in accordance with Appendix WW.

"**Late Payment Rate**" means, with respect to any payment due hereunder, the lesser of: (a) the sum of (i) the rate of interest published as the "prime rate" for Dollars in *The Wall Street Journal*, on the payment due date, and then on the first Business Day of each Month thereafter in which such Late Payment Rate applies until the applicable payment is made, plus (ii) two hundred (200) basis points; and (b) the maximum rate of interest allowed by Applicable Laws.

"**Lenders**" means the lenders, export credit agencies, multilateral institutions, bond investors, noteholders, underwriters, hedge providers and other entities or institutions who provide or commit to provide any portion of any financing to develop and construct the LNG Facility or any portion or Stage thereof, and any Lenders' Agent acting on behalf of such lenders, export credit agencies, multilateral institutions, bond investors, noteholders, underwriters, hedge providers and other entities or institutions.

"**Lenders' Agent**" means any representative, collateral agent, trustee, agent or other designee acting on behalf of any Lender in connection with any financing of the LNG Facility or any portion or Stage thereof.

"**Letter of Credit**" has the meaning set forth in Section 17.2.

"**License**" means the Liquefaction Technology License and a sublicense of BASF SE technology.

"**Licensor**" means each of the Liquefaction Technology Licensor and BASF SE.

"**Lien**" means any mortgage, pledge, lien, charge, adverse claim, proprietary right, collateral assignment, security interest, title retention, preferential right or trust arrangement or any other security agreement or arrangement having the effect of security, including worker's, mechanic's, vendor's, materialmen's, laborers', subcontractors' and vendors' liens.

"**Liquefaction Project**" means the development, construction and completion of the LNG Facility.

"**Liquefaction Technology License**" means the license agreement contained within the purchase agreement between Contractor and the Liquefaction Technology Licensor with respect to the process technology utilized in the LNG Trains.

"**Liquefaction Technology Licensor**" means Air Products and Chemicals, Inc.

"**Liquefied Natural Gas**" and "**LNG**" means Natural Gas in a liquid state at a temperature that is at or below its point of boiling and at or near atmospheric pressure.

"**LNG Production Schedule**" has the meaning set forth in Section 9.6.1.

"**LNG Specifications**" means those Specifications for LNG set forth in Appendix B.

"LNG Tank" means each of the LNG storage tanks that will be procured and installed as part of the Work.

"**LNG Tanker**" means any ocean-going vessel used by Owner, a customer of the LNG Facility or their respective designees for the transportation of LNG.

"**LNG Facility**" has the meaning set forth in the Recitals.

"**LNG Train**" means a Natural Gas pre-treatment and LNG liquefaction unit.

"**LNTP**" means the issuance of either the Essential Team LNTP or the Ramp-Up LNTP.

"**LNTP Date**" means the date on which Owner issues the Essential Team LNTP or the Ramp-Up LNTP.

"**Load**" or other derivatives means the receipt, loading or transport of a quantity of LNG from the LNG Facility, utilizing LNG Tankers.

"**Loading Window**" has the meaning set forth in Section 9.6.1.

"**Local Engagement Program**" has the meaning set forth in Section 2.7.10.

"**Local Labor**" has the meaning set forth in Section 2.7.10.

"**Local Suppliers**" has the meaning set forth in Section 2.7.10.

"**Losses**" means, without limiting the application of Article 21, any and all liabilities (including liabilities arising out of the application of the doctrine of strict liability), obligations, losses, damages, penalties, claims, actions, suits, judgments, costs, expenses and disbursements, whether any of the foregoing be founded or unfounded (including legal fees and expenses, costs of investigation, and experts' fees and court costs), and whether arising in equity, at common law, or by statute, or under the law of contracts, torts or property, of whatsoever kind and nature, including claims for property damage, personal injury (including emotional distress) and economic loss, and whether or not involving damage to the Equipment, the LNG Facility or the Site.

"**Major Purchase Order**" means any Purchase Order entered into with any Person that is either: (a) a Purchase Order having an aggregate value in excess of [***]; or (b) one (1) of multiple Purchase Orders with one (1) Vendor that have an aggregate value in excess of [***].

"**Major Subcontract**" means any Subcontract with any Person that is either: (a) a Subcontract having an aggregate value in excess of [***]; or (b) one (1) of multiple Subcontracts with one (1) Subcontractor that have an aggregate value in excess of [***].

"**Major Subcontractor**" means any Subcontractor with whom Contractor or another Subcontractor enters, or intends to enter, into a Major Subcontract.

"**Major Supplier**" means any Major Subcontractor or Major Vendor.

"**Major Supply Contract**" means any Major Subcontract or Major Purchase Order.

"**Major Vendor**" means any Vendor with whom Contractor enters, or intends to enter, into a Major Purchase Order.

"**Material Adverse Change**" has the meaning set forth in Section 17.3.

"**Maximum Liability Cap**" means an amount equal to [***], which amount shall be increased or decreased by [***] of the amount of the related adjustment to the Contract Price in connection with the exercise of any Scope Options.

"**Maximum Ramp-Up Payment Amount**" means the maximum amount that Owner may be obligated to pay to Contractor for the performance of Work pursuant to a Ramp-Up LNTP, which, if this Agreement is terminated prior to the FNTP Date, shall include the cancellation costs, all as set forth in the Ramp-Up LNTP.

"**Mechanical Completion**" or "**Mechanically Complete**" means with respect to a System that:

(a) the construction Work with respect to such System shall have been completed except for Punch List Items that are permitted to be completed subsequently in accordance with Section 9.9.1, such System shall have been pre-commissioned in accordance with the pre-commissioning plan as agreed pursuant to Section 9.1.1, and such System shall have been turned over from Contractor's construction group to Contractor's commissioning and start-up group;

(b) all Punch List A Items with respect to such System shall have been completed;

(c) installation of all Equipment that is part of such System, including piping and instruments, shall have been completed such that commissioning and start-up operations will not be adversely affected, and (i) insurance requirements; and (ii) requirements of Applicable Laws and in accordance with GECP, in each case with respect to commissioning and start-up of such System, shall have been satisfied;

(d) all mechanical seals, permanent packing and accessories with respect to such System shall have been installed as required, except as restricted by commissioning activities;

(e) all temporary supports, bracing or other foreign objects that were installed in Equipment that is part of such System to prevent damage during shipment, storage or erection shall have been removed;

(f) the System shall have been (i) cleared and available for commissioning and start-up activities; and (ii) chemically cleaned and flushed where required;

(g) all temporary filters, strainers, blinds and screens shall have been removed and Equipment that is part of such System shall have been restored, except in each case where such items are necessary for commissioning and start-up activities;

(h) all inner packing materials (such as sand, gravel, balls and saddles) shall have been properly installed with respect to such System as specified by the relevant Supplier's recommendations;

(i) all mixed bed containing chemicals, resins, desiccants, catalysts or other operating materials with respect to such System shall have been properly installed as specified by the relevant Supplier's recommendations;

(j) all Equipment and subsystems that are part of such System shall have been hydro or pneumatically tested, lubricated and all preservation requirements shall have been performed, maintained and recorded, and continuity and loop checks for all instrumentation and controls, including hazard controls and security components, shall have been completed, to verify that they have been correctly installed;

(k) construction completion turnover packages for such System shall have been prepared with sign-offs from Contractor's construction group and Contractor's commissioning and start-up group and shall contemporaneously have been made available to Owner; and

(l) commissioning procedures for such System shall have been finalized in accordance with Section 9.3.4(a) and are ready for use by Contractor.

"**Mechanical Completion Certificate**" means a certificate in the form of Appendix Z.

"Mechanical Completion Date" means, with respect to a Stage, the date on which the last System has achieved Mechanical Completion in accordance with Section 9.2.2.

"**Milestone**" means a discrete portion of the Work identified as a Milestone on the Payment Schedule.

"**Milestone Payment**" means the portion of the Contract Price allocated to achievement of each Milestone on the Payment Schedule.

"**Minimum Performance Standards**" means for each Stage the performance levels for the LNG Production Rate, Fuel Consumption Rate, Specific Power Consumption, Electric Power Consumption Rate and the Ship Loading Rate set out in Appendix G.

"**MMBtu**" means one million (1,000,000) Btu.

"**Month**" means the period beginning on the first calendar day of a calendar month and ending immediately prior to the beginning of the first calendar day of the next succeeding calendar month.

"**Month Look-Ahead Schedule**" has the meaning set forth in Appendix S.

"**Monthly Status Reports**" has the meaning set forth in Section 2.22.1(d).

"**Moody's**" means Moody's Investor Services, Inc. or any successor rating agency thereof.

"**Named Windstorms**" means an atmospheric disturbance marked by high winds, with or without precipitation, including such events as hurricanes, typhoons, monsoons, cyclones, rainstorms, tempests, hailstorms, tornados, or any combination of the foregoing events, which in each case is identified by name by any meteorological Governmental Authority, such as the U.S. National Weather Service, National Hurricane Center or the National Oceanic and Atmospheric Administration, including any resulting flood, tidal, wave action or water damage.

"**Natural Gas**" means any hydrocarbon or mixture of hydrocarbons consisting primarily of methane and other paraffinic hydrocarbons and non-combustible gases in a gaseous state.

"**Natural Gas Transfer Point**" means any point of interconnection between any Natural Gas pipeline and the LNG Facility.

"**NGL**" means liquid and liquefied heavy hydrocarbons, consisting primarily of pentane and heavier hydrocarbons, separated from the Feed Gas and delivered as a separate product from the LNG produced by the LNG Trains.

"**Noise Guarantee**" means the guarantee with respect to noise levels as described in Section 3.2 of Appendix G.

"**Noise Model**" means the model and methodology developed by Contractor, to demonstrate that the noise contributed from Stage I or the LNG Facility, as applicable, does not exceed the Noise Guarantee, as part of Contractor's noise test procedures in accordance with Appendix G.

"**Non-Technical Documents**" means (a) the Project Execution Plan; (b) the Information Management Plan as set forth in Appendix II (including the Attachments thereto); (c) any estimating or pricing methodologies or estimating or pricing information of Contractor or its Subcontractors relating to the Work, including the Contract Price; (d) inspection and test plans (ITPs); and (e) native files of the Baseline CPM Schedule and CPM Schedule; provided that native files shall not mean PDF format copies of the Baseline CPM Schedule or CPM Schedule.

"**Non-Verified Information**" means the information as described in Appendix N.

"**O&M Manuals**" means the operation and maintenance and procedures manuals to be developed by Contractor or an Affiliate thereof in respect of each Stage as set forth in Appendix U.

"**Operating Personnel**" has the meaning set forth in Section 2.16.1.

[***].

"**Other Contractors**" means all other Persons (including contractors and subcontractors) with whom Owner or any Owner Group member, or any of Owner Group's Other Contractors, enters into a contract or agreement for the acquisition of goods, services, utilities or technology, (but not including Contractor Group members or Owner) that perform any physical work or activities at the Site.

"**Outbreak**" [***].

"**Owner**" has the meaning set forth in the Preamble.

"Owner Change Order Review Period" has the meaning set forth in Section 8.5.4(b).

"**Owner Confidential Information**" has the meaning set forth in Section 14.1.

"**Owner Event of Default**" has the meaning set forth in Section 19.4.1.

"**Owner Group**" means Owner, the Common Facilities Owner, Parent and the immediate shareholders or members of Parent, the Affiliates of each of the preceding Persons, the Owner's Engineer, the Lenders, the Independent Engineer, and the Other Contractors and its and their respective directors, officers, managers, employees (including any individuals other than Competitors engaged by Owner as part of its staff augmentation plans, subject to such Persons entering into a confidentiality agreement with Owner), consultants, agents and Invitees, but in no event shall Owner Group include any Contractor Group member.

"**Owner HSSE Program**" means those health, safety, security and environmental plans and procedures of Owner as described in Appendix QQ, as those plans and procedures may be updated from time to time in accordance with this Agreement.

"**Owner Indemnified Parties**" means Owner, the Common Facilities Owner, Parent and the immediate shareholders or members of Parent, the Affiliates of each of the preceding Persons, Owner's Engineer, the Lenders and the Independent Engineer, and such Persons' respective directors, officers, managers, employees (including agency personnel), consultants, agents and Invitees.

"**Owner Intellectual Property**" has the meaning set forth in Section 12.4.

"**Owner Permits**" means each and every Permit listed a on Appendix J-1, together with such other Permits as Owner shall obtain in accordance with Section 2.10.2.

"**Owner Representative**" means the individual appointed by Owner under Section 3.4 or any substitute appointed in accordance with Section 3.4.

"**Owner-Caused Delay**" means the occurrence of any of the following, other than as a result of or due to the acts or omissions of Contractor or any other member of the Contractor Group: (a) Owner's failure to perform any of the obligations of Owner set forth in the Key Date Schedule by the date specified therein; provided, however, that if Contractor's notice delivered to Owner pursuant to Section 9.5.3 does not require delivery of Feed Gas (including for use as Fuel Gas) until after the date by which Owner is scheduled to deliver the first Feed Gas under the Key Date Schedule, the date set forth in the Key Date Schedule shall automatically be adjusted to the latest date on which Contractor requests the first delivery of such Feed Gas; (b) Owner's request under Section 2.24.5(b) for Contractor to uncover Work that has been properly covered, if the covered Work is found to be in accordance with the terms of this Agreement upon inspection; (c) Owner's failure to witness inspections and tests that have been expressly designated as hold points where Contractor may not proceed with the inspection or test unless Owner is present; provided that Contractor has provided notice to Owner of such inspections and tests in accordance with Section 2.24; (d) Owner's refusal to submit an application with respect to an Owner Permit pursuant to Section 2.10.2(c) within thirty (30) Days after Contractor's submission to Owner of the requisite documentation or information, or Owner's unreasonable rejection of, a submission for a modification or amendment to an Owner Permit prepared by Contractor in accordance with Section 2.10.2; provided that such application or submission for modification or amendment: (i) is complete, includes all supporting documentation required by the applicable Governmental Authority and otherwise complies with the requirements of Applicable Laws; and, as applicable; and (ii) amends or modifies only those aspects of the Owner Permit as Owner had previously agreed; (e) Owner's failure to allow Contractor to perform Work on a Stage which has achieved Substantial Completion in accordance with a schedule and plan for performance of such Work that has been accepted by Owner pursuant to Section 2.11.2; (f) Owner's failure to respond to a Mechanical Completion Certificate for a Stage, a Ready for Start-Up Certificate for a Stage, or a Substantial Completion Certificate for a Stage, within the period provided in Section 9.2.2, 9.4.2 or 9.8, respectively; (g) Owner's suspension of the Work under Section 19.2 or Section 4.1.1; (h) any change to or errors or inaccuracies in any Non-Verified Information; (i) the FTZ, once designated and activated, does not include the laydown yard(s) in Jefferson County, Texas as identified in Appendix ZZ; (j) subject to Contractor's compliance with the requirements of Section 2.28, delays to the performance of the Work caused by Other Contractors performing work on the Site; provided that Contractor has promptly notified Owner of such delay in accordance with Section 2.28, Owner has had a reasonable opportunity to attempt to resolve the situation with the Other Contractor, and the Other Contractor continues to interfere with Contractor's performance of the Work; (k) the circumstances set forth in Sections 2.8.5, 2.17.5, 2.18.4 and 2.18.7; (l) Contractor's correction of Work in connection with Section 2.21.1 at Owner's request that is subsequently determined not to have been Defective; and (m) [***].

"**Owner-Furnished Information**" has the meaning set forth in Section 3.3.1.

"**Owner's Engineer**" means Wood Group, Moffatt and Nichols, Burns and McDonnell, WorleyParsons Limited (or its Affiliate), Faithful and Gould, and KBR, Inc. (or its Affiliate); provided that KBR, Inc. (or its Affiliate) shall only be an Owner's Engineer with respect to information management matters (including with respect to the matters discussed in Appendices U and II (including any Attachments thereto)), and other technical consultation, but not including construction support, and shall not have access to the Non-Technical Documents other than Contractor's information management plan.

"**Parent**" means Port Arthur Liquefaction Holdings, LLC, a Delaware limited liability company, the direct owner of 100% of the equity interests in Owner.

"**Party**" and "**Parties**" has the meaning set forth in the Preamble.

"**Payment Schedule**" means the schedule that sets out the payments to be made to Contractor upon the completion of various Milestones and progress of the Work, as set forth in Appendix D.

"**PCSC**" means the pandemic advisory committee as described in Contractor's COVID-19 Pandemic Response & Control Plan referenced in Appendix Q and as further described in Section 2.30(b).

"**Performance Conditions**" means the "average gas" and "average ambient temperature" conditions as set forth in Appendix B.

"**Performance Liquidated Damages**" has the meaning set forth in Appendix G.

"**Performance LD Cap**" means for Stage I, an amount equal to [***], and for Stage II, an amount equal to [***], in each case as adjusted in connection with any Change Orders that adjust the Guaranteed Performance Levels, as applicable.

"**Performance Test**" means each test (including any repetition thereof) to be performed by Contractor to demonstrate the ability of a Stage to satisfy the Emissions Guarantee, the Noise Guarantee and the Guaranteed Performance Levels as set forth in Sections 3 and 5 of Appendix G.

"**Performance Test Procedures**" has the meaning set forth in Section 9.7.1.

"**Permits**" means all permits, authorizations, variances, approvals, registrations, certificates of legal status, certificates of occupancy, orders or other approvals or licenses granted or issued by any Governmental Authority having jurisdiction over the LNG Facility or matters covered by this Agreement, including the Contractor Permits and the Owner Permits and any conditions thereof or thereto. "**Permits**" shall also include (a) the Permit application; (b) supporting and technical information replied upon by the relevant Governmental Authority to issue a Permit; (c) the environmental impact statement regarding the LNG Facility and the Liquefaction Project; and (d) other records and reports reviewed by the relevant Governmental Authority, in each case to the extent that a Permit or order granting or issuing such Permit

includes a condition requiring compliance with such application, information, statement or records or reports.

"**Person**" means any individual, firm, corporation, trust, partnership, limited liability company, association, joint venture, other business enterprise or any Governmental Authority.

"**PHMSA**" means the Pipeline and Hazardous Materials Safety Administration.

"**Pipeline**" means any Natural Gas pipeline that interconnects with any Natural Gas Transfer Point.

"**Piping Special Supports**" has the meaning set forth in Section 12.2.3.

"**Plans**" means the Project Execution Plan, the Contractor HSSE Program, the Quality Assurance Plan, the plans for performance of the Work as described in Attachment W-1 to Appendix W, and any other plan required pursuant to this Agreement with respect to the execution of the Work and Contractor's performance of its obligations hereunder.

"**Pre-Existing Hazardous Materials**" means any Hazardous Materials present on the Site, including those portions of the Sabine Neches Waterway where Work is performed, prior to Contractor's entry thereupon.

"**Pre-FNTP Claim Notice**" has the meaning set forth in Section 18.2.5(c).

"**Pre-FNTP Claim Period**" has the meaning set forth in Section 18.2.5(c).

"**Pre-FNTP Claims**" has the meaning set forth in Section 18.2.5(c).

[***].

[***].

[***].

"**Project Execution Plan**" means the plan and each component plan thereof prepared by Contractor and set forth in Appendix W for the execution of the Work and Contractor's performance of its obligations under this Agreement throughout the performance of the Work, as amended from time to time in accordance with Section 2.4.6.

"**Project Schedule**" means the Key Date Schedule and the CPM Schedule.

"**Project Sponsors**" means, for the Owner, [###], and for the Contractor, [###]. Each of Owner and Contractor may change their respective Project Sponsor upon written notice to the other Party in its sole discretion.

[***].

"**Proposed Permit Modification**" has the meaning set forth in Section 2.10.2(c).

"**psia**" means a unit of pressure equal to pounds per square inch absolute.

"**Punch List**" means a list of all Punch List Items.

"**Punch List A Items**" has the meaning set forth in Section 9.9.1(a).

"**Punch List B Items**" has the meaning set forth in Section 9.9.1(b).

"**Punch List C Items**" has the meaning set forth in Section 9.9.1(c).

"**Punch List D Items**" has the meaning set forth in Section 9.9.1(d).

"**Punch List Items**" means those items or components of the Work identified in accordance with Section 9.9, which are Punch List A Items, Punch List B Items, Punch List C Items and Punch List D Items, as applicable.

"**Purchase Order**" means any contract entered into by Contractor or a Supplier with a Vendor for the supply of Contractor-Furnished Items.

"**Qualifying Job**" means a permanent full-time job maintained by Contractor or a Major Subcontractor that: (a) requires at least 1,600 hours of work a year; (b) is not transferred from one area in Texas to another area in Texas; (c) is not created to replace a previous employee; (d) is covered by a group health benefit plan for which the Contractor or Major Subcontractor offers to pay at least eighty percent (80%) of the premiums or other charges assessed for employee-only coverage under the plan, regardless of whether an employee may voluntarily waive the coverage; and (e) pays at least one hundred ten percent (110%) of the average weekly wage for manufacturing jobs in Jefferson County, Texas.

"**Quality Assurance Plan**" has the meaning set forth in Section 2.20.1.

"**Ramp-Up LNTP**" means a limited notice to proceed issued by Owner and signed by Contractor to commence performing the Work as described in the notice, in the form as set forth in Appendix NN.

"**Ready for Start-Up of a Stage**" or "**RFSU of a Stage**" means, with respect to all of the Systems of an applicable Stage, that the following conditions have been satisfied for such Stage:

(a) the Mechanical Completion Date for such Stage shall have occurred;

(b) Contractor and Owner have agreed on the Punch List Items that may be completed following Ready for Start-Up of such Stage in accordance with Section 9.9.1;

(c) all pre-commissioning and commissioning activities for the Systems within such Stage, as set forth in the commissioning and start-up plan as finalized pursuant to Section 9.3.4, shall have been successfully completed, and the control system for such Stage

shall have been tested and shall be operational in accordance with the commissioning and start-up plan as finalized pursuant to Section 9.3.4;

(d) all applicable safety and fire protection requirements shall have been met, and all applicable safety and fire protection systems with respect to such Stage shall have been installed and shall be operable pursuant to all Applicable Laws and in accordance with GECP;

(e) all field test and inspection records applicable to the Systems within such Stage, including electrical and instrumentation test and inspection records, and those relating to relay settings and instrument calibration, shall have been made available to Owner as and when prepared;

(f) all mechanical and electrical safety devices with respect to the Stage shall have been field tested, adjusted and sealed where necessary;

(g) all Equipment that is part of the Systems within such Stage shall have been cleaned, leak checked, lubricated and functional tests for all instrumentation and controls, including hazard controls, security components, and cause and effects tests, shall have been completed, to verify that they have been correctly installed;

(h) all Systems within such Stage into which hydrocarbons are to be introduced shall have been purged;

(i) painting shall have been sufficiently completed with respect to such Stage to support LNG production without interference and all portions of such Stage that will be inaccessible during operation shall have been painted;

(j) insulation of the Systems within such Stage shall have been sufficiently completed so that (i) start-up operations will not be adversely affected; and (ii) the Stage is in compliance with all insurance requirements, Applicable Laws and GECP;

(k) no temporary lighting shall remain standing in areas where operators must work to start-up and operate the Stage, except as agreed to by Contractor’s and Owner’s operations teams, taking into consideration safe operation of the plant, GECP and compliance with Applicable Laws; scaffolding shall have been removed except for such scaffolding that is specifically required for safe operation;

(l) a pre start-up and safety review with respect to the Systems or groups of Systems within such Stage shall have been performed in accordance with the requirements set forth in Appendix Q;

(m) Performance Test protocols, including with respect to commissioning demonstration tests, emissions tests and other Performance Tests shall have been prepared by Contractor and accepted by Owner in accordance with Section 9.7.1;

(n) the Operating Personnel shall have completed the training program as required to be completed prior to Ready for Start-Up pursuant to Appendix P, and records

verifying the completion of the training program and related testing of such Operating Personnel in accordance with Section 2.16.2 shall have been delivered to Owner;

(o) Owner shall have received the O&M Manuals for the Systems within such Stage required to be delivered at or prior to Ready for Start-Up pursuant to Appendix U;

(p) all procedures, plans and reviews that are required pursuant to this Agreement for the introduction of hydrocarbons and start-up of the Systems within such Stage shall have been finalized or conducted, as applicable, in accordance with this Agreement, and all Permits that are required for the introduction of hydrocarbons and start-up of the Systems within such Stage in accordance with Applicable Laws have been obtained;

(q) all turnover packages and all Vendors' and other manufacturers' instructions and drawings relating to Equipment that is included in the Stage, including Equipment preservation and records, shall have been transmitted to Owner as per the agreed format and numbers in accordance with Appendix U; and

(r) all requirements of Applicable Laws that must be completed or satisfied prior to the introduction of hydrocarbons and the start-up of the Systems within such Stage shall have been fulfilled, including the installation of security fencing in accordance with Appendix QQ.

"**Ready for Start-Up Certificate**" means a certificate in the form of Appendix AA.

"**Ready for Start-Up Date**" means, with respect to a Stage, the date on which Ready for Start-Up of such Stage occurs: (a) as set forth on a Ready for Start-Up Certificate that has been countersigned by Owner; (b) as determined in accordance with Article 20; or (c) as otherwise agreed by the Parties.

"**Receiving Party**" means any Party that receives Confidential Information hereunder in accordance with Article 14 and is subject to an obligation to hold such Confidential Information confidential pursuant to Article 14.

"**Record As-Built Drawings**" means, with respect to a Stage, final, record As-Built Drawings the Stage, as required under Attachment A-1 to Appendix A and Appendix U.

"**Recovery Plan**" has the meaning set forth in Section 4.4.2.

"**Region**" has the meaning set forth in Section 2.7.10.

"**Release**" means the release, "threatened release" (as contemplated by the Comprehensive Environmental Response, Compensation, and Liabilities Act - CERCLA) discharge, deposit, injection, dumping, spilling, leaking or placing of any solid or Hazardous Material into the environment so that such solid or Hazardous Material or any constituent thereof may enter the environment, or be emitted into the air or discharged into any waters, including ground waters under Applicable Laws.

"**Request for Arbitration**" has the meaning set forth in Section 20.4.1.

"**Required Plan Provisions**" means the provisions in each Plan that have been identified therein as those provisions that Contractor shall not change, adjust, alter, modify or amend without Owner's prior written approval.

"**Sabine Neches Waterway**" means that deep water navigable waterway, located in southeast Texas and Calcasieu Parish, Louisiana and including parts of the Neches River, Sabine River, Sabine Lake, and Taylor Bayou, administered by the Sabine Neches Navigation District.

"**Scope of Work**" means the description of the Work to be performed as set forth in Appendix A, and as modified from time to time by Change Orders or executed amendments to this Agreement.

"**Scope Option**" shall mean each option for additional Work as described in Appendix C, and as more particularly described in the related attachments to Appendix C as specified therein.

"**Section C Clarifications**" means those clarifications to the Existing Air Permit set forth in Section C of Appendix J-3.

"**Section D Clarifications**" means those clarifications to the Draft New Air Permit application set forth in Section D of Appendix J-3.

"**Section E Clarifications**" means those clarifications to the Draft New Air Permit set forth in Section E of Appendix J-3.

"**Site**" means those areas where the LNG Facility will be located and where Contractor may perform Work, including for use as laydown areas, as shown in greater detail in Appendix L.

"**Site Conditions**" means the physical and other conditions at the Site and the surrounding area as a whole, including the Sabine Neches Waterway, and including conditions relating to the environment, transportation, access, waste disposal, handling and storage of materials, the availability and quality of electric power, the availability and quality of water, the availability and quality of roads, the availability and quality of labor personnel and local work and labor rules, climatic conditions and seasons, topography, air and water quality conditions, raw water conditions, ground surface conditions, surface soil conditions, sound attenuation, subsurface geology, nature and quantity of surface and subsurface materials that are encountered (including, without limiting Contractor's rights with respect to Unforeseen Excused Site Conditions, Hazardous Materials, and the subsurface conditions of the Sabine Neches Waterway and the nature and quantity of subsurface materials that may be encountered during the performance of the Work, including during dredging and construction of the marine berths and material offloading facility that are part of the Work or in connection with any temporary docks that Contractor otherwise utilizes during performance of the Work), the geological and subsurface conditions of the Site, all other local and other conditions which may be material to

Contractor's performance of its obligations under this Agreement, and the location of underground utilities, equipment and facilities.

"**Specifications**" means those documents consisting of the written requirements and philosophies for Equipment, standards and workmanship for the Work and performance of related services as referenced in Attachment B-1 to Appendix B, or to be developed by Contractor as part of the Work in accordance with Attachment A-1 to Appendix A, and included in Attachment B-1 to Appendix B, as may be updated from time to time by agreement of the Parties.

"**Stage**" means any or both of Stage I or Stage II, as the context requires.

"**Stage I**" means the first phase of the Work to be designed, procured and constructed and to achieve Substantial Completion under this Agreement (or, before it achieves Substantial Completion, the first such phase of the Work scheduled to achieve Substantial Completion according to the Project Schedule), and includes a Natural Gas liquefaction unit, a comparably-sized Natural Gas pretreatment unit and the Common Facilities, all as further set forth in this Agreement.

"**Stage I Delay Liquidated Damages**" has the meaning set forth in Section 4.3.1(a).

"**Stage II**" means the second phase of the Work to be designed, procured and constructed and to achieve Substantial Completion under this Agreement (or, before it achieves Substantial Completion, the second such phase of Work scheduled to achieve Substantial Completion according to the Project Schedule), and includes a Natural Gas liquefaction unit and a comparably-sized Natural Gas pretreatment unit, all as further set forth in this Agreement.

"**Stage II Delay Liquidated Damages**" has the meaning set forth in Section 4.3.1(b).

"**Standard & Poor's**" means Standard & Poor's Corporation or any successor rating agency thereof.

"**Standard Conditions for LNG**" means a pressure base of fourteen point six nine six (14.696) psia at a base temperature of sixty degrees Fahrenheit (60ºF) under ideal gas conditions.

"**Standard Conditions for Natural Gas**" means a pressure base of fourteen point seven three (14.73) psia at a base temperature of sixty degrees Fahrenheit (60ºF) under real gas conditions.

"**Structural Works Defect**" means, for the purpose of the extended Warranty Period as described in Section 10.4, any Defect in the engineering, procurement or construction of the LNG Facility, or components thereof, relating to the structural capacity, integrity or suitability of any load-bearing Equipment, buildings, structures, roads, jetties, Berths, or other foundations or underlying civil work for any portion of the LNG Facility that are part of the Work which: (a) materially and adversely affects the structural integrity of all or a part of any load bearing structures; or (b) results in the partial or total collapse of any portion of the LNG Facility.

"**Subcontract**" means any subcontract (including any Purchase Order) of any tier entered into between Contractor and a Subcontractor, or a Subcontractor and a Subcontractor.

"**Subcontractor**" means any Person (including any Licensor) engaged by Contractor, or any of Contractor's Suppliers of any tier, to perform any of the Work or to whom Contractor otherwise delegates performance of any of the Work, but excluding Vendors.

"**Substantial Completion**" means, with respect to a Stage, that the following conditions have been satisfied with respect to the applicable Stage:

(a) Mechanical Completion and Ready for Start-Up of all of the Systems within such Stage shall have occurred and the requirements of Sections 9.9.2(a), 9.9.2(b) and 9.9.2(e) shall have been satisfied;

(b) all of the Work for such Stage shall have been completed without Defects, except for Punch List D Items included on the Punch List as accepted by Owner in accordance with Section 9.9.1, and with respect to the Noise Guarantee, Contractor's obligations under Section 9.10.3;

(c) each Performance Test of such Stage shall have been Successfully Run during the last attempt of that Performance Test commenced by Contractor, including any Performance Tests required under Section 9.7.4(b), and all temporary filters, fine mesh strainers, piping systems, blinds and screens and other items temporarily installed to facilitate commissioning or start-up of such Stage shall have been removed and such Stage shall have been returned to full operation;

(d) Contractor shall have Successfully Run the Performance Test to demonstrate that such Stage satisfies the Noise Guarantee, and such Stage shall satisfy the Noise Guarantee or, if the Performance Test fails to demonstrate that such Stage satisfies the Noise Guarantee, Contractor, using Contractor's Noise Model, shall demonstrate to Owner that such Stage satisfies the Noise Guarantee;

(e) such Stage shall satisfy the Emissions Guarantees and either: (i) such Stage shall satisfy all of the Guaranteed Performance Levels applicable to such Stage in accordance with Appendix G; or (ii) (A) such Stage shall satisfy at least the Minimum Performance Standard with respect to all Guaranteed Performance Levels for which such Stage has not achieved the Guaranteed Performance Levels; and (B) Contractor shall have posted a Letter of Credit in an amount, or increased the existing Letter of Credit by an amount, covering all applicable Performance Liquidated Damages in accordance with Section 9.10.1;

(f) with respect to Stage II only, Contractor shall have demonstrated by appropriate surveys or other means reasonably acceptable to Owner, that the berm height, and the depth of the underwater material offloading facilities and Berth and jetty, as applicable, meets the requirements of the Basis of Design;

(g) Contractor shall have paid all Delay Liquidated Damages that have accrued in accordance with this Agreement;

(h) special tools and other items to be provided by Contractor under this Agreement that are necessary for the operation of such Stage shall have been turned over to Owner;

(i) a complete set of As-Built Drawings for such Stage in the form and format and as otherwise required pursuant to Attachment A-1 to Appendix A and Appendix U shall have been turned-over to Owner, except for modifications to those As-Built Drawings required to reflect Punch List D Items to be completed after Substantial Completion;

(j) the final Fixed Asset Schedule completed with respect to such Stage shall have been delivered to Owner in accordance with Section 7.6;

(k) the Operating Personnel have completed all aspects of the training program as described in Appendix P, and records verifying the completion of the training program and testing of such Operating Personnel in accordance with Section 2.16.2 shall have been delivered to Owner;

(l) a first fill of all applicable consumables for the Equipment that is part of such Stage shall have been provided, together with refills of applicable consumables for such Equipment as necessary to meet requirements of the applicable Suppliers of the Equipment;

(m) Contractor shall have obtained the release of all Liens relating to the LNG Facility that have been recorded as of such date in accordance with Section 2.9, and Interim Lien and Claim Waivers, Interim Unconditional Lien and Claim Waivers, Final Lien and Claim Waivers and Final Unconditional Lien and Claim Waivers, as applicable, shall have been delivered by Contractor and all Major Suppliers in accordance with Section 6.3.5;

(n) Owner shall have received the operating spare parts as required under Section 2.14.2 and the Capital Spare Parts as required under Section 2.14.3;

(o) Owner shall have received the O&M Manuals, as redlined, prepared by Contractor or a Vendor, as applicable, as required to be delivered to Owner on or before Substantial Completion of such Stage pursuant to Appendix U;

(p) Owner shall have received from Contractor each Contractor Permit, if any, that is required to be obtained by Contractor that is necessary for Owner to operate the LNG Facility with respect to such Stage in accordance with all Applicable Laws, and such Permits shall be in Owner's name or shall have been assigned to Owner, in accordance with Applicable Laws; and

(q) Contractor shall have delivered a copy of the assignment of the Liquefaction Technology License and the License with BASF, SE with respect to such Stage, signed by the respective Licensor and Contractor, to Owner (and Owner's designees), Owner

(and its designees) shall hold such Licenses in their respective names, and the Licenses shall be in full force and effect.

"**Substantial Completion Certificate**" means a certificate substantially in the form of Appendix BB.

"**Substantial Completion Date**" means, with respect to a Stage, the date on which Substantial Completion of such Stage occurs: (a) as set forth on a Substantial Completion Certificate that has been countersigned by Owner; (b) as determined in accordance with Article 20; (c) the date on which Owner declares Substantial Completion has occurred in accordance with Section 11.2.3; or (d) as otherwise agreed by the Parties; provided, however, that, subject to Contractor's rights under Article 20, for purposes of Sections 10.1.3 and 11.3, the Substantial Completion Date of a Stage shall be deemed to have occurred on the date on which Owner countersigns the Substantial Completion Certificate for such Stage, notwithstanding the date of Substantial Completion set forth in such certificate.

"**Successfully Run**" means:

(a) that the Performance Test was completed in accordance with the conditions and requirements for the proper performance of such Performance Test set forth in Appendix G, the Performance Test Procedures, and the other provisions of this Agreement applicable to such Performance Test; and

(b) the requirements of Section 9.9.2(d) have been satisfied.

"**Supplier**" means any Subcontractor or Vendor.

"**Supply Contract**" means any Subcontract or Purchase Order.

"**Suspension Notice**" has the meaning set forth in Section 19.4.2(a).

"**SWSA**" has the meaning set forth in the Recitals.

"**System**" means a part of the LNG Facility that is encompassed in specific boundaries as defined on P&IDs or other Drawings to distinguish it from the LNG Facility as a whole, as determined in accordance with Section 9.1.2.

"**Target Substantial Completion Date**" means with respect to each Stage, the date on which Contractor is scheduled to achieve Substantial Completion of such Stage, as shown on the CPM Schedule as the "Target Substantial Completion Date". [***].

"**Taxes**" means:

(a) income tax, gross receipts tax, profits tax, employment tax, unemployment tax, withholding tax, social security tax, contractor tax, sales tax, property tax, consumption tax, value added tax, use tax, excise tax, turnover tax, capital tax, occupational tax, works tax, import

tax, export tax, license tax, personnel tax, services tax and any and all other taxes (including taxes measured by wages earned by employees of Contractor or any Supplier); and

(b) import and export taxes other than Customs Duties, Customs Duties, port charges or taxes on barge deliveries (or similar maritime transport deliveries via water vessel), fees and contributions payable to any Governmental Authority on any item or service that is part of the Work or the LNG Facility,

in each of case (a) or (b) whether such tax, duty, fee or contribution is normally included in the price of such item or service or is normally stated separately, together with any and all penalties, interest and additions thereto.

"**Tax Abatements**" mean, collectively, the following (as each may be extended or amended from time to time): (a) that certain Abatement Agreement for Property Located in the Reinvestment Zone entered into among Jefferson County, Owner and the Common Facilities Owner pursuant to Section 312.401 of the Texas Tax Code, dated March 25, 2019; (b) that certain Abatement Agreement for Property Located in the Reinvestment Zone entered into among Sabine Pass Port Authority, Owner and the Common Facilities Owner pursuant to Section 312.401 of the Texas Tax Code, dated April 3, 2019; (c) that certain Abatement Agreement for Property Located in the Reinvestment Zone entered into among Sabine Neches Navigation District, Owner and the Common Facilities Owner pursuant to Section 312.401 of the Texas Tax Code, dated August 13, 2019; (d) that certain Industrial District Agreement entered among the City of Port Arthur, Owner and the Common Facilities Owner dated June 4, 2019; (e) the First Source Referral Agreement; and (f) the 313 Agreement.

"**TCEQ**" means the Texas Commission on Environmental Quality Air Quality Division.

"**Technical Licensor Information**" means the data and information provided by a Licensor with respect to the Technology provided by such Licensee.

"**Technology**" means the technology covered by each License, respectively.

"**Termination Notice**" has the meaning set forth in Section 19.4.2(b).

"**Texas Sales and Use Taxes**" means all sales and use taxes imposed by the State of Texas, its counties or political subdivisions.

"**Third Party Claim**" has the meaning set forth in Section 15.5.1.

"**Third Party Proprietary Work Product**" has the meaning set forth in Section 12.3.

"**Three Week Look-Ahead Schedule**" has the meaning set forth in Appendix S.

[***].

"**Train 1 First Production Window**" has the meaning set forth in Section 9.5.1(a).

"**Train 1 Second Production Window**" has the meaning set forth in Section 9.5.1(b).

"**Train 1 Third Production Window**" has the meaning set forth in Section 9.5.1(c).

"**Tribunal**" has the meaning set forth in Section 20.4.2.

"**TWIC Card**" has the meaning set forth in Section 2.18.6(c).

"**Unforeseen Excused Site Condition**" means an Archaeological Find or Pre-Existing Hazardous Materials discovered on the Site after the Effective Date, or subsurface man-made objects not identified in the Owner-Furnished Information or the Geotechnical Reports.

"**Unusually Severe Weather**" means: (a) tornadoes (as identified in the Storm Events Database maintained by the National Oceanic and Atmospheric Administration's National Centers for Environmental Information); (b) Named Windstorms or catastrophic flooding that shut down access to the Site or directly impact the Site or other locations, if any, where fabrication Work is being performed; or (c) any other weather event for which local officials call for mandatory public evacuations at the Site.

"**U.S.**" means the United States of America.

"**Vendors**" means the suppliers of any tier of Contractor-Furnished Items, as applicable, pursuant to a Purchase Order, that do not perform a significant component of any of the Work that they are performing at the Site.

"**Warranty Manager**" means the Person who has been designated by Contractor in a written notice to Owner to serve as Contractor's Warranty Manager for the purposes of Section 10.3.3.

"**Warranty Period**" has the meaning set forth in Section 10.1.3.

"**Warranty Work**" means the Work performed during any Warranty Period pursuant to Article 10.

"**Week**" means a seven (7) Day period beginning on a Sunday and ending at the end of the immediately following Saturday.

"**Weekly Status Reports**" has the meaning set forth in Section 2.22.1(c).

"**Work**" has the meaning set forth in Section 2.1.1.

"**Work Product**" has the meaning set forth in Section 12.1.1.

1.3 Acronyms, Terms and Symbols. Certain acronyms, terms and symbols used in this Agreement are defined in Appendix K.

1.4 Interpretation.

1.4.1 Precedence. The provisions of this Agreement, including the Appendices, shall be construed as consistent rather than conflicting to the extent possible. In the event of an irresolvable conflict between the main body of this Agreement or any Appendix and a provision contained within the main body of this Agreement or another Appendix, the following order of precedence shall govern (multiple items in a priority shall have equal order of precedence):

(a) the main body of this Agreement;

(b) Appendices C (and all Attachments thereto), D (and all Attachments thereto), E-1, E-2, KK, NN (and all Attachments thereto) and YY (and all Attachments thereto);

(c) Appendix G;

(d) Appendix B;

(e) Appendix A (and all Attachments thereto);

(f) Appendices J-1, J-2, J-3, MM and TT;

(g) Appendices I (and all Attachments thereto), Q, S (and all Attachments thereto), U (and all Attachments thereto), VV and WW;

(h) Appendices F-1, F-2, F-3, L (and all Attachments thereto), M, N, T-1, T-2, V-1, V-2, W, X, Y, Z, AA, BB, CC, DD, EE-1, EE-2, FF-1, FF-2, GG-1, GG-2, HH-1, HH-2, OO-1, OO-2, PP, SS, UU and ZZ;

(i) Appendices H, II, JJ, LL and QQ;

(j) Appendices P, Q, R, RR; and

(k) Appendix K.

1.4.2 Precedence of Technical Documents. The order of precedence governing the Deliverables and other technical documentation shall be:

(a) Permits

(b) Project Specifications

(c) Project Data Sheets and Drawings

(d) Purchase Orders

In the event of a conflict between any part of the Agreement and any Technical Document, or among any of the Technical Documents, Contractor shall notify Owner of such

conflict using a written request for information and the Parties shall meet to resolve the conflict. If any ambiguities, discrepancies or inconsistencies are identified among any of the Appendices, the Technical Documents or any of the attachments thereto, that cannot be resolved pursuant to the order of precedence set forth in this Section 1.4, then the more specific obligation that is consistent with the order of precedence set forth in this Section 1.4 shall control.

1.4.3 Headings and Subheadings. All headings and subheadings are for reference only and shall not be used to construe any provision of this Agreement.

1.4.4 Undefined Terms. If a term is used in this Agreement but it is not defined herein, such term should be ascribed: (a) its meaning as used in the international LNG industry, if there is a generally accepted usage in that industry; and (b) otherwise, it's generally accepted English language meaning.

1.4.5 References to Lenders, Lenders' Agent and Independent Engineer. This Agreement shall be construed so as to allow the Lenders, the Lenders' Agent and any Independent Engineer access to all aspects of the Work and Confidential Information (not including Contractor's financial information, pricing information or proprietary cost data; provided that the foregoing shall not limit the rights of such Persons to access the Contract Price or any pricing information contained in any Change Order Request or Change Order) that Owner has the right to witness, inspect, observe, access or review hereunder. Subject to Section 23.9 and the rights of the Lenders, the Lenders' Agent and the Independent Engineer pursuant to the Direct Agreements and any similar agreement to be entered into by Contractor directly with Lenders or Lenders' Agent, and Owner in accordance with Section 2.29, the provisions in this Agreement that permit the Lenders, the Lenders' Agent and the Independent Engineer access to the Site and any other location where the Work is performed, and, among other things, to witness tests, attend meetings, receive reports and be present during testing and inspections of the Work wherever such inspections or tests take place, shall not be deemed or construed to impose an obligation on Contractor to delay any Work, including any inspections or tests, or to grant any of the Lenders, the Lenders' Agent or the Independent Engineer the right to make any decision with respect to the Work on behalf of Owner. Contractor acknowledges that the Lenders may appoint more than one Independent Engineer and that references to "Independent Engineer" throughout this Agreement are understood to mean more than one.

1.4.6 Other Principles of Interpretation. Unless the context requires otherwise: (a) the gender (or lack of gender) of all words used in this Agreement includes the masculine, feminine, and neuter; (b) words used or defined in the singular include the plural and vice versa; (c) references to the Preamble, any Recitals, Articles and Sections refer to the Preamble, Recitals, Articles and Sections of this Agreement, as same may be amended from time to time pursuant to an amendment entered into in accordance with the terms hereof; (d) references to Applicable Laws or any Applicable Codes and Standards refer to such Applicable Laws or Applicable Codes and Standards as may be amended from time to time and, with respect to Applicable Laws, all rules and regulations promulgated thereunder, and references to particular provisions of Applicable Laws or Applicable Codes and Standards include any corresponding provisions of any succeeding Applicable Laws or Applicable Codes and Standards;

(e) references to any other agreement are to that agreement as amended or supplemented from time to time; (f) references to "include", "includes" and "including" means include, includes or including without limitation to the matters described; (g) terms defined in this Agreement are used throughout this Agreement and in any Appendices hereto as so defined; (h) "shall" and "will" have equal force and effect; (i) the reservation of a right by a Party herein in any correspondence or other communication between the Parties shall not constitute a denial of any Claim made or position taken by the other Party; (j) unless expressly provided to the contrary, references in this Agreement containing terms such as "hereof", "herein", "hereto", "hereby", "hereinafter", and other terms of like import are not limited in applicability to the specific provision within which such references are set forth but instead refer to this Agreement taken as a whole; and (k) except to the extent expressly stated otherwise in this Agreement, Owner's right to review, inspect and comment on the Work shall not require Contractor to delay the Work beyond the period allowed for review, inspection and comment.

ARTICLE 2

CONTRACTOR'S RESPONSIBILITIES

2.1 Work.

2.1.1 General. Contractor shall, in consideration of the Contract Price payable in accordance with this Agreement, provide or perform the Work, or cause the Work to be provided or performed, in accordance with the terms of this Agreement. The "**Work**" means all of the work, duties, responsibilities, jobs, services, engineering, design, procurement services and other activities previously performed or provided by or on behalf of Contractor under the EDSA or the SWSA, and all obligations, work, duties, responsibilities, jobs, services, goods, Equipment, Deliverables, engineering, and activities to be performed or provided by, or on behalf of, Contractor under this Agreement, without regard to whether the Work is performed under a LNTP or after issuance of the Full Notice to Proceed, as follows:

(a) the further development and completion of the engineering and design of the LNG Facility, including the preparation of all Drawings and Specifications in accordance with the engineering and design as reflected in the Scope of Work and Basis of Design, as approved by Owner pursuant to the EDSA;

(b) the complete fabrication and construction of the LNG Facility, all erection and installation of Equipment, and all commissioning, start-up (including calibration, inspection, and start-up operation) and testing included in or required for the LNG Facility;

(c) the interconnection of the LNG Facility with applicable Pipelines and permanent utilities, including interconnections with any new or upgraded facilities to be constructed by Entergy;

(d) all construction activities and services necessary to fully construct the LNG Facility, including construction utilities and necessary preparation of the Site (and any other location where any part of the Work is performed), including soil stabilization of the Site,

Site preparation, including design and construction of suitable drainage systems during construction, construction of a pioneer construction dock and a permanent materials offloading facilities dock (which Contractor may use during construction), construction of a heavy haul road, excavation and grading and proper disposal of all excavated materials and furnishing of fill materials if and as required in connection with performance of the Work;

(e) procurement and supply of all supplies, materials, goods, consumables, tools, temporary facilities, including offices and warehouses, vehicles, equipment and machinery, for incorporation into the LNG Facility, or necessary to conduct the Work but which do not form a permanent part of the LNG Facility;

(f) supply of all work forces, including all skilled and unskilled labor, supervisory, quality assurance and support service personnel required to perform the Work, other than the Operating Personnel to be furnished pursuant to Section 3.6 for use in Contractor's pre-commissioning, commissioning, testing and start-up efforts, and the training of Operating Personnel;

(g) all activities and services necessary to permit the receipt at the tie-in points as described in the EPC Interface Management Plan as set forth in Appendix W, including the Drawings referenced therein, with respect to Fuel Gas, Feed Gas and utilities for the Work;

(h) procurement, rental or lease of any lay-down areas, easements, access rights or other real estate necessary or desirable for Contractor to perform its obligations hereunder that Contractor determines it requires in addition to the Site; and

(i) all activities, services and items specifically described in, or reasonably inferable from, Appendix A, Appendix B or elsewhere in this Agreement;

in each case in accordance with the requirements of this Agreement, including the Project Schedule and the Project Execution Plan, and whether or not such activities, services or items are specifically identified in Appendix A or the other portions of this Agreement, such that the LNG Facility is fully functional and capable of being operated in accordance with Applicable Laws, GECP and the terms of this Agreement, but in any case excluding the items and activities that Owner is expressly required to provide under Article 3.

2.1.2 Simultaneous Operation Requirement. Without limiting the foregoing, Contractor shall perform the Work such that the LNG Facility and the Equipment satisfy the applicable provisions of the Scope of Work and Basis of Design, including designing, procuring and constructing the Common Facilities such that all LNG Trains installed in the LNG Facility may be operated simultaneously and independently at the design conditions set forth in this Agreement.

2.2 Independent Contractor. In the performance of this Agreement, Contractor is an independent contractor and none of Contractor, Suppliers or their employees or Invitees are agents, employees or Invitees of Owner. The entire performance, operation, management and

direction of the Work and, except to the extent this Agreement expressly provides otherwise (including pursuant to Sections 2.6 and 2.7), all staffing, Supplier selection, means, methods, techniques, sequencing and procedures for coordinating all portions of the Work shall be under the exclusive control, command and direction of Contractor; nonetheless, Contractor shall comply with all provisions, terms and conditions of this Agreement, including the Specifications and Plans, and the fact that Contractor is an independent contractor shall not relieve it from its responsibility to fully, completely and safely perform and deliver the Work and cause the Suppliers and its and their respective personnel to safely perform and deliver the Work in compliance with this Agreement. Contractor shall be solely responsible for the payment of labor employed or hired by Contractor, whether on contract or other status, including all social benefits, compensation, termination payments, and all benefits of whatever description required by Contractor's employment policies or practices.

2.3 Performance Standards and Compliance with Applicable Laws. Contractor shall perform the Work in accordance with: (a) all Applicable Laws; (b) the terms of this Agreement; (c) the plans and policies established pursuant to Sections 2.18 and 2.20; and (d) GECP (except to the extent such Good Engineering and Construction Practices are in conflict with any of clauses (a), (b) or (c), in which case such clause (a), (b) or (c) shall prevail).

2.4 Contractor's Acknowledgements.

2.4.1 Site. Prior to the Effective Date, Contractor has inspected the Site and reviewed the Geotechnical Reports, and acknowledges and agrees that it:

(a) has assessed all Site Conditions at and around the Site that will affect Contractor's conduct of the Work thereupon, including natural and man-made conditions;

(b) has satisfied itself that the Site is sufficient for Contractor to engineer, procure, construct, pre-commission, commission, start-up, test and operate the LNG Facility for the Contract Price, in accordance with GECP and the requirements of this Agreement, including Applicable Laws, the Emissions Guarantee, the Noise Guarantee and the Guaranteed Performance Levels (subject to Section 9.10), and so as to achieve Substantial Completion of each Stage by the applicable Guaranteed Substantial Completion Date, including, without limiting the generality of the foregoing, that:

(i) the size, shape, location and condition of the Site are adequate for Contractor's performance of the Work;

(ii) the Site includes additional space that is adequate for Contractor's temporary office, including temporary offices of Owner (in accordance with Section 2.5.3(c)), warehouse, craft change rooms and shop buildings, storage of Equipment, employee parking and other Work lay-down and staging purposes;

(iii) there is sufficient access to the Site to transport personnel and all necessary Equipment and Construction Equipment; and

(iv) sufficient labor force (both in quantity and quality) and professional services will be available for Contractor's performance of the Work in accordance with the requirements of this Agreement;

(c) is solely responsible for design and construction of suitable drainage systems during performance of the Work on the Site to avoid flooding at the Site which could interrupt the construction activities and cause damage to the Equipment, including piping and other material, stored or installed at the Site, and including proper Site preparation construction planning to minimize water entrapment, ponding, and flooding in some areas which could interrupt the construction activities, or damage stored Equipment;

(d) subject to Contractor's rights and obligations pursuant to Section 8.3.1(s) and Section 8.3.1(t), as applicable, and Article 18 should a COVID-19 Event occur, [***], including any additional outbreaks of COVID-19 or any other worsening of the COVID-19 pandemic, wherever the same may occur; and

(e) Accordingly, with the exception of Unforeseen Excused Site Conditions or events of Force Majeure that impact the Site (or the area around the Site), and subject to Contractor's rights and obligations pursuant to Section 8.3.1(e) and Article 18 for Owner's failure to satisfy the requirements of Section 3.5 regarding the condition of the Site as of the FNTP Date, Contractor hereby agrees that it shall have no right to claim or seek an increase in the Contract Price or an adjustment to the Key Date Schedule with respect to physical conditions at or around the Site, including the Site Conditions, and hereby waives and releases Owner from and against such claims. Contractor affirms that it has the skills and experience necessary to review and assess the Site, the Site Conditions and the Site in light of the different aspects of the Work. OWNER MAKES NO GUARANTY OR WARRANTY, EXPRESS OR IMPLIED, AS TO THE SITE. CONTRACTOR EXPRESSLY ACKNOWLEDGES AND AGREES THAT THE INFORMATION SET FORTH IN THE BASIS OF DESIGN WITH RESPECT TO THE SITE IS PROVIDED FOR PURPOSES OF THE DESIGN AND ENGINEERING OF THE LIQUEFACTION PROJECT, AND IN NO WAY CONSTITUTES A REPRESENTATION, WARRANTY OR GUARANTY AS TO CONDITIONS THAT CONTRACTOR MAY ENCOUNTER DURING THE PERFORMANCE OF THE WORK. THIS SECTION 2.4 SHALL NOT LIMIT CONTRACTOR'S RIGHTS TO MAKE CLAIMS FOR RELIEF UNDER SECTION 8.3 AND ARTICLE 18 IN CONNECTION WITH UNFORESEEN EXCUSED SITE CONDITIONS, OR OTHER EXCUSABLE EVENTS OR EVENTS OF FORCE MAJEURE THAT OCCUR DURING THE PERFORMANCE OF THE WORK.

2.4.2 Owner-Furnished Information. CONTRACTOR ACKNOWLEDGES, AND SHALL CAUSE ITS SUPPLIERS TO AGREE, THAT: (a) WITHOUT LIMITING WHAT CONSTITUTES AN OWNER-CAUSED DELAY, OWNER MAKES NO WARRANTIES, EXPRESS OR IMPLIED, TO CONTRACTOR OR SUCH SUPPLIER OR ANY OTHER PERSON, AS TO THE ACCURACY, SUFFICIENCY OR CONTENT OF THE OWNER-FURNISHED INFORMATION OR THE OPINIONS THEREIN CONTAINED OR EXPRESSED, INCLUDING ANY IMPLIED WARRANTY OF MERCHANTABILITY OR

FITNESS FOR A PARTICULAR PURPOSE; AND (b) NEITHER CONTRACTOR, THE SUPPLIERS NOR ANY OTHER PERSON MAY RELY ON THE OWNER-FURNISHED INFORMATION, AND THAT NONE OF SUCH PERSONS SHALL HAVE A CLAIM AGAINST OWNER WITH RESPECT TO THE OWNER-FURNISHED INFORMATION, EXCEPT FOR SUCH INFORMATION THAT HAS BEEN SPECIFICALLY DESIGNATED AS NON-VERIFIED INFORMATION IN APPENDIX N. NOTWITHSTANDING ANYTHING TO THE CONTRARY HEREIN, CONTRACTOR SHALL NOT BE REQUIRED TO VERIFY OR BE DEEMED TO HAVE VERIFIED ANY OF THE NON-VERIFIED INFORMATION.

2.4.3 Scope of Work and Basis of Design. Contractor has drafted and prepared the Scope of Work and Basis of Design with care and hereby acknowledges and agrees that, the attached Scope of Work and the Basis of Design in Appendix A and Appendix B and all documents referenced therein and attachments thereto, are accurate, adequate and complete for Contractor to conduct the Work for the Contract Price, by the Guaranteed Substantial Completion Date for each Stage set forth in the Baseline CPM Schedule, and in accordance with GECP and all requirements of this Agreement, including Applicable Laws, and subject to Section 9.10, the Emission Guarantee, the Noise Guarantee, and the Guaranteed Performance Levels. Notwithstanding anything to the contrary herein, Contractor has not verified and shall not verify the Non-Verified Information.

2.4.4 Incorporation of the EDSA and SWSA Work. Contractor acknowledges and agrees that upon Owner's issuance of the Full Notice to Proceed hereunder, or if issued the issuance of the LNTP, all of the work, duties, responsibilities, jobs, services, engineering, design, procurement services and other activities previously performed or provided by or on behalf of Contractor under the EDSA or the SWSA shall be part of the Work for all purposes of this Agreement, and that therefore Contractor is fully responsible under this Agreement for all such work, duties, responsibilities, jobs, services and other activities performed under the EDSA or the SWSA as if it had been performed under this Agreement. Notwithstanding the foregoing, until earlier of the date of issuance of the LNTP (if issued) or the FNTP Date, any work, duties, responsibilities, jobs, services, engineering, design, procurement services and other activities performed or provided by or on behalf of Contractor under the EDSA or the SWSA shall be governed by the terms of the EDSA or the SWSA, as applicable.

2.4.5 Applicable Laws and GECP. Contractor acknowledges and agrees that, subject to Contractor's rights in connection with a Change in Law, it can conduct the Work for the Contract Price, in accordance with the Project Execution Plan and by the Guaranteed Substantial Completion Date for each Stage, and in accordance with GECP and all requirements of this Agreement, including Applicable Laws, the Emissions Guarantee, the Noise Guarantee and the Guaranteed Performance Levels (subject to Section 9.10). Without limiting Contractor's rights under Section 8.3, Contractor shall perform the Work using GECP and in accordance with Applicable Laws, whether or not such Applicable Laws or GECP came into effect before or after the Effective Date or during the performance of the Work.

2.4.6 Plans; Required Plan Provisions. Contractor shall perform the Work in accordance with the Project Execution Plan and the other Plans as described herein. Contractor may update the Project Execution Plan and the other Plans from time to time to reflect updates or modifications or amendments or other changes that Contractor determines are desirable or necessary in connection with the Work; provided, however, that (a) Contractor shall furnish such updates, modifications, amendments or other changes to Owner clearly showing the revisions made to such Plan; and (b) Contractor shall not implement any update, modification, amendment or other change to the Required Plan Provisions of any Plan without Owner's prior written approval, not to be unreasonably withheld or delayed. Within fifteen (15) Business Days after Owner receives any proposed updates, modifications, amendments or other changes to any Required Plan Provisions, Owner shall accept or reject and provide any comments to such updates, modifications, amendments or other changes to the Required Plan Provisions. Contractor shall promptly respond to Owner's comments to any proposed updated, modified, amended or otherwise changed Required Plan Provisions, and resubmit such updates, modifications, amendments or other changes to Owner for acceptance. If Owner provides comments to any other provisions of the updated, modified, amended or changed Plan that are not Required Plan Provisions, Contractor shall consider such comments in good faith. Owner's review of and any comments provided to the Plans and the Required Plan Provisions pursuant to this Section 2.4.6 shall not in any way relieve Contractor of its responsibility regarding the execution of the Work and the performance of Contractor's obligations hereunder. For purpose of clarity, if a Plan is also an Appendix (other than with respect to Appendices Q, R and W), then Contractor may not modify the terms and conditions of such Appendix without Owner's consent.

2.5 Appointment of Authorized Representatives; Periodic Meetings; Owner Access.

2.5.1 Contractor Representative. Contractor hereby appoints Walker Kimball to be the Contractor Representative. At all times hereunder, the Contractor Representative shall simultaneously serve as Contractor's Senior Project Manager. The Contractor Representative shall have full authority to act on Contractor's behalf under this Agreement; provided, that Contractor Representative shall not be entitled to amend this Agreement without further written authorization from Contractor. Contractor may from time to time by notice to Owner remove any person from his appointment as Contractor Representative and appoint another person in his or her place with effect from a date to be specified in the notice in accordance with Section 2.6.1. Contractor shall ensure that there is an individual appointed to act as Contractor Representative in accordance with Section 2.5.1 at all times until it has fully performed its warranty obligations as described in Article 10.

2.5.2 Periodic Meetings. Contractor shall hold periodic progress and schedule monitoring meetings as described in Appendix S and as Owner may reasonably request, including meetings in connection with Disputes, Change Order requests or claims made by Suppliers. The Contractor Representative or the individual designated by the Contractor Representative to attend the meeting, the Contractor planning and scheduling representative, and as appropriate or necessary, other Contractor employees and Suppliers, shall attend such meetings. At Owner's election, the meetings may be attended by the Owner Representative or the individual designated by the Owner Representative to attend the meeting, the Owner planning and scheduling representative, representatives of Owner's Engineer, and any equity

participant in Owner or Common Facilities Owner. The meetings may also be attended by any authorized representative or agent of the Lenders, the Independent Engineer and, subject to Contractor's consent, not to be unreasonably withheld or delayed, any other Invitees of Owner (including, where invited by Owner, its customers).

2.5.3 Owner Access. The respective employees, consultants and representatives of Owner, including Owner's Engineer, equity investors in Owner or the Common Facilities Owner, the Other Contractors (subject to Section 2.28), the Independent Engineer and any Lender shall (a) at all times have a right of access to the Site; and (b) have a right of access during normal business hours and upon reasonable advance notice to Contractor, to any Supplier location off of the Site where Work is being conducted, including locations where Equipment is being manufactured or such materials are being prepared for incorporation into the LNG Facility, so that representatives of such Persons, as applicable, may inspect production and observe tests, subject to such Persons complying with the applicable policies and procedures of Contractor (or the applicable Supplier) with respect to safety and security while at such location. Other Persons, including Competitors, invited by Owner shall be provided the access as described in this Section 2.5.3, subject to compliance with such policies and procedures, and upon reasonable advance notice to Contractor.

(a) Contractor shall provide the accommodations in accordance with Section 2.5.3(b). Contractor shall also cause its Major Suppliers to provide reasonable accommodations as are necessary for Owner's representatives to exercise Owner's rights and responsibilities under this Agreement, and to the Independent Engineer and any Lenders, including reasonable temporary work spaces. With respect to Suppliers that are not Major Suppliers, Contractor shall use commercially reasonable efforts to cause such Suppliers to make work space available for one (1) to two (2) individuals upon Owner's reasonable request. If a Supplier requests payment of additional costs to provide such temporary accommodations, Contractor shall notify Owner. If Owner nevertheless requires Contractor to obtain such temporary accommodations for Owner, the additional costs, if any, charged by the Suppliers with respect to such accommodations shall be an Owner cost.

(b) From and after the issuance of the LNTP until the issuance of the Full Notice to Proceed, Contractor shall provide in Contractor's office at 3000 Post Oak Blvd., Houston, Texas, up to thirteen (13) furnished offices and sixty-two (62) furnished cubicles. From and after the issuance of the FNTP until the first anniversary of the FNTP Date, Contractor shall provide at such office up to seventeen (17) furnished offices and seventy four (74) furnished cubicles. From and after the first anniversary of the FNTP Date until the last ISO engineering drawing Rev. 0 is finalized for Stage II, Contractor shall provide at such office, up to thirteen (13) furnished offices and sixty two (62) furnished cubicles. Contractor shall also provide up to nine (9) furnished offices and one (1) furnished cubicle at such office until twelve (12) Months after the last ISO engineering drawing Rev. 0 is finalized for Stage II. In addition to the above, from and after the issuance of the LNTP, or the FNTP, as applicable, until twelve (12) Months after the last ISO engineering drawing Rev. 0 is finalized for Stage II, Contractor shall provide at such office parking spaces, access to kitchen/break area and rest rooms, one (1) dedicated conference room with projection capabilities to accommodate up to twenty (20) people, access to at least one (1) other conference room that will accommodate up to eight (8)

people, telephones for each office, cubicle and conference room and secure paper disposal. Upon Owner's request, Contractor shall provide additional furnished offices and furnished cubicles at a rate of [***] per Month and [***] per Month, respectively. The office space and facilities shall be available for use by Owner's and personnel of Owner's Engineer's and Lender's representatives, as designated by Owner. Contractor shall provide equivalent office space and support for up to five (5) of Owner's and Owner's Engineer's personnel at such other offices or locations of Contractor and its Affiliates described in the Project Execution Plan where the Work will be performed when such personnel are present at those locations. All costs for furnishing such office space and supplies and otherwise complying with the requirements of this Section 2.5.3(b) are included in the Contract Price.

(c) From and after the FNTP Date, Contractor shall provide temporary furnished office facilities at the Site to accommodate up to ninety five (95) of Owner's personnel. Such temporary facilities will include a main temporary office facility sized to accommodate up to sixty (60) individuals, including offices for twenty five (25) individuals, four (4) bull pen offices (each sized to accommodate six (6) individuals), two (2) cubicles for Owner's document management and control and storage, access to kitchen/break area (with dining space for twenty (20) individuals) and rest rooms, and two (2) conference rooms to accommodate up to forty (40) people. The temporary furnished office facilities shall also include three (3) standard double-wide trailers, consisting of two (2) offices, one conference room on each end of the trailer and open cubicle space in between the conference rooms. Contractor shall install electrical distribution lines and T-1 internet line to each temporary office. These temporary facilities shall be available for use by Owner's and personnel of Owner's Engineer's and Lender's representatives, as designated by Owner. Once Owner's administration building is completed and Owner's personnel have moved out of the temporary office facilities, Contractor shall no longer have any obligation to maintain such temporary office facilities but shall provide Owner with sufficient space at the Site so that Owner may install its own temporary office facilities at that location. Contractor will provide all necessary utilities for such temporary office facilities, regardless of whether Contractor or Owner is furnishing the temporary office facilities. Contractor shall also provide two (2) twenty foot (20") Conex storage units for Owner's use near the main Owner's temporary offices, and shall provide parking spaces for Owner vehicles, including twenty five (25) parking spaces located at the main Owner temporary office building that are signed as being reserved for Owner, and additional parking in the parking lot for such temporary office facilities area. The obligation to maintain such temporary office facilities or the space for Owner to locate its own temporary office facilities at the Site, as applicable, as contemplated in this Section 2.5.3 shall continue until Substantial Completion of Stage II.

(d) Contractor shall maintain at the Site and at Contractor's office at 3000 Post Oak Blvd., Houston, Texas 77056, a complete and current collection of all issued for construction (IFC) drawings and related technical documentation prepared in connection with the Work, which shall be available for inspection by Owner, the Independent Engineer and the Lenders.

(e) Owner's inspection or failure to inspect any aspect of the performance of the Work shall not be deemed to constitute acceptance or approval of the Work

or excuse or limit any of Contractor's obligations under this Agreement, including those under Article 10.

2.6 Employees and Key Personnel.

2.6.1 Key Personnel. Appendix H identifies the key personnel from Contractor's organization who will be assigned to the Work ("**Key Personnel**"). Key Personnel shall be devoted to the Liquefaction Project for all of the time which is necessary to perform the Work and in any event during the periods of time specified in Appendix H, with the performance of the Work being a first priority of such Key Personnel. If after the Effective Date and prior to the issuance of a LNTP or the FNTP Owner chooses to not fund the eighteen (18) individuals set forth on Part I of the Ramp-Up LNTP either pursuant to the EDSA or pursuant to a LNTP hereunder, then Contractor may reassign the individuals listed on Appendix H. If Contractor makes any such reassignment, then upon the issuance of the earlier to occur of a LNTP or the FNTP, the Parties shall work together to jointly agree on the identity of replacement Key Personnel in accordance with the provisions of this Section 2.6.1. Upon such agreement in writing of such replacement Key Personnel Appendix H shall be deemed amended to include such individuals without any further act by either Party. Except as set forth above, Contractor shall not remove any of the Key Personnel and if Contractor does so without obtaining Owner's prior written approval and none of the circumstances for resignations, death, illness or disability set forth in the penultimate sentence of this Section 2.6.1 apply, and provided that the FNTP Date has occurred, Contractor shall: (a) pay Owner an amount equal to [***]; and (b) [***]. Except with respect to replacement of the Senior Project Manager, Owner shall have the right to consent to the individual that will replace the removed Key Personnel, which acceptance shall not be unreasonably withheld. All requests for the substitution of Key Personnel shall include an explanation and reason for the request and the resumes of professional education and experience, which shall include a minimum of two (2) candidates of suitable qualifications and experience for any Key Personnel position other than the Senior Project Manager. Should Owner accept the replacement Key Personnel, Contractor shall, to the extent reasonably possible, allow for an overlap of at least two (2) Weeks during which both the Key Personnel to be replaced and the new Key Personnel shall work together. If any Key Personnel resigns or is no longer available to perform the Work due to illness, death or disability, or is terminated and no longer employed or engaged in any capacity by Contractor or its Affiliates, Contractor shall nominate replacements for such Key Personnel within five (5) Business Days. For the avoidance of doubt, acceptance of new Key Personnel shall not constitute approval for removal of such Key Personnel, and the requirements of this Section 2.6.1 shall apply with respect to individuals identified as Key Personnel under all circumstances, including removal or reassignment of individuals under the circumstances as described in Section 2.6.2. WITHOUT OTHERWISE LIMITING OWNER'S RIGHTS UNDER THIS AGREEMENT WITH RESPECT TO CONTRACTOR'S PERFORMANCE OF THE WORK, PAYMENTS MADE BY CONTRACTOR PURSUANT TO THIS SECTION 2.6.1 SHALL BE THE SOLE AND EXCLUSIVE REMEDY OF OWNER AND COMMON FACILITIES OWNER FOR CONTRACTOR'S REMOVAL OF KEY PERSONNEL IN VIOLATION OF THIS SECTION 2.6.1.

2.6.2 All Personnel. Contractor's personnel assigned to perform any of the Work shall be skilled and qualified to perform the work assigned to such Person, and Contractor shall require that its Suppliers assign the Work to personnel that are skilled and qualified to perform the work assigned to such Person. Contractor agrees to promptly remove or reassign (or

to require any Subcontractor to remove or reassign) from its services in connection with the Work any Person performing Work who does not meet the foregoing requirements. In addition, Owner may request that Contractor remove from the Work or the Site any personnel of Contractor or any of its Suppliers (including Key Personnel) who, in the reasonable opinion of Owner are unsafe or incompetent in the performance of his or her duties. In such event, Contractor shall, and shall cause its Suppliers to, immediately upon receipt of such a request, remove such personnel from Owner's property and from performance of the Work or the Site. Such personnel shall not thereafter be allowed on Owner's property, the Site or to perform any of the Work, without the prior written acceptance of Owner. CONTRACTOR HEREBY RELEASES THE OWNER INDEMNIFIED PARTIES FROM AND AGAINST ANY AND ALL CLAIMS, CAUSES OF ACTION, DAMAGES, LOSSES, COST AND EXPENSES (INCLUDING ALL ATTORNEYS' FEES AND LITIGATION EXPENSES) AND LIABILITIES, OF WHATSOEVER KIND OR NATURE, WHICH MAY DIRECTLY OR INDIRECTLY ARISE OR RESULT FROM CONTRACTOR OR ANY SUPPLIER TERMINATING THE EMPLOYMENT OF OR REMOVING FROM THE WORK ANY SUCH PERSON FOLLOWING A REQUEST BY OWNER TO HAVE SUCH PERSON REMOVED FROM THE WORK. Contractor shall promptly replace such discharged Person with a suitably qualified and experienced Person, at Contractor's expense.

2.6.3 Mandatory Briefings. In addition to such meetings as Contractor determines are necessary, Contractor shall, in formal briefings designed by Contractor for such purpose, instruct Contractor personnel, all Subcontractors and their respective personnel that are performing Work at the Site, on the terms and requirements of the Environmental Plan (including the role and authority of environmental inspectors as may be appointed by Owner pursuant to the Environmental Plan), safety and environmental protection policies and procedures for Work at the Site, and the terms and requirements of the Permits and Applicable Laws, and all Contractor personnel shall comply with such policies and procedures, Permits and Applicable Laws.

2.6.4 Videos and Photographs. Contractor and Owner will regularly utilize drones or other means to take aerial photographs or videos of the Site during the performance of the Work. The Parties may also from time to time take other photographs or videos of the Work, the Site using other means. All use of drones and photography shall be in compliance with Applicable Law. To the maximum extent possible under Applicable Law, Contractor shall require each of its employees, and shall require its Subcontractors to require each of their respective employees, to acknowledge and agree that to the extent such employee is present at the Site and is included in any video or photograph taken by Owner or Contractor or their representatives or Invitees of the activities at the Site, such employee grants and releases to Contractor and Owner the right to record or photograph such employee while at the Site and to use and reproduce such recordings or photographs as Owner and Contractor (to the extent permitted under this Agreement) may determine is appropriate in connection with the Work and the Liquefaction Project, including posting such videos and photographs on the internet or other electronic media. Notwithstanding anything to the contrary in the foregoing, any photographs posted by Contractor on the internet or other electronic media shall not be identifiable as related to the Liquefaction Project unless permitted to do so in writing by Owner.

2.7 Supply Contracts and Suppliers.

2.7.1 Suppliers. Owner acknowledges and agrees that Contractor intends to have portions of the Work accomplished by Suppliers pursuant to written Supply Contracts between Contractor and such Suppliers, and that such Suppliers may have certain portions of the Work performed by other Suppliers. The provisions of any Supply Contract shall not relieve Contractor of any obligations to perform the Work or of its responsibility for each Supplier. Contractor shall be fully responsible to Owner for the acts and omissions of all Suppliers and of Persons directly or indirectly used by any of them in the performance of the Work to the same extent that Contractor is responsible to Owner under this Agreement for its own acts or omissions. NO SUPPLIER IS INTENDED TO BE OR SHALL BE DEEMED TO BE A THIRD-PARTY BENEFICIARY OF THIS AGREEMENT.

(a) All Suppliers shall be reputable, qualified firms with an established safety record and a record of successful performance in their respective trades performing identical or substantially similar work. To the extent necessary to perform the Work, Owner agrees that Contractor may allow the Suppliers to access the Site pursuant to the access rights granted to Contractor under this Agreement.

(b) Contractor shall and shall cause all of its Suppliers to comply with the International Labour Organization's conventions regarding forced labor and child labor, including the International Labour Organization Minimum Age Convention and Forced Labour Convention (and any Applicable Laws promulgated under either of these conventions). Forced, bonded (including debt bondage) or indentured labor, involuntary prison labor, slavery or trafficking of individuals shall not be used by Contractor or any of its Suppliers that perform any part of the Work. Child labor as defined by the International Labour Organization shall not be used by Contractor or any Supplier. Compensation paid to Contractor's and its Supplier's personnel shall comply with all Applicable Laws regarding employment and labor, including those relating to minimum wages, overtime hours and legally mandated benefits. Contractor and each of the Suppliers shall maintain a safe and healthy work environment at any location where the Work is performed, in accordance with the International Labour Organization Guidelines on Occupational Safety and Health and all Applicable Laws regarding the safety of the work environment, and shall operate their facilities where the Work is performed in compliance with all local Applicable Laws regarding the environment, health and safety. Without limiting the foregoing, Contractor shall, and shall cause all of its Suppliers that perform any part of the Work in the United States to, comply with all Applicable Laws of the United States with regards to labor and employment when employing labor in connection with the Work. If there is a conflict between any Applicable Laws or any of the other standards or guidelines described in this Section 2.7.1(b), Contractor and the Suppliers shall be required to meet the highest of the performance standards that are in conflict.

(c) Contractor shall, and shall use commercially reasonable efforts to require each Supplier (including CIMTAS, but excluding other Affiliates of Contractor and Suppliers that are only party to General Services Subcontracts with respect to the Work), to permit Contractor to monitor compliance by such Suppliers with the requirements of

Section 2.7.1(b), and to allow Contractor to conduct unannounced audits to verify compliance with the requirements of Section 2.7.1(b) of each such Supplier that performs any part of the Work. Contractor shall perform audits to verify compliance with the requirements of Section 2.7.1(b) of such Suppliers at Owner's reasonable request. With respect to Suppliers performing any part of the Work on the Site, Owner shall also have the right to request Contractor to conduct unannounced audits of such Suppliers to verify compliance with the requirements of Section 2.7.1(b), and Owner and the Lenders' representatives (including the Independent Engineer) may participate in such audit with Contractor. Such monitoring and audit activities may include inspection of facilities, gathering information from such Person's personnel, and reviewing relevant documentation and records.

2.7.2 Award of Supply Contracts for Portions of the Work; Copies of Major Supply Contracts.

(a) Without the prior written consent of Owner:

(i) Neither Contractor nor any of its Affiliates shall enter into Supply Contracts with respect to the portions of the Work identified on Appendix I with any Supplier other than the accepted Suppliers for such Work as identified therein;

(ii) Contractor shall not allow its specified Suppliers for the Scope of Work as described on Attachment I-1 to Appendix I to procure any Equipment listed on Attachment I-1 to Appendix I from any Supplier except from the accepted Suppliers of such Equipment as identified thereon;

(iii) Neither Contractor nor any of its Affiliates shall, and Contractor shall not allow any Supplier that procures any of the Equipment packages identified on Attachment I-2 to Appendix I to, procure any of the Equipment packages listed on Attachment I-2 to Appendix I, or any of the components of such Equipment packages as identified on Attachment I-2 to Appendix I, from any Supplier except the accepted Suppliers of such Equipment as identified in Appendix I; or

(iv) Neither Contractor nor any of its Affiliates shall allow Suppliers to enter into or issue Supply Contracts with or to lower tier Suppliers to a First-Tier Supply Contract that is a Major Supply Contract if the value of the Supply Contracts with such lower tier Suppliers (in the aggregate based on all Supply Contracts with each such lower tier Supplier and its Affiliates) is equal to or exceeds twenty five percent (25%) of the value of such First-Tier Supply Contract; provided, that the prior written consent of Owner shall not be required with respect to a Supply Contract with a lower tier Supplier that is identified as an accepted Supplier on Appendix I for the portion of the Work to be performed pursuant to that lower tier Supply Contract.

Notwithstanding anything to the contrary in the foregoing, the prior written consent of Owner shall not be required with respect to General Services Subcontracts. In determining the value of a First-Tier Supply Contract and any lower tier Supply Contracts for the purposes of this Section 2.7.2, the value of any raw materials or consumables procured under any such Supply

Contracts shall be included in the calculation of the value of such Supply Contracts, and the value of any Supply Contracts that are solely for the supply of raw materials or consumables shall be included when calculating the aggregate value of multiple Supply Contracts with a Supplier and its Affiliates.

(b) Notwithstanding anything to the contrary herein, Contractor shall, provide Owner with drafts of: (i) the Licenses; and (ii) Supply Contracts with Baker Hughes, while Contractor is negotiating the terms and conditions of such Supply Contracts and Licenses with the respective Supplier or Licensor (provided that the actual price and payment terms, and other commercial terms related to liquidated damages provisions, performance security and limits of liability may be redacted from such copies except to the extent such terms are or will be applicable to Owner following assignment of such Supply Contract or License at Substantial Completion). Without limiting the foregoing, Contractor shall not redact any License fees that are or may be owed following Substantial Completion or any payment terms related thereto. With respect to the Licenses and Supply Contracts referenced in this Section 2.7.2(b), Contractor shall provide Owner with a full and complete Fully Functional PDF copy of the proposed final Supply Contract or License, including all attachments, specifications and performance guarantees, redacted only as permitted in this Section 2.7.2(b), of each such Supply Contract or License no less than ten (10) Business Days before Contractor expects to award, issue or sign such Supply Contract or License. Owner shall use commercially reasonable efforts to respond to Contractor as soon as practically possible and in any event within ten (10) Business Days after receiving such copy. Contractor shall not issue, award or sign the Licenses and Supply Contracts referenced in this Section 2.7.2(b) with any such Vendor during such ten (10) Business Day period without Owner's prior written consent. Once signed, Contractor shall not amend the Licenses to adversely affect or limit the Technology License provided thereunder without Owner's prior written consent.

(c) When issuing any requests for quotations or similar documents to potential Suppliers for the procurement of Contractor-Furnished Items or any Equipment that include any seismic requirements, and when issuing any Supply Contracts for the procurement for such items, Contractor shall include only those seismic requirements referenced in the Design Criteria for Structures and Foundations (Document No. PAL-PJT-CIV-DEC-00-X-0002) and Basic Engineering Design Data (Document No. PAL-PJT-PRO-BOD-00-GEN-0002), and shall not include any other conflicting seismic requirements in any such requests for quotation or Supply Contracts.

2.7.3 Terms of Certain Supply Contracts.

(a) Except for (i) Supply Contracts between Contractor and [***]; and (ii) with respect to any other Supply Contracts with a value of less than [***] (as calculated based on the aggregate value of all Supply Contracts to which a Supplier or any of its Affiliates is a party), Contractor shall, and shall cause its Affiliates that enter into First-Tier Supply Contracts to, include the following ((i) through (x) below) in all such First-Tier Supply Contracts, and shall cause its other Suppliers to include the following ((i) through (x) below) in each Supply Contract entered into in connection with the Work by such Supplier; provided that

Contractor shall only be required to use commercially reasonable efforts to include the provisions as stated in subclauses (i), (ii), (iii), (viii) and (ix) of this Section 2.7.3(a):

(i) provisions to preserve and protect the rights of Owner under this Agreement and to the Work to be performed to the extent applicable to such Supply Contract;

(ii) require the Supplier to agree, and to cause its Suppliers of all tiers to agree, to provisions consistent with Section 2.23 and Section 2.24, and require such Supplier to agree, and to cause its Suppliers of all tiers to agree, that Owner may audit, inspect and copy documents and interview personnel, in the presence of Contractor's representatives, to the same extent as Owner may do so as to Contractor under Section 2.23.2;

(iii) require such Supplier to comply with requirements consistent with Section 2.7.10 and Section 2.29;

(iv) require such Supplier to provide lien subordinations and lien releases in accordance with Sections 2.9.1, 6.3.5 and 6.6;

(v) require such Supplier to cooperate with the FTZ requirements in accordance with Section 7.3;

(vi) require such Supplier to agree to suspension and termination rights consistent with Sections 19.1, 19.2 and 19.3;

(vii) require such Supplier to agree to terms consistent with Section 23.13, and to terms consistent with Section 11.1 and Article 12 to the extent applicable to such Supply Contract;

(viii) provide that Owner or any Lender (or its designee) may, by written notice to the other parties thereto but without their consent, take-over such Supply Contract in the event of a termination of this Agreement in accordance with Article 19, and, following any such termination and prior to any such take-over, shall be entitled at their option to step-in and cure a default of Contractor under such Supply Contract;

(ix) include provisions in form and substance similar to those set forth in Section 20.4 (except Section 20.4.5), and require such Supplier to agree to arbitration and consolidation of disputes in accordance with Section 20.7; and

(x) in the case of BASF SE: (A) Owner may by written notice and without consent, take assignment of such License in the event of the termination of this Agreement; and (B) such License shall not terminate notwithstanding any breach or termination of the applicable Master License Agreement between Contractor or its Affiliate and BASF SE, whether such breach occurs before or after assignment of such License to Owner.

In determining the value of any Supply Contract for the purposes of this Section 2.7.3, the value of any raw materials or consumables procured under such Supply Contract shall be

included in the calculation of the value of such Supply Contract, and the value of any Supply Contract with the same Supplier that is solely for the supply of raw materials or consumables, shall be included when calculating the aggregate value of multiple Supply Contracts with a Supplier and its Affiliates.

(b) Contractor shall cause all Supply Contracts (i) between (A) Contractor and any Supplier; or (B) any Affiliate of Contractor and any Supplier (each, a "**First-Tier Supply Contract**"), to include warranties consistent with the warranties provided by Contractor hereunder (to the extent appropriate for the scope of supply) that shall be assignable to Owner in accordance with Section 10.2.1; and (ii) with respect to the Extended Warranty Items, to provide a Warranty Period that meets the requirements of Section 10.2.2.

2.7.4 Supply Contracts with Affiliates. With respect to any and all Work performed by an Affiliate of Contractor, Contractor hereby agrees that Contractor shall be fully responsible for such Affiliate and the performance of such Work by such Affiliate as if the Affiliate were the Contractor hereunder. Notwithstanding anything to the contrary in Section 2.7.2, 2.7.3, 2.7.5 or 2.7.6, Supply Contracts between Contractor and Affiliates of Contractor that are wholly (one hundred percent (100%)) directly or indirectly owned by Contractor, the Contractor Guarantor, or any Person that directly or indirectly owns the equity interests of the Contractor Guarantor, need not comply with the requirements of Section 2.7.2(a)(iv), 2.7.3, 2.7.5 or 2.7.6 and which shall not be assignable to Owner upon termination of this Agreement; provided, that with respect to Work identified on Appendix I, the Supply Contract with such Affiliate is for performance of Work for which such Affiliate is identified as an acceptable Supplier on Appendix I; provided, further, that the foregoing shall not limit the application of Sections 2.7.2, 2.7.3, 2.7.5 and 2.7.6 to CIMTAS or to Supply Contracts between Affiliates of Contractor (including CIMTAS) and other Suppliers. Accordingly, if during the performance of the Work, an Affiliate of Contractor that is performing the Work changes its circumstances such that it is no longer wholly (one hundred percent (100%)) directly or indirectly owned by Contractor, the Contractor Guarantor or any Person that directly or indirectly owns the equity interests of the Contractor Guarantor, Contractor shall enter into a Supply Contract with such non-Affiliate that complies with the requirements of Sections 2.7.2, 2.7.3 and 2.7.5, which shall be assignable to Owner upon termination of this Agreement, and shall comply with the requirements of Section 2.7.6 with respect to such Supply Contract.

2.7.5 Terms of All Supply Contracts. All Work performed by any Supplier is to be performed in accordance with the requirements of this Agreement pertaining to conduct of the applicable Work. Subcontracted Work shall be accomplished pursuant to a written agreement between Contractor and the relevant Supplier, or between a Supplier and another Supplier. Contractor shall not, and shall not permit any of the Suppliers to, include pay-if-paid or pay-when-paid type provisions in any Supply Contract. Each Supply Contract shall, so far as reasonably practicable and as applicable to the scope of the Work to be performed under such Supply Contract, be consistent with the provisions of this Agreement, and shall, in addition to the requirements of Section 2.7.3 and where applicable to the scope of the Work to be performed under such Supply Contract, contain provisions that:

(a) require the Subcontractor to comply with the terms consistent with Section 2.3 and Section 2.17;

(b) require such Subcontractor to comply with the requirements consistent with Section 2.28;

(c) require such Subcontractor to agree to the provisions consistent with Section 2.8.3;

(d) require such Subcontractor to either enroll in the Contractor-provided insurance program or provide and maintain adequate insurance in accordance with the requirements of Article 16;

(e) require such Subcontractor to comply with the policies and rules set forth in or produced pursuant to Section 2.18 and Section 2.20; and

(f) obligate such Subcontractor specifically to consent to terms consistent with this Section 2.7.5 and Section 2.7.6.

2.7.6 Copies of Supply Contracts. Contractor shall provide to Owner in downloadable (by Owner in its offices), read-only, but otherwise Fully Functional files, PDF copies of each Supply Contract for Equipment intended to be incorporated into the LNG Facility with a value greater than [***]; provided that Contractor may redact the actual price and payment terms, and other commercial terms related to liquidated damages provisions, performance security and limits of liability, before making such copies available to Owner. In addition, in accordance with Appendix U, Contractor shall provide to Owner downloadable (by Owner in its offices), read-only, but otherwise in Fully Functional files, PDF copies of the technical requirements sections (including specifications, descriptions and tag numbers/stock code) of all other Supply Contracts for the provision of Contractor-Furnished Items.

2.7.7 Relationship with Suppliers. Nothing contained herein shall create any contractual relationship between any Supplier and Owner. Owner shall have no obligation to pay, or to cause the payment of, any monies to any Supplier or any other Person acting through, under or on behalf of Contractor.

2.7.8 Misconduct by Suppliers. If Owner notifies Contractor that a Supplier is failing to comply in any material respect with Applicable Laws, GECP, or the policies and procedures produced pursuant to Section 2.18 or Section 2.20, or that a Supplier otherwise persists in any conduct which is prejudicial to safety, health or the protection of the environment, Contractor shall consult with Owner in good faith regarding the actions that Contractor will take to cause such Supplier to comply with such policies or procedures or cease such conduct. Nothing herein shall be deemed to limit Contractor’s responsibility under this Agreement as a result of the acts or omissions of Suppliers.

2.7.9 Ethical Business Dealings. Contractor shall not, and shall provide that its Suppliers and agents or employees of any of them shall not: (a) pay any commissions or fees, or

grant any rebates, to any employee, officer or consultant of Owner or its Affiliates, or to immediate family members of any of them; (b) favor employees, officers or consultants of Owner or its Affiliates or their immediate family members with gifts or entertainment of any significant cost or value; or (c) without Owner's prior written acceptance, enter into any business arrangements with employees, officers or consultants of Owner or its Affiliates, or their immediate family members.

2.7.10 Use of Local Suppliers and Labor. Contractor understands the importance of utilizing Suppliers, located in Jefferson County, Texas, the City of Port Arthur, Texas and otherwise from the local region comprised of Orange, Hardin, Jasper, Newton, Liberty, Tyler and Chambers Counties, as well as the Bolivar Peninsula area of Galveston County, Texas (the "**Region**"), including any such Suppliers that are Minority or Women Owned Businesses, Historically Under Utilized Businesses or Disadvantaged Business Enterprises ("**HUB/DBE Suppliers**") as described in the Tax Abatements (collectively, "**Local Suppliers**"), and employing qualified craft labor and other qualified personnel from County, City, and otherwise from the Region ("**Local Labor**"). Contractor has read the Tax Abatements, and agrees to comply with the provisions of the Tax Abatements to the extent applicable to Contractor with respect to the use of Local Suppliers and Local Labor. Owner will provide Contractor with any extensions or amendments to the Tax Abatements that Owner enters into from time to time. Contractor shall use commercially reasonable efforts to utilize Local Suppliers, and employ Local Labor in the performance of the Work at the Site (or related thereto), and shall require its Major Subcontractors that perform Work at the Site to use commercially reasonable efforts to do the same. In using commercially reasonable efforts, Contractor shall not be required to award a Subcontract to a Local Supplier if, in Contractor's reasonable judgment, such Local Supplier's bid is significantly more expensive than other bids received or if awarding a Subcontract to a Local Supplier would result in significant added expense, substantial inconvenience or sacrifice of operating efficiency. In each case where a Local Supplier has bid for, but was not awarded a Subcontract for any of the foregoing reasons and such Subcontract is in excess of [***], then Contractor shall list such Subcontract in its Monthly Status Report, indicating the date of the latest update, but such list shall only be updated on a quarterly basis, in accordance with Attachment S-2 to Appendix S, together with the applicable reason for not awarding the Subcontract to the Local Supplier. In connection therewith, Contractor shall prepare and implement a program (the "**Local Engagement Program**") to encourage the utilization of Local Suppliers and Local Labor, including by: (a) setting goals for identifying opportunities for involvement of Local Suppliers and Local Labor; (b) developing and implementing an outreach process with businesses and trade organizations based in the Region, to identify and attract possible business interest of Local Suppliers; (c) working with Owner to provide job listing information to the City of Port Arthur in accordance with the First Source Referral Agreement; (d) a pre-qualification process to enable Contractor to assess the suitability, qualifications and financial capability of Persons resident within the Region to become a Local Supplier or provide Local Labor; (e) a bidding process inclusive of qualified Local Suppliers on subcontract bid lists early in the procurement process; (f) a monitoring process to provide statistical reporting as and in the format reasonably requested by Owner on opportunities and utilization; and (g) identifying opportunities to collaborate on apprenticeship or other training programs with local educational institutions within the Region. Contractor shall provide the Local Engagement Plan to Owner for

review and acceptance (not to be unreasonably withheld) as soon as practicable after the LNTP Date or the FNTP Date, whichever is earlier, and in any event by the earlier of thirty (30) Days after such date. The Local Engagement Program will include KPIs with associated liability of up to [***] in the aggregate as determined and calculated in accordance with Appendix WW. Notwithstanding anything to the contrary in this Agreement, Owner's sole and exclusive remedy, and Contractor's sole and exclusive liability, for Contractor's failure to comply with the Tax Abatements, this Section 2.7.10, the Local Engagement Program or the KPIs shall be the payment of liquidated damages as set forth in Appendix WW and Owner's withholding rights under Section 6.2.2(b), and Contractor shall not be liable for any Tax Abatement benefit that either Owner or Common Facilities Owner did not obtain from the applicable Governmental Authorities or any Tax Abatements fines or assessments.

2.8 Construction Equipment.

2.8.1 Responsibility for Construction Equipment. Contractor shall furnish all Construction Equipment necessary and appropriate for the completion of the Work in compliance with this Agreement. Contractor shall only bring Construction Equipment onto the Site that is in good operating condition, with all safety gear in good working order, and shall maintain such Construction Equipment in good and safe working order, and repair and replace such Construction Equipment, as necessary to keep such Construction Equipment in good and safe working order, in accordance with Applicable Laws, manufacturers' recommendations and GECP. Contractor shall and shall cause its Subcontractors to maintain inspection reports and maintenance logs at the Site for all Construction Equipment, in each case for which it is customary under GECP or recommended or required by the manufacturer of such Construction Equipment for Contractor to obtain such inspection reports and maintain such logs, and all such reports and logs shall be available for Owner's review at any time. Notwithstanding anything to the contrary contained in this Agreement, Contractor shall be responsible for damage to or destruction or loss of, from any cause whatsoever, all such Construction Equipment.

2.8.2 Use of Affiliate Construction Equipment Upon Termination. If Owner terminates this Agreement pursuant to Article 19, all Construction Equipment that is (a) owned by Contractor or any Affiliate of Contractor that is wholly (one hundred percent (100%)) directly or indirectly owned by Contractor, the Contractor Guarantor, or any Person that directly or indirectly owns the equity interests of the Contractor Guarantor; or (b) after such termination, remains under contract with, Contractor or by any Affiliate of Contractor and is not assigned to Owner in accordance with Section 2.8.3 or 19.7, and is then located (or at the time of any Contractor Event of Default was located) at the Site, in each case, shall be removed from the Site by Contractor.

2.8.3 Terms in Lease Agreements for Construction Equipment. Contractor shall require all lease agreements for Construction Equipment (other than lease agreements with its Affiliates) to permit assignment of any such lease agreement to Owner pursuant to the requirements of this Section 2.8.3 if Owner terminates this Agreement pursuant to Section 19.3. Any such lease agreement shall provide for the following:

(a) Within seven (7) Days after the date on which a termination of this Agreement by Owner pursuant to Section 19.3 has become effective, Owner may:

(i) notify the Supplier of any such Construction Equipment that such lease is assigned to Owner pursuant to this Section; and

(ii) undertake to pay all lease or hire charges in respect thereof from such date on the same terms in all respects as the same was leased to Contractor or its Subcontractor except that Owner shall be entitled to permit the use thereof by any other contractor employed by Owner for the purpose of completing the Work.

(b) Upon receipt of Owner's notice and agreement described in Section 2.8.3(a), the owner of such Construction Equipment shall lease to Owner such Construction Equipment on the terms described in Section 2.8.3(a)(ii).

(i) If Owner enters into any agreement for the lease of any Construction Equipment pursuant to Section 2.8.3, all sums properly paid by Owner under the provisions of any such agreement and all expenses properly incurred by Owner (including stamp duties) in entering into such an agreement shall be deemed to be part of the cost of completing the Work in the event of the termination of this Agreement pursuant to Section 19.3.

(ii) Contractor, upon request made by Owner at any time in relation to any item of Construction Equipment (other than lease agreements with its Affiliates), shall promptly provide Owner with the name and address of the owner thereof and certify that the agreement for the hire of such Construction Equipment contains a provision in accordance with the requirements of Section 2.8.3.

2.8.4 Failure to Remove Construction Equipment. If any item of Construction Equipment that Owner does not rent or lease under this Agreement, including Construction Equipment described in Section 2.8.2, remains at the Site after the termination of this Agreement, or after Final Completion, then Owner may:

(a) return any such items that are the property of Contractor or its Affiliates to such Person at Contractor's expense;

(b) return any such items that are not the property of Contractor or its Affiliates to the Supplier thereof at Contractor's expense;

(c) move such Construction Equipment to a location which does not interfere with the performance of the Work by others;

and all charges and expenses of and in connection with the return or movement (including the reasonable storage costs) of such Construction Equipment shall be a debt due from Contractor to Owner and Contractor shall reimburse Owner for such charges and expenses within thirty (30) Days after receipt of Owner's request for reimbursement.

2.8.5 Certain Owner Rights with Respect to Equipment Safety. Should Owner at any time observe any Construction Equipment that is unsafe or being operated in an unsafe manner, or in a manner that may, if continued, become unsafe, then Owner shall have the right (but not the obligation) to require Contractor to stop operating such Construction Equipment until such time as the Construction Equipment has been rendered safe to the reasonable satisfaction of Owner; provided, however, that at no time shall Contractor be entitled to an adjustment of the Contract Price or Key Date Schedule based on such work stoppage. Notwithstanding anything to the contrary in the foregoing, if Contractor disagrees with any order to stop operation of Construction Equipment that it receives from Owner, and Contractor notifies Owner of such disagreement, Owner and Contractor shall each promptly escalate such disagreement to a higher supervisory level, up to the level of the Contractor Representative and Owner Representative, as applicable. If after such escalation, Owner continues to enforce the stop order and it is later determined that the Construction Equipment was safe to operate and such stop order delayed the performance of the Work by more than four (4) hours, such stop order shall constitute an Owner-Caused Delay for the purposes of this Agreement.

2.9 Liens.

2.9.1 Contractor Liens. Contractor hereby, to the extent permitted by Applicable Laws, subordinates any mechanics' and materialmen's or other Liens that may be brought by Contractor against any or all of the Work, the Site, the LNG Facility or any other property of Owner or the Common Facilities Owner to any Liens granted in favor of any Lender or its representative, whether such Lien in favor of such Person is created, attached or perfected prior to or after any such Contractor Liens, and shall require its Suppliers to similarly subordinate their Lien rights. Contractor agrees to comply with reasonable requests of Owner for supporting documentation required by any Lender or Lender representative, including any necessary Lien subordination agreements, affidavits or other documents that may be required to demonstrate that Owner's property, the Common Facilities Owner's property, the LNG Facility and the Site are free from Liens arising out of the furnishing of Work under this Agreement (including any Subcontract).

2.9.2 Supplier Liens. Contractor shall be solely responsible for payment of all its obligations and the payment by its Suppliers of their obligations. Contractor shall keep Owner's property, the Common Facilities Owner's property, the LNG Facility and the Site free of Liens filed by its Affiliates, and, subject to Owner having paid undisputed amounts due hereunder to Contractor as of such date, Contractor shall keep Owner's property, the Common Facilities Owner's property, the LNG Facility and the Site free of Liens filed by its other Suppliers. If a Lien is filed against Owner's property, the Common Facilities Owner's property, the LNG Facility or the Site by an Affiliate of Contractor or another Supplier, Contractor will (in the case of Suppliers other than an Affiliate of Contractor, subject to Owner having paid undisputed amounts due hereunder to Contractor as of such date), promptly commence appropriate action to remove such Lien, and shall thereafter diligently pursue the release of such Lien in accordance with this Section 2.9.

2.9.3 Release or Discharge of Lien. Subject to Owner having paid undisputed amounts due hereunder to Contractor as of such date, if any Contractor Lien that is filed against the Owner's property, the Common Facilities Owner's property, the LNG Facility or the Site as a result of the Work is not removed within fifteen (15) Business Days after it is filed, Contractor shall (a) furnish a bond in accordance with Tex. Property Code Ann. Chapter 53, Subchapter H (§53.171, *et. seq.*) to obtain the release of such Lien; and (b) defend any action (i) based on any theory that Contractor or any of its Suppliers or any of Contractor's Affiliates failed to properly pay its applicable employees as agreed or otherwise in accordance with Applicable Law; or (ii) which may result in the assertion of a Contractor Lien or other similar remedy in connection with the performance of the Work. Owner may audit Contractor's relevant Books and Records if a Contractor Lien or other similar remedy is asserted and Contractor does not as soon as practicable secure the release of the same, whether by posting a bond or otherwise. If Contractor fails to remove or discharge any Lien within the required fifteen (15) Business Day period, then Owner may, in its sole and absolute discretion and in addition to any other rights that it has under this Agreement, remove or discharge such Contractor Lien using whatever means Owner, in its sole and absolute discretion, deems appropriate, including posting of a bond or payment of settlement amounts that Owner in its sole and absolute discretion deems appropriate. Subject to Owner having paid undisputed amounts due hereunder to Contractor as of such date, Contractor shall reimburse Owner, or Owner may withhold sufficient amounts to reimburse Owner, for all Claims and expenses (including court costs, attorneys' fees and other litigation costs), and including contractual liability to any Person for any of the above, on account of or which may be incurred by any member of the Owner Group in connection with the removal or discharge of such Contractor Lien.

2.9.4 Affidavit of Completion. No later than thirty (30) Days prior to the scheduled Substantial Completion Date of Stage II, Contractor shall prepare and submit to Owner for review and acceptance, an affidavit of completion of the Work that complies with the requirements of Texas Prop. Code §53.106 and is otherwise in form and substance acceptable to Owner. Contractor shall respond to any comments that Owner may provide within ten (10) Days after Contractor receives such comments. Once Owner accepts the proposed affidavit, Owner shall sign such affidavit and Contractor shall file such affidavit of completion in the records of Jefferson County of the State of Texas no later than ten (10) Days after the Final Acceptance Date of the last Stage to achieve Final Acceptance, and shall on the same date as the affidavit is filed (but subject to Owner having provided Contractor with a list of Persons that have sent a notice of Lien liability to Owner or requested a copy of the affidavit of completion), send a copy of the affidavit to any Supplier that is or Person on the list provided by Owner and provide Owner with a copy of such recorded affidavit no later than five (5) Days after such filing.

2.10 Contractor Permits; Owner Permits.

2.10.1 Contractor Permits. Contractor shall obtain and maintain all Contractor Permits, including those identified or described in Appendix J-2, on or before the date that they are required for performance of the Work in accordance with the Project Schedule.

2.10.2 Owner Permits.

(a) Without limiting Contractor's rights under Section 8.3.1, Contractor shall cooperate with and shall provide reasonable assistance to Owner in obtaining and maintaining any Owner Permits, including preparing and developing supporting drawings, models, documentation and other information requested by the FERC, PHMSA or other Governmental Authorities (such as in connection with the FERC-approved Implementation Plan) pursuant to or in connection with any Owner Permit, consistent with, or reasonably inferable from, Contractor's Permitting Plan. Contractor shall collect and provide data and other information reasonably available to Contractor required for any applications for the Owner Permits and any amendments or modifications to such Permits that Owner determines has become necessary during the performance of the Work or are requested by the FERC, PHMSA or other Governmental Authorities.

(b) With respect to any clarifications to the Owner Permits, including any applicable amendments, modifications or variances to the Owner Permits, as described on Appendix J-3, Owner shall obtain such amendment, modification or variance as Owner determines is necessary or appropriate. For purposes of clarity, other than with respect to the clarifications set forth on Appendix J-3 (and, with respect to the such clarifications set forth on Appendix J-3, Contractor is required to perform the Work in accordance with such clarifications) and the exclusions set forth in Section 13 of Appendix A, Contractor is required to perform the Work in accordance with all conditions set forth in the applicable Owner Permits.

(c) Where any amendments or modifications to an Owner Permit is required due to a Contractor-initiated change or modification to the engineering and design of the LNG Facility after [***] (such amendment or modification to an Owner Permit, a "**Proposed Permit Modification**"), Contractor shall promptly notify the Owner Representative in writing at the time that such change to the engineering or design is proposed, which notice shall include (i) a justification, with reasonable backup documentation, for why Contractor believes such amendment or modification is required; (ii) any potential impacts to any other Owner Permit or Contractor Permit, including the need to modify or acquire any additional Permit to perform such amendment or modification. To the extent that Owner agrees to such change and agrees to obtain the Proposed Permit Modification, Contractor shall prepare the necessary engineering and other technical documentation for such amendments or modifications, and submit the same to Owner for review and comment. Once Owner has no further comments to the proposed documentation, Owner shall submit an application to amend or modify the relevant Owner Permit to the applicable Governmental Authority. Any delays in issuance of such Permits shall not constitute an Owner-Caused Delay except to the extent expressly provided in clause (d) of the definition of Owner Caused Delay, or otherwise serve as the basis for a Change Order, and any additional requirements to the Work imposed as a condition of such Permits shall not serve as the basis for a Change In Law or any other Change Order hereunder. Contractor may request that Owner request expedited reviews of modifications or amendments to Owner Permits. To the extent that Contractor makes such a request and other Owner Permit applications, or amendments or modifications of Owner Permits, are delayed as a result of the applicable Governmental Authority expediting its review as requested, any delays related to issuance of such delayed Owner Permit or amendment or modification shall not constitute an Owner-Caused

Delay or serve as the basis of a Change Order. Unless and until (1) Owner approves in writing the pursuit by the Parties of any such Proposed Permit Modification; (2) any such Proposed Permit Modification so approved by Owner is also approved by the applicable Governmental Authority; and (iii) Owner notifies Contractor in writing that it accepts the Governmental Authority's conditions, deviations, or clarifications, if any, to such approved Proposed Permit Modification, Contractor is obligated to continue to perform the Work in accordance with the requirements of such Owner Permit without reference to such Proposed Permit Modification. Nothing in this Section 2.10.2(c) shall be deemed to modify the definition of Change In Law.

(d) Contractor understands that the Owner Permits may require the satisfaction of conditions for the continuing performance of the Work, and that Owner's ability to maintain such Permits and satisfy such conditions, including obtaining further approvals or authorizations from Governmental Authorities such as FERC and PHMSA for the performance of the Work, is in part dependent on Contractor's reasonable assistance and cooperation. Contractor acknowledges and agrees that the Baseline CPM Schedule includes customary time for FERC and PHMSA reviews and inspections and that the requirements of Governmental Authorities with respect to the Owner Permits shall not serve as the basis for a Change Order, unless such approvals or authorizations from such Governmental Authorities are received more than sixty (60) Days after Contractor's submission of complete and accurate supporting documentation to Owner. Contractor shall be responsible for providing the necessary engineering and technical information and preparing supporting documentation for Owner to demonstrate that the Owner Permit conditions are satisfied. The Parties intend that the supporting documentation to be provided by Contractor will be consistent with or reasonably inferable from the documentation that is contemplated in Contractor's Permitting Plan as of the Effective Date, but acknowledge that the relevant Governmental Authority may require additional or different documentation. In such case, Contractor shall provide such documentation as is reasonably available to Contractor, and Contractor's Permitting Plan may be updated accordingly from time to time as the Parties agree. Contractor shall submit to Owner a complete and accurate package of engineering and technical documentation in accordance with the relevant Owner Permit for each such further approval or authorization, no less than sixty (60) Days prior to the date receipt of such approval or authorization is required in order to avoid delays to the performance of the Work, or such shorter period of time as Owner and Contractor agree are appropriate under the circumstances of the required approval or authorization. Owner shall endeavor to submit such package for approval or authorization within fourteen (14) Business Days after Contractor's submission of same to Owner. Notwithstanding anything to the contrary in the foregoing, the Parties acknowledge and agree that the sixty (60) Day requirement in the foregoing does not apply in the case of engineering and technical documentation that is submitted in response to Condition No. 30(b) of the FERC Order. Contractor shall respond to any Owner comments, provide additional documentation reasonably available to Contractor requested by an applicable Governmental Authority, assist Owner in responding to questions or requests for further information from the applicable Governmental Authorities, and coordinate with Owner so that any such further approvals or authorizations are obtained in time so as to not delay performance of the Work in accordance with this Agreement. Any delay by Owner in obtaining any such further approval or authorization due to Contractor's failure to provide such

assistance or to reasonably cooperate with Owner with respect to the permitting process shall not constitute an Owner-Caused Delay for the purposes of this Agreement.

(i) Contractor shall promptly notify Owner of any conflict or discrepancy between or among the Owner Permits, the Basis of Design, the Scope of Work and the design of the LNG Facility (other than as identified on Appendix J-3) as and when such conflicts or discrepancies are identified, and confer with Owner to determine how Owner desires to resolve such conflicts. If Owner elects to resolve the conflict by amending or modifying an Owner Permit, Contractor will provide assistance in accordance with the applicable provisions of this Section 2.10.2.

(e) Contractor and Owner shall regularly schedule meetings to review the schedule for submission of Permit applications, establish priorities, and monitor progress on the preparation of Permit applications and issuance of Permits. Both Parties shall use commercially reasonable efforts to provide the other Party with relevant information and Permit applications at least thirty (30) Days prior to the submission date of a Permit application.

(f) During the course of obtaining the Contractor Permits, Contractor and Owner shall meet as mutually agreed to determine which, if any, of the Contractor Permits will be necessary for Owner to operate each Stage of the LNG Facility following Substantial Completion. If any such Contractor Permits are identified, such Contractor Permits shall be obtained in Owner's name, where applicable and subject to the other provisions of this Section 2.10, or assigned or transferred to Owner at Substantial Completion of the relevant Stage. Any necessary modification or amendment to such Contractor Permits that must be made following Substantial Completion with respect to Owner's operation of the LNG Facility after Substantial Completion shall be Owner's responsibility.

(g) To the extent a Permit that is identified following the Effective Date as being required for operation of the LNG Facility is not listed as a Contractor Permit or Owner Permit on Appendix J-2 or Appendix J-1, respectively, and such Permit is legally required to be issued in Owner's name, such Permit shall be an Owner Permit for purposes of this Section 2.10 and Contractor shall cooperate with and shall provide reasonable assistance to Owner until Substantial Completion of the applicable Stage in obtaining and maintaining such Permits, including preparing and developing supporting documentation and other information reasonably available to Contractor that is requested by the Governmental Authorities, in a timely manner so as to not delay the review or issuance of such Permit by the applicable Governmental Authority.

(h) As of the Effective Date, Owner has obtained the Existing Air Permit, which Existing Air Permit, subject to the remaining provisions of this Section 2.10.2(h), is an Owner Permit for all purposes under this Agreement. Prior to the Effective Date, Owner received the Draft New Air Permit. As of the Effective Date, the TCEQ has not yet issued the Final New Air Permit. The Parties agree to the following with respect to the Existing Air Permit, the Draft New Air Permit and, once issued, the Final New Air Permit:

(i) Until the issuance of the Final New Air Permit, (A) Contractor shall perform the Work so that the LNG Facility will operate in compliance with the Existing Air Permit, subject to the Section C Clarifications; and (B) neither the Section D Clarifications nor the Section E Clarifications shall be of any force or effect.

(ii) Upon the issuance of the Final New Air Permit, (A) the Final New Air Permit shall supersede in its entirety the Existing Permit, and the Final New Air Permit shall be an Owner Permit and shall be deemed to be the "Air Permit" for all purposes under this Agreement (including with respect to Appendix J-1 and all references to the Air Permit set forth in Appendix G) all without further act by either Party; (B) the Section C Clarifications shall be no longer of any force or effect; and (C) subject to Section 2.10.2(h)(iv),Contractor shall perform the entirety of the Work so that the LNG Facility will operate in compliance with the Final New Air Permit, subject to the Section D Clarifications and the Section E Clarifications, which shall be deemed to apply to the Final New Air Permit.

(iii) If the Final New Air Permit as issued by TCEQ is consistent with the Draft New Air Permit, subject to the Section D Clarifications and the Section E Clarifications, then the issuance of the Final New Air Permit by TCEQ shall constitute neither a Change In Law nor any other Excusable Event nor Force Majeure Event, and Contractor shall not be eligible for any Change Order or any other additional compensation hereunder as a result of such issuance.

(iv) If the Final New Air Permit as issued by TCEQ is not consistent with the Draft New Air Permit, subject to the Section D Clarifications and the Section E Clarifications, and Contractor must perform additional or different Work so that the LNG Facility will comply with the Final New Air Permit, then such issuance shall be deemed a Change In Law and the provisions of Section 8.3.1(e) and Article 18 with respect to such Change In Law shall apply.

2.10.3 Interactions with Governmental Authorities. Contractor shall at all times cooperate and coordinate with Owner with respect to all interactions with Governmental Authorities related to the Work or the Liquefaction Project. Specifically, without limiting the foregoing, Contractor shall:

(a) dedicate an individual to coordinate with Owner to expedite the development of responses to technical queries from Governmental Authorities such as FERC and PHMSA, and the submission of supporting documentation necessary to satisfy Permit conditions so that Owner can obtain further approvals or authorizations for the continued performance of the Work;

(b) notify Owner of Contractor's intent to obtain or renew any Contractor Permit at least five (5) Business Days in advance of such filing wherever practicable or otherwise as soon as practicable;

(c) copy Owner on all filings, applications and written correspondence with any Governmental Authority as such relates to Contractor's execution of the Work;

(d) invite Owner to attend and participate in each meeting between Contractor and any Governmental Authority relating to the Work;

(e) if Contractor encounters any issue or problem with any Governmental Authority in connection with the Work or any of Contractor's obligations hereunder, (i) promptly notify Owner thereof; and (ii) coordinate and cooperate fully with Owner to solve such issue or problem; and

(f) promptly notify Owner (which notice shall include a copy of the relevant correspondence from the applicable Governmental Authority) if Contractor or any Supplier receives any notice of violation or similar notification from a Governmental Authority which asserts or alleges any breach or violation of any Permit.

Notwithstanding the foregoing, Contractor acknowledges and agrees that:

(g) inspections or reviews by Governmental Authorities may extend for a number of days and Contractor and the relevant Suppliers of Work being inspected or reviewed must be available to and reasonably cooperate with Owner and representatives of such Governmental Authorities during the period of the inspection or review, and respond promptly to requests of representatives of Governmental Authorities that relate to the Work, so as to facilitate such inspection or review;

(h) no such cooperation or coordination nor provision of any assistance or advice by Owner shall reduce, diminish or otherwise affect any obligation of Contractor hereunder; and

(i) Without limiting Contractor's rights with respect to an Excusable Event, Contractor shall not be entitled to a Change Order as a result of any such cooperation or coordination or provision of assistance or advice provided in accordance with this Section 2.10.3, regardless of whether Owner is successful in addressing any issue or problem.

2.11 Use of the Site.

2.11.1 Use of the Site. From and after the FNTP Date and until Substantial Completion of Stage II, Contractor shall, subject to the other provisions of this Section 2.11, Section 2.28 and Appendix M, be entitled to full use of the Site for the conduct of the Work in compliance with the terms of this Agreement such that Contractor may progress with construction on a continuous basis without material interruption or interference. Subject to Sections 2.5.3 and 14.1, Contractor shall not allow any Persons (other than Contractor's or any Supplier's employees or officers) to access the Site except directly in connection with the performance of the Work, without providing prior written notice to Owner of the identity of such Persons. Thereafter, Contractor shall be entitled to use the Site as reasonably necessary to fulfill its obligations under Section 2.11.9, but in any event for no longer than thirty (30) Days after the Final Acceptance Date of Stage II, after which Contractor shall have no further right to access or use the Site except in accordance with Article 10. Contractor acknowledges and agrees that (a) following the initial introduction of hydrocarbons in Stage I, access to Stage I and the

Common Facilities may be further restricted in accordance with Permit requirements; (b) following Substantial Completion of Stage I, access to the controlled areas related to Stage I and the Common Facilities: (i) for the purpose of completing any unfinished and planned Work, shall be on the terms set forth in Section 2.11.2(a); and (ii) for the purpose of performing unplanned Work, including Punch List Items and any Corrective Work, shall be on the terms set forth in Section 2.11.2(b); and (c) after Substantial Completion of a Stage, Owner's operating procedures and the Owner HSSE Program shall apply to all Work performed on the areas of the Site and the LNG Facility that are controlled by Owner following Substantial Completion of that Stage, in addition to any further procedures adopted by Contractor.

2.11.2 Use of the Site After Stage I Has Achieved Substantial Completion.

(a) Planned Activities. Contractor shall provide Owner with notice in writing of the expected dates for performance of Work on a Stage after such Stage has achieved Substantial Completion in accordance with Appendix M, including providing the updates as described therein. Contractor shall submit a detailed written plan to Owner for Owner's review and comment or acceptance at such time as described in Appendix M, for the performance of Work that may interfere with operation of a Stage that has achieved Substantial Completion. Contractor's plan shall minimize, to the greatest extent reasonably possible, interference with the operation of any Stage that has achieved Substantial Completion, and shall identify any such interference that may occur. Once Contractor's plan is accepted by Owner, Contractor shall perform such Work in accordance with such plan. Owner shall permit Contractor with access when and as set forth in such approved plan.

(b) Unplanned Activities. No Work shall be performed on any part of a Stage that has already achieved Substantial Completion except in accordance with Appendix M. During the performance of the Work, if a situation arises that requires Work to be performed on a Stage that has achieved Substantial Completion in addition to that planned pursuant to Section 2.11.2(a), or if Contractor intends or desires to perform any aspect of the Work which Contractor reasonably believes has the potential of interfering with the operation of a Stage that has achieved Substantial Completion, in each case other than the Work planned in accordance with Section 2.11.2(a) and Appendix M, Contractor shall follow the procedures for preparation and submission of a plan for unplanned activities set forth in Appendix M. Such plans shall provide for the performance of such Work in a manner that minimizes, to the greatest extent reasonably possible, interference with the operation of any Stage that has achieved Substantial Completion, and shall identify any such interference that may occur. Contractor shall submit such plan to Owner for review and comment or acceptance, and once such plan is accepted by Owner, Contractor shall perform such Work in accordance with such plan. Notwithstanding Owner's agreement to the schedule and the plan for the performance of such Work, Owner may, in its sole and absolute discretion, subsequently prohibit the performance of such Work on such scheduled date, and Contractor shall work with Owner to develop a new plan and date for performing such Work in accordance with this Section 2.11.2(b).

(c) Plan Requirements. In addition to the requirements set forth in Section 2.11.2(a), Section 2.11.2(b) or Appendix M, as applicable, Contractor shall specifically

note in each plan prepared pursuant to Section 2.11.2(a) or Section 2.11.2(b), any interconnection activities or other portions of the Work that would involve shutting down or curtailing production of LNG or NGLs for any Stage that has achieved Substantial Completion, or would diminish the capacity or performance of the Common Facilities in any manner.

2.11.3 Other Locations. Contractor shall carry out the Work so as not to interfere unnecessarily or improperly with, or damage, any access to, use or occupation of, public or private roads and footpaths or properties whether in the possession of Owner or of any other Person. Contractor shall liaise with, and ascertain the requirements of, all Governmental Authorities in relation to vehicular access to and egress from the Site and access via waterways, and shall comply with those requirements. Contractor shall so organize the Work as to minimize, and if required by any Governmental Authorities having jurisdiction over such roads or footpaths, avoid, vehicular travel during peak travel time on public roads, such as (but not limited to) school start and finish times. Contractor shall use commercially reasonable efforts, in accordance with GECP, to prevent damage to any highway or bridge by any traffic of Contractor or any Supplier and in particular, but without limitation, shall: (a) select routes, obtain all Contractor Permits from, and post any and all bonds for potential damage required by, relevant Governmental Authorities; and (b) choose and use vehicles and restrict and distribute loads so that any traffic interference or damage to roads and bridges which may arise from the moving of equipment and materials to and from the Site shall be limited as far as reasonably possible, consistent with those standards. Contractor shall maintain all access routes so as to minimize dust and dirt accumulation on public roads adjacent to the Site, as well as within the Site. Contractor shall be deemed to have satisfied itself as to and shall be fully responsible for the routing for delivery of heavy or large loads to the Site. Contractor shall implement appropriate traffic control measures with respect to the performance and delivery of the Work, including those required under Applicable Laws. As between Owner and Contractor, Contractor shall be fully responsible for all Claims made by third parties for damages, losses, costs, expenses and charges arising out of damage to roads, bridges and other third-party property caused by Contractor or any Supplier during performance of the Work and shall promptly restore at its own cost and expense such property to the condition it was in before such damage to the extent required by such third-party Claim. Contractor shall and shall cause its Suppliers to coordinate and conduct the performance of the Work so as to not interfere with or disrupt the use and peaceful enjoyment of any property adjacent to the Site. For the avoidance of doubt, Contractor and Suppliers conducting the Work in accordance with Applicable Laws and Permits shall not be deemed to disrupt the use and peaceful enjoyment of any property adjacent to the Site. Where the nature of the Work is such as to require the use by Contractor of waterborne transport or Contractor’s or any Supplier’s use any of the waterways, Contractor shall and shall cause its Suppliers to, coordinate with the applicable Governmental Authorities so as to avoid, or minimize to the extent possible, any interference by Contractor or its Suppliers with the access by and use of the waterways by other Persons, and shall comply with all Applicable Laws during use of waterborne transport or any other use of waterways in connection with the performance of the Work. Contractor shall promptly address any complaints from the local communities and harbors and waterways arising from any such damage or interference described in this Section 2.11.3 in an expedient and professional manner. Contractor shall ensure that the construction dock complies with the terms of the Owner Permits, as applicable, and all other

Applicable Laws. Contractor acknowledges that busy harbors, waterways and jetties and the use of such facilities by other Persons shall not constitute a Force Majeure event or an Owner-Caused Delay.

2.11.4 Owner Agreements. At all times during the performance of the Work at the Site, Contractor shall comply, and shall cause all Subcontractors performing Work at the Site to comply, with the requirements of the leases, easement and other rights affecting Owner's or the Common Facilities Owner's real property as set forth in Appendix LL, including allowing third parties to access the Site in accordance with such rights.

2.11.5 Pipeline Crossings Rights-of-Way. Contractor shall provide Owner with the design of the pipeline crossings in the locations as depicted on Attachment L-4 to Appendix L as Owner reasonably requires in order to obtain the necessary rights-of-way for such pipeline crossings in accordance with Section 3.14. In designing the crossings, Contractor shall design the crossing such that it would not cause any adverse effect on the utilities, and such design shall be subject to approval by the utilities.

2.11.6 Off-Site Laydown Yard Lease. Contractor's lease agreement with respect to its selected off-Site laydown yard in Jefferson County, Texas shall be assignable to Owner at Owner's request without the consent of the landlord upon a termination of this Agreement. If Owner requests assignment of such lease in connection with the termination of this Agreement, Contractor shall provide Owner with a true, correct and complete copy of such lease.

2.11.7 No Commercial Activities. Neither Contractor nor its Subcontractors nor its or their employees shall establish any commercial activity or issue concessions or permits of any kind to third parties for establishing commercial activities on the Site or any other lands owned, leased or otherwise controlled by Owner; provided, that lunch wagons and vending machines may be permitted upon prior written acceptance by Owner.

2.11.8 Hunting, Fishing and Firearms. Contractor shall cause its personnel not to, and shall cause each member of Contractor Group to cause its personnel not to, hunt, fish or carry any weapons, firearms or other similar items at the Site or any other property owned, leased or controlled by Owner or any of its Affiliates, including the Common Affiliates Owner. Owner may inspect the personnel of any member of Contractor Group to confirm compliance with this Section 2.11.8. Contractor shall notify its personnel and shall require each member of Contractor Group to notify its personnel that a violation of this Section 2.11.8 may result in prosecution under Applicable Laws, including Applicable Laws related to trespassing or the possession of weapons, firearms and other similar items.

2.11.9 Clean-Up. Contractor shall, to Owner's reasonable satisfaction, at all times and in a professional manner in accordance with all Applicable Laws, appropriately manage and remove and dispose of all waste materials or rubbish caused by the activities of Contractor or any of its Subcontractors. Without limitation of the foregoing or limiting Contractor's obligations, Contractor shall clean up all such waste materials or rubbish at Owner's request with reasonable notice. As soon as practicable following Substantial Completion of a Stage, Contractor shall remove, at its own cost, all of its equipment, materials and other items not

constituting part of the LNG Facility and remove all waste material and rubbish (but not including Pre-Existing Hazardous Materials) from the areas of the Site related to that Stage. As soon as practicable after completion of all of the Punch List Items with respect to both Stages, or upon Owner's election to complete the Punch List Items under Section 9.9.4, Contractor shall, and shall cause the Suppliers to, remove, at Contractor's cost, all waste material and rubbish (but not including Pre-Existing Hazardous Materials) and all of Contractor's or such Supplier's equipment, materials and other items not constituting part of the LNG Facility, and restore the Site (to the extent applicable) in accordance with all Permits and this Agreement. In the event of Contractor's failure to comply with any of the foregoing, Owner, having given Contractor five (5) Days' notice and Contractor having failed to commence and thereafter diligence pursue a cure for such failure to comply, may accomplish the same at Contractor's expense.

2.12 Roads; Shipping and Storage; Laydown Areas; Importing Equipment.

2.12.1 Roads and Site Access Infrastructure. Contractor shall be responsible for providing or constructing any access roads, haul roads, docks, or other site access infrastructure necessary for Contractor to transport materials, including Equipment and Construction Equipment, to the Site. Contractor shall use the locations of entrances onto the Site as identified in the Owner Permits. Any activities of Contractor in connection with the foregoing that require Contractor to access to, or that may cause interference with the operation of, any Stage that has achieved Substantial Completion, including any potential interference with traffic in the Sabine Neches Waterway, shall be subject to the requirements of Section 2.11.2.

2.12.2 Shipping and Storage.

(a) Contractor shall, as part of the Work: (i) arrange for complete handling of all Equipment, including inspection, expediting, quality assurance, shipping, loading, unloading, FTZ admission, customs clearance, receiving, and storage; (ii) make all necessary arrangements for tugs, escort services and any other arrangements necessary for the use of waterborne transport of any items, including Equipment, to the Site; and (iii) construct and maintain the heavy haul road for use in transporting items delivered to the materials offloading facility as described in Appendix A, until Substantial Completion of Stage II occurs and care, custody and control of Stage II has been transferred to Owner. Contractor has provided Owner with a shipping Plan as part of the Project Execution Plan that lays out the methodology and logistics of transporting the Equipment, the Construction Equipment and all other items and materials incorporated into the LNG Facility as part of the Work or used in connection with or necessary to conduct the Work but which do not form a permanent part of the LNG Facility, which Contractor shall follow in shipping all Equipment to the Site. If Contractor determines that any access roads over which it will transport items, including Equipment, to the Site, must be widened or otherwise improved under applicable requirements of the Department of Transportation, FERC or other Governmental Authorities in connection with Contractor's proposed use, Contractor shall be responsible to obtain any Permit or prepare any applications to modify any Owner Permit and, subject to Owner's rights with respect to the Owner Permits, submit such application and obtain the necessary modifications to such Owner Permit, and

subject to Contractor's rights with respect to a Change in Law, shall bear the risk of delay with respect to issuance of any such Permit or modification.

(b) All Equipment, including operating spare parts and Capital Spare Parts, and other items comprising part of the Work stored at a location other than the Site or with respect to which title has passed to Owner under this Agreement shall be segregated from other goods and shall be clearly marked as "**Property of Port Arthur LNG, LLC**" or "**Property of PALNG Common Facilities Company, LLC**," as applicable. Contractor shall be solely responsible for the preservation and maintenance of all Equipment, including operating spare parts and Capital Spare Parts, Construction Equipment and any other items of the Work, whether stored in any warehouse, stored on or off the Site, or installed in the LNG Facility, until transfer of care, custody and control of the respective Stage to Owner in accordance with Section 11.2, as applicable. Without limiting the generality of the foregoing or the requirements of the Quality Assurance Plan, Contractor shall store all Equipment, including operating spare parts and Capital Spare Parts, and shall maintain all Equipment while in storage, in accordance with the requirements of the applicable Supplier's requirements for the preservation and maintenance of the relevant Equipment, and the requirements of the Scope of Work, Applicable Laws, if any, and any insurance programs related to such Equipment.

(c) Contractor shall not store any imported Equipment which is imported through a FTZ and for which Owner is responsible for Customs Duties in accordance with Section 7.3 in any location other than a location designated as part of a FTZ. Notwithstanding the foregoing, Equipment that is not imported or is not eligible to be imported through a FTZ, may be stored off the Site at such locations as may be permissible under the Owner Permits.

(d) In any event, if Contractor elects to store any component or item of Equipment at any location other than the Site, Contractor shall: (i) prior to or concurrently with placing any component or item of Equipment into storage at any location other than the Site, tag the Equipment as provided in Section 2.12.2(b); (ii) on a quarterly basis (as of the end of each calendar quarter), provide written notice of the storage location of any component or item of Equipment where the value of the item of Equipment, or the item of Equipment of which such component is a part of, exceeds [***], specifying in such notice the components or items of Equipment currently stored at such location; (iii) provide a quarterly inventory (as of the end of each calendar quarter) to Owner of all components or items of Equipment in storage with values as described in subclause (ii) of this Section 2.12.2(d), specifying the location of each such component and item of Equipment; and (iv) provide Owner with reasonable access to each such storage location and such components or items of Equipment to allow Owner or its designee to inspect such components or items of Equipment for the purpose of verifying Contractor's compliance with the requirements of Section 2.12.2(b) and this Section 2.12.2(d). The notices and quarterly inventories provided by Contractor pursuant to this Section 2.12.2(d) shall be provided in the form and format as described in Attachment S-4 to Appendix S.

(e) References to the Equipment or any component or item thereof in this Section 2.12.2 shall in all cases include operating spare parts and Capital Spare Parts.

2.12.3 Laydown Areas. All of the off-Site laydown areas that Contractor will utilize during performance of the Work are defined in Contractor's Project Execution Plan. Contractor shall not utilize any other off-Site laydown areas in connection with the performance of the Work without obtaining Owner's prior written approval to the use of such laydown area; provided, however, if a proposed off-Site laydown area complies with the Owner Permits and complies with the requirements of Section 7.3, then Contractor shall notify Owner in advance in writing of the use of such other off-Site laydown area, but need not obtain Owner's prior written approval.

2.12.4 Importing Equipment. Contractor shall make all arrangements, including the processing of all documentation, necessary to import Equipment and any other equipment and other items necessary to perform the Work into the U.S., and shall coordinate with the applicable Governmental Authorities in achieving clearance of U.S. customs for all such Equipment and other items. Equipment and other Contractor-Furnished Items for which Owner is responsible for Customs Duties pursuant to this Agreement shall be imported through a FTZ in accordance with Section 7.3. If the applicable FTZ is not designated and activated as of the date on which Contractor is importing the relevant Equipment, then Contractor shall import the relevant Equipment and Customs Duties will be paid by the Parties in accordance with Section 7.3 regardless of the fact that the applicable FTZ has not been designated and activated. If the FTZ for the Liquefaction Project that applies to the Site does not include Contractor's selected off-Site laydown yard in Jefferson County, Texas as identified in Appendix ZZ, Contractor may nevertheless import the Equipment that it intended to store at such location and store it at the selected off-Site laydown yard as may be permissible under the Owner Permits, and Owner will reimburse Contractor for Customs Duties incurred as a result thereof. If Equipment or any Contractor-Furnished Items for which Owner is responsible for Customs Duties pursuant to this Agreement are imported through a FTZ location other than the FTZ for the Site, Contractor shall comply with Applicable Laws when transporting such Equipment or Contractor-Furnished Items to the Site so that such Equipment or Contractor-Furnished Items are still eligible to utilize the applicable FTZ for the Liquefaction Project. Without limiting the requirements of Section 2.12.2(a) or this Section 2.12.4, Contractor shall as part of its shipping plan identify the proposed locations and other relevant logistics and timing of the importation of any Equipment into the U.S. and shall notify Owner of any changes in the location of import or other relevant logistics or timing of the importation of any Equipment as promptly as practicable.

2.12.5 [***].

2.13 Fuel, Utilities and Consumable Items.

2.13.1 Fuel. Contractor shall provide all fuel, including installation of all connections, necessary for the performance of the Work, and including costs of Permits and usage (other than the Fuel Gas and Feed Gas to be provided by Owner under Section 3.8).

2.13.2 Utilities. Contractor shall provide all utilities (e.g., electricity, water, communication, cable, telephone, waste and sewer), including installation of all connections and substations, necessary for the performance of the Work and as necessary for all office trailers to be provided by Contractor hereunder as part of its Work (whether for use by Contractor, Owner

or any Subcontractor), and including costs of Permits and usage, except that Owner shall provide electricity to the extent specifically set forth in Section 3.2. Contractor shall not, and shall prohibit its Subcontractors from, utilizing any electricity provided by Owner pursuant to Section 3.2 for any purposes other than to supply permanent power to Equipment, substation buildings and other parts of the LNG Facility as necessary during pre-commissioning, commissioning, start-up and testing of each Stage. Contractor affirms that it has reviewed and familiarized itself with the quality and quantity of electrical power to be supplied by Entergy as described in Appendix B, and the LNG Facility shall be designed such that the LNG Facility shall be capable of producing LNG as contemplated under this Agreement, including Appendix A and Appendix B.

2.13.3 Consumable Items. Contractor shall provide or cause to be provided all necessary consumables (other than the Feed Gas to be provided by Owner under Section 3.8) as required in connection with construction, commissioning and start-up of the LNG Facility. A "first fill" schedule that sets forth the amount of consumables to be supplied by Contractor to provide a complete or full first fill, and the name of the Suppliers providing such consumables, shall be proposed by Contractor and submitted to Owner on or before three hundred sixty five (365) Days before the scheduled date of Ready for Start-Up of Stage I, for Owner's review. At all times while Contractor maintains a diesel vehicle fueling station on the Site, Contractor shall allow Owner to gas-up up to twelve (12) of Owner's ATV vehicles at Contractor's vehicle fueling station, as part of the Contract Price.

2.13.4 Minimizing Feed Gas Flaring, Venting and Loss. Without limiting the provisions of Appendix M, during the performance of the Work, Contractor shall use safe and reasonable efforts to minimize the amount of LNG lost and to minimize the amount of Feed Gas used prior to Substantial Completion of each Stage that is consumed by flaring, venting or loss, giving consideration, however, to completion of the Work, including Performance Tests, by the Guaranteed Substantial Completion Date of such Stage.

2.14 Spare Parts; Special Tools.

2.14.1 Commissioning Spare Parts. Contractor shall provide all pre-commissioning, commissioning, testing and start-up spare parts necessary for each Stage to achieve Substantial Completion in accordance with this Agreement. The cost associated with all Work related to such pre-commissioning, commissioning, testing and start-up spare parts is included in the Contract Price, including the cost to procure and furnish such spare parts and the actual purchase price of such spare parts.

2.14.2 Operating Spare Parts. With respect to operating spare parts for the Equipment for use after Substantial Completion, no later than five hundred fifty (550) Days after the FNTP Date, Contractor shall deliver to Owner for Owner's review and comment a detailed list of the manufacturer- and Contractor-recommended operating spare parts for each applicable item of Equipment necessary for operating such Equipment (including components and systems of such Equipment). If Contractor is not able to obtain the necessary information with respect to the recommended operating spare parts from a Supplier by such date due to the Supplier's inability to identify the recommended operating spare parts based on the progress of the relevant

Purchase Order, Contractor shall notify Owner as to the date by which such operating spare parts shall be identified. In any event, Contractor shall deliver the required information with respect to the recommended operating spare parts from such Suppliers by no later than seven hundred (700) Days after the FNTP Date. The list shall consist of spare parts to support two (2) years of normal operation, and shall include details of each proposed operating spare part to fully enable its procurement (including the manufacturer, ordering contact information, pricing, lead-time for ordering such part, complete item description, part number, quantity to order based on manufacturer's recommendation and a separate column indicating the quantity recommended by Contractor based on its experience for each part necessary for operating such Equipment (including components and systems of such Equipment)). The list shall contain an interchangeability matrix for the operating spare parts indicating which operating spare parts may be used across different items of Equipment. Owner shall have forty-five (45) Business Days to comment on such operating spare parts list. Contractor shall update such list and provide a revised list to Owner within thirty (30) Business Days after receipt of comments from Owner to such list. Owner shall then have ten (10) Business Days to respond to Contractor identifying the operating spare parts, if any, that Owner wishes Contractor to procure as part of its execution of a Purchase Order. Prior to execution of the applicable Purchase Orders, or addendums or releases to Purchase Orders that were previously placed, under which such operating spare parts will be ordered, Contractor shall deliver the pricing and schedule for the operating spare parts to be ordered under each such Purchase Order to Owner (but Contractor may redact the other commercial terms related to liquidated damages provisions, performance security and limits of liability, before making such copies available to Owner). The cost associated with all Work related to the two (2) years' operating spare parts is included in the Contract Price, except for the actual purchase price, property taxes associated with storage if Owner agrees in the applicable Change Order that such operating spare parts will not be delivered directly to the Site, and delivery costs of such operating spare parts (which, subject to Contractor's compliance with the timely preparation and delivery of the list of operating spare parts in accordance with this Section 2.14.2, and timely placement of the Purchase Order, may include costs to expedite delivery so that the operating spare parts are delivered prior to Substantial Completion of the Stage for which such operating spare parts are being procured). In the event Owner requests in writing that Contractor procure any operating spare parts for Owner, Contractor shall be entitled to a Change Order to the extent provided in Section 8.3.1(a). The operating spare parts so requested by Owner shall be delivered to the Site (or to another location reasonably requested by Owner) as a condition of Substantial Completion of the relevant Stage. Contractor shall maintain, and update as necessary, a spreadsheet listing all of the operating spare parts ordered and delivered, that includes detailed information regarding the operating spare parts delivered, including the manufacturer, complete item description, part number, quantity ordered, and amount paid for such operating spare parts, in a format mutually agreed by the Parties to allow Owner to upload such list into Owner's inventory management system in advance of delivery of such operating spare parts.

2.14.3 Capital Spare Parts. Contractor shall, as part of the Work, procure the spare parts identified on Appendix TT (the "**Capital Spare Parts**"). If during further development of the design and engineering of the project and during procurement, Contractor or Owner determines that additional, fewer or different Capital Spare Parts would be appropriate or

are necessary, the Parties shall notify each other, discuss the reasons for the change and update the list of Capital Spare Parts as agreed by Owner. In no event shall Contractor update, modify or change the list of Capital Spare Parts except as agreed in writing by Owner. At FNTP, Contractor shall deliver to Owner detailed information regarding each proposed Capital Spare Part with respect to its procurement (including the manufacturer, ordering contact information, complete item description, pricing, part number, quantity ordered or to be ordered, including components and systems of such Equipment). Contractor shall notify Owner no less than ten (10) Days in advance of when Contractor will place Purchase Orders for the procurement of any Capital Spare Parts, identifying which Capital Spare Parts are being ordered and quantities, and the date on which such Purchase Order is scheduled to be issued. If Owner notifies Contractor that Owner does not want to purchase a Capital Spare Part no later than three (3) Business Days before such Purchase Order is scheduled to be issued, Contractor shall not include such Capital Spare Parts in its applicable Purchase Orders. The cost associated with all Work related to the procurement of the Capital Spare Parts is included in the Contract Price, along with a provisional sum for the estimated purchase price and delivery costs of such Capital Spare Parts as set forth in Appendix C. In the event the actual purchase price and delivery costs of the Capital Spare Parts differs from the provisional sum set forth in Appendix C, Contractor shall submit a Change Order request to Owner in accordance with Section 8.3.1(b). The Capital Spare Parts shall be delivered to the Site (or to another location reasonably requested by Owner) as a condition of Substantial Completion, but in any event no earlier than sixty (60) Days before the scheduled Substantial Completion Date. Contractor shall maintain, and update as necessary, a spreadsheet listing all of the Capital Spare Parts ordered and delivered, that includes detailed information regarding the Capital Spare Parts delivered, including the manufacturer, complete item description, part number, quantity ordered, and amount paid for such Capital Spare Parts, in a format mutually agreed by the Parties to allow Owner to upload such list into Owner’s inventory management system in advance of delivery of such Capital Spare Parts.

2.14.4 Contractor Use of Owner Spare Parts. Contractor shall not utilize any of the operating spare parts procured by Contractor pursuant to Section 2.14.2 or otherwise procured by Owner, or any Capital Spare Parts, in the course of performing the Work without Owner’s prior written consent. In the event Contractor utilizes any such spare parts, Contractor shall supply Owner free of charge with spare parts equivalent in quality and quantity of such spare parts used by Contractor (which shall be new except as otherwise agreed by Owner), from the original manufacturer of the spare parts used, or otherwise as agreed to be Owner, soon as possible following Contractor’s use of such spare parts, or shall reimburse Owner for the complete replacement costs incurred by Owner to replace such spare parts.

2.14.5 Special Tools. No later than the date that is seven hundred thirty (730) Days prior to the Guaranteed Substantial Completion Date for Stage I, Contractor shall deliver to Owner a list of the special tools, based on Suppliers’ recommendations, that Contractor intends to acquire in connection with the Liquefaction Project, for Owner’s review, comment and acceptance, such acceptance not to be unreasonably withheld. Such list shall include only one set of such special tools for the Liquefaction Project. Owner shall have the right to use the special tools for the operation of Stage I, but shall return the special tools to Contractor and Contractor will maintain possession of the special tools until Substantial Completion of Stage II.

Contractor shall maintain a tracking system that identifies the special tools being used by Owner for operation of Stage I following Substantial Completion of Stage I.

2.15 Materials at the Site. Contractor shall dispose of water, soil, rock, gravel, sand, minerals, timber, and any other materials developed or obtained in the excavation or other operations of Contractor or any Supplier on the Site in accordance with Applicable Laws, except for Pre-Existing Hazardous Materials, and except that Owner may take title to, use or dispose of any minerals developed or obtained by Contractor on the Site. Contractor may use in the Work soil developed or obtained on the Site for fill purposes. Contractor may only use any such materials if Contractor determines that they comply with the requirements of this Agreement and are suitable for the purposes for which Contractor is using them. OWNER HEREBY EXPRESSLY DISCLAIMS, AND CONTRACTOR ACKNOWLEDGES THAT OWNER IS NOT MAKING, ANY REPRESENTATION OR WARRANTY, INCLUDING ANY WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE, WITH RESPECT TO ANY SUCH MATERIALS.

2.16 Personnel Training.

2.16.1 Contractor's Obligation. As part of the Work, operating personnel engaged by Owner or an Affiliate of Owner (including operators, maintenance personnel, safety, engineering and other operating support personnel), as designated by Owner in its sole and absolute discretion ("**Operating Personnel**") shall be given training designed and administered by Contractor at its expense, which shall be based on the program requirements contained in Appendix P. The anticipated number of Operating Personnel that will be trained by Contractor is set forth in Appendix P. Owner will update the number of Operating Personnel that will be available for training by notice to Contractor in accordance with Section 3.6.1; provided that the number of Operating Personnel to be trained shall not exceed the anticipated number set forth in Appendix P. The training provided by Contractor shall include instruction for the Operating Personnel in the operation and routine maintenance of each item of Equipment in accordance with Appendix P. As part of the training, Contractor shall provide the Operating Personnel with full access to the LNG Facility during commissioning, testing and start-up of each item of Equipment, including each LNG Train. Training shall be provided by personnel who have actual experience in the subject area and who, in Contractor's and the relevant Supplier's reasonable judgment, as applicable, are otherwise qualified to provide such training, subject to Owner's review and acceptance. Training shall take place at such locations and at such times as agreed upon by the Parties. Contractor shall provide Owner and the Operating Personnel with the training materials as described in Appendix P.

2.16.2 Implementation of Training Program. Contractor shall complete the training of the Operating Personnel on or before the date as described in Section 2.5 of Appendix P. Contractor's training program shall include testing of the Operating Personnel to verify that each of the Operating Personnel: (a) (i) has completed the training program and passed the tests administered as part of that program; and (ii) is fully qualified to perform the work covered under the training program; or (b) has failed to complete the training program or failed the tests administered as part of the program and is not qualified to perform the work

covered under the training program. Contractor shall provide Owner with the evaluations, test results and other information to be provided to Owner in accordance with Appendix P.

2.17 Environmental Compliance; Hazardous Materials and Explosives.

2.17.1 Environmental Compliance. Without limitation of Section 2.3, Contractor is responsible for ensuring that the Work is performed using GECP and in compliance with all provisions of this Agreement, all Applicable Laws regarding the environment, and in compliance with the Contractor HSSE Program policies and procedures regarding the environment; provided that if there is a conflict between Applicable Laws and GECP, Applicable Laws shall govern. Contractor shall, and shall cause each of its Suppliers to, cause its and their respective personnel to comply with the Environmental Plan, the Owner Permits, Applicable Laws and such policies and procedures. Contractor shall follow the requirements of the Environmental Plan, the Owner Permits, Applicable Laws and such policies and procedures pursuant to Section 2.18 in performing any Work on the Site in areas in which Owner has disclosed to Contractor that Archeological Finds or Pre-Existing Hazardous Materials have been identified, if any.

2.17.2 Limitation on Hazardous Materials. Contractor shall not, nor shall it permit or allow any Supplier to, bring any Hazardous Materials on the Site except as provided in this Section 2.17.2. Contractor and its Suppliers may bring onto the Site such Hazardous Materials as are necessary to perform the Work using GECP so long as Contractor and its Suppliers do so in compliance with all provisions of this Agreement, Applicable Laws regarding the environment, and the Contractor HSSE Program policies and procedures regarding the environment, including those policies and procedures related to the transportation, storage and disposal of Hazardous Materials. Contractor shall bear all responsibility and liability for Hazardous Materials brought onto the Site by or on behalf of Contractor or its Suppliers.

2.17.3 Handling of Hazardous Materials. Contractor shall, at its sole cost and expense, safely store, use and dispose of all non-hazardous wastes and Hazardous Materials that Contractor or any of its Suppliers bring onto the Site, including non-hazardous wastes that Contractor generates during performance of the Work and Hazardous Materials that Contractor generates during performance of the Work from Hazardous Materials brought onto the Site by Contractor or any of its Suppliers. All such non-hazardous waste and Hazardous Materials shall be disposed at disposal facilities not located on the Site and that are permitted to receive such non-hazardous waste and Hazardous Materials, as applicable, in compliance with all Applicable Laws regarding the environment, and the Contractor HSSE Program policies and procedures regarding the environment. Contractor shall keep accurate records of the disposal of non-hazardous waste from the Site. Contractor shall also keep accurate records of Hazardous Materials disposed from the Site, and provide Owner with copies of all transportation and disposal records of all Hazardous Materials disposed of by Contractor. Contractor shall report to Owner any violation of or failure to comply with the requirements of Section 2.17 by Contractor or any other member of the Contractor Group, as soon as reasonably possible after having knowledge thereof and in no event later than twenty-four (24) hours thereafter. Contractor shall promptly, and in accordance with all Applicable Laws, remediate any Release of any Hazardous

Materials that Contractor or any of its Suppliers bring onto the Site, including any Release of Hazardous Materials generated during performance of the Work from such Hazardous Materials.

2.17.4 Discovery of Archeological Finds or Pre-Existing Hazardous Materials. Contractor shall not disturb any Archeological Find or Pre-Existing Hazardous Materials the presence of which was disclosed by Owner or otherwise known to Contractor pursuant to the FERC resource report or the Geotechnical Reports or otherwise known to Contractor prior to the Effective Date pursuant to work conducted under the EDSA or the SWSA. If Contractor should encounter or Release any Archeological Find or Pre-Existing Hazardous Materials on the Site, Contractor shall promptly cease working in the affected area, notify Owner of such occurrence or encounter and take such other actions as described in the Environmental Plan with respect to any such discovery (except that Contractor shall not handle test, treat, transport, dispose of or remediate Pre-Existing Hazardous Materials). Contractor shall proceed, to the extent reasonably possible in the event of such discovery of an Archeological Find or Pre-Existing Hazardous Materials, with other portions of the Work unless otherwise directed by Owner. Work in the affected area shall be resumed after the Archeological Find has been addressed or the Pre-Existing Hazardous Materials have been removed or rendered harmless or appropriate safety measures have been taken, as applicable, by Owner in accordance with Applicable Laws.

2.17.5 Right to Stop Work. Should Owner at any time observe Contractor, or any of its Subcontractors, performing any part of the Work in a manner that does not comply with the Environmental Plan or the environmental requirements of Appendix Q, or in a manner that may, if continued, fail to comply with the Environmental Plan or the environmental requirements of Appendix Q, Owner shall have the right (but not the obligation) to require Contractor to stop such portion of the Work, as applicable, until such time as the manner of performing the Work complies with the Environmental Plan or the environmental requirements of Appendix Q to the reasonable satisfaction of Owner; provided, however, that at no time shall Contractor be entitled to an adjustment of the Contract Price or Key Date Schedule based on such work stoppage. Notwithstanding anything to the contrary in the foregoing, if Contractor disagrees with any order to stop the Work due to failure to comply with the Environmental Plan or the environmental requirements of Appendix Q that it receives from Owner, and Contractor notifies Owner of such disagreement, Owner and Contractor shall each promptly escalate such disagreement to a higher supervisory level, up to the level of the Contractor Representative and Owner Representative, as applicable. If after such escalation, Owner continues to enforce the stop order and it is later determined that the Work was being performed in accordance with the Environmental Plan and the environmental requirements of Appendix Q, as applicable, and such stop order delayed the performance of the Work by more than four (4) hours, such stop order shall constitute an Owner-Caused Delay for the purposes of this Agreement.

2.17.6 Explosives. Contractor acknowledges and agrees that the use of explosives is not necessary or desirable for the performance of the Work, and as a result thereof Contractor shall not, and shall not permit any of its Subcontractors to, utilize explosives in any part of the Work, with the exception of the use of powder-actuated tools or similar devices where, by design, the tool is powered from an explosive charge, in accordance with GECP.

2.18 HSSE Plans and Policies; Site Rules; Security.

2.18.1 Safety. Contractor shall take all necessary safety and other precautions to protect persons and property from injury, illness or damage arising out of the performance of the Work. Without limitation of Section 2.3, Contractor is solely responsible for ensuring that the Work is performed using GECP in a safe manner and in compliance with all provisions of this Agreement, and Applicable Laws, regarding worker health and safety, including the Occupational Safety and Health Act of 1970 (84 U.S. §§ 1590 et seq.) and any state plans approved thereunder, and regulations thereunder, to the extent applicable. In addition, when Contractor conducts operations on any portion of the Site over which Owner has care, custody and control pursuant to this Agreement, Contractor shall comply with the Owner HSSE Program. Contractor shall comply at all times with all of Owner's Site-specific orientation and training requirements, which shall be made available to Contractor upon request. Contractor shall inspect the places where any of its employees, contract workers, agents, or Subcontractors are or may be present on the Site, and shall promptly take action to correct conditions which are or may become an unsafe place of employment.

2.18.2 HSSE Plan and Program.

(a) Attached as Appendix Q is Contractor's health, safety, security and environmental plan and program (the "**Contractor HSSE Program**"). The Contractor HSSE Program is consistent with GECP and complies with Applicable Laws and the other requirements of this Section 2.18, and includes, among other things: (i) a drug testing program that meets U.S. Department of Transportation drug and alcohol testing requirements applicable to Contractor's personnel performing Work on any Stage which has achieved Substantial Completion; (ii) policies and procedures regarding the transportation, storage and disposal of Hazardous Material for which Contractor is responsible under this Agreement; (iii) an environmental and social management plan that is consistent with the Environmental Plan, including any Permit conditions regarding mitigation of any biodiversity impacts or other environmental impacts; (iv) a water and waste management plan, including a management strategy for contaminated land; (v) an emergency response plan covering Contractor's response to emergencies during performance of the Work on the Site; (vi) policies and procedures to maintain compliance with applicable Permits during dredging and construction of the marine berths and the materials offloading facility, including, if applicable, establishing any monitoring programs that may be required by applicable Permits or otherwise under Applicable Laws; (vii) compliance with the requirements of any insurers that provide any of the coverage maintained by Contractor; (viii) Contractor perform a root cause analysis of any reportable incident or series of accidents, injuries or lost time incidents, whether similar in type or not, that indicate the Site is becoming less safe; (ix) security policies and procedures, including with regard to the security of the Site, the Work, and as otherwise described in Section 2.18.5; and (x) includes Site-specific COVID-19 mitigation plans which detail the means, methods and procedures to protect all personnel to mitigate exposure to COVID-19 while performing the Work in accordance with all Applicable Law.

(b) Contractor shall prepare and provide Owner with a copy of a labor and working conditions policy with respect to on-Site labor and the Site, and set standards for the design and operation of temporary housing, if any, for Contractor's labor force, in each case that

complies with all Applicable Laws. Contractor's labor policy shall also include a plan to mitigate the impacts and effects of the influx of a sizeable temporary workforce on the local communities and the area around the Site. Contractor shall provide Owner with such labor policy prior to the date on which construction activities, other than site preparation activities, commence at the Site.

(c) Contractor shall implement the Contractor HSSE Program and such other Plans and programs as contemplated under this Section 2.18 and shall assume all costs associated with compliance therewith. Any updates, modifications, amendments or other changes to the Contractor HSSE Program shall be furnished to Owner and shall be subject to review and approval in accordance with Section 2.4.6.

(d) In addition to the Contractor HSSE Program and such other Plans and programs, when working on any portion of the Site over which Owner has care, custody and control in accordance with this Agreement, Contractor shall comply with the Owner HSSE Program. Owner may update the Owner HSSE Program by providing written notice to Contractor to address any health, safety, security and environmental requirements that Owner deems necessary, including by adding requirements to the Owner HSSE Program to address areas of the LNG Facility after Substantial Completion of each Stage. If Owner modifies the Owner HSSE Program prior to Substantial Completion of a Stage and such modification adversely impacts Contractor's costs or schedule to perform the Work, Contractor shall, subject to Section 8.4, have the right to a Change Order in accordance with Section 8.3.1(o).

(e) In the event of any conflict between any of Contractor's applicable health, safety and environmental plans and programs, the more specific requirement will prevail. When Contractor is performing Work that is subject to Owner HSSE Program, in the event of a conflict between any of Contractor's applicable Plans and the Owner HSSE Program, the requirement containing the stricter performance standard will prevail. Contractor shall promptly notify Owner if it determines that there is a conflict between any of Contractor's Plans and Owner's health, safety, security and environmental plans and programs.

2.18.3 Implementation of HSSE Practices. Contractor shall appoint one (1) or more (as appropriate) safety and environmental representative(s) acceptable to Owner who shall be stationed at the Site during any period in which Work is being performed at the Site, and shall have responsibility to correct unsafe conditions or unsafe acts associated with the Work and the LNG Facility as soon as possible, act on behalf of Contractor on safety, health, security and environmental matters, and participate in periodic health, safety, security and environmental meetings with Owner after Work has commenced at the Site. Contractor further agrees to provide or cause to be provided necessary training and safety equipment to its employees, contract workers and Subcontractors, and to the employees, contract workers and subcontractors of Owner or the Other Contractors entering the Site, to ensure their compliance with the foregoing health, safety, security and environmental rules and standards, and enforce the use of such training and equipment. Contractor shall maintain accident, injury and any other Books and Records with respect to safety, health, security and environmental matters as required by Applicable Laws or any additional Books and Records with respect thereto as may be required

under this Agreement. Contractor's classification of any accidents, injuries or lost time incidents shall comply with OSHA and other applicable Governmental Authorities reporting practices and policies.

2.18.4 Certain Owner Rights with Respect to Safety. Should Owner at any time observe Contractor, or any of its Subcontractors, performing the Work in an unsafe manner, or in a manner that may, if continued, become unsafe, then Owner shall have the right (but not the obligation) to require Contractor to stop the affected Work activity and coordinate with Contractor until such time as the manner of performing such Work has been rendered safe, to the reasonable satisfaction of Owner; provided, however, that at no time shall Contractor be entitled to an adjustment of the Contract Price or Key Date Schedule based on such work stoppage. Notwithstanding anything to the contrary in the foregoing, if Contractor disagrees with any order to stop the Work due to safety concerns that it receives from Owner, and Contractor notifies Owner of such disagreement, Owner and Contractor shall each promptly escalate such disagreement to a higher supervisory level, up to the level of the Contractor Representative and Owner Representative, as applicable. If after such escalation, Owner continues to enforce the stop order and it is later determined that the Work was being performed safely or was rendered safe, and such stop order delayed the performance of the Work by more than four (4) hours, such stop order shall constitute an Owner-Caused Delay for the purposes of this Agreement.

2.18.5 Security.

(a) Contractor shall be responsible for the security, fencing, guarding and lighting of the Site until Substantial Completion of Stage II, and shall hire guards and watchmen as reasonably required to control access and egress to and from the Site, and to watch and guard the Site so as to prevent loss or damage to the LNG Facility and Equipment and prevent unauthorized personnel from entering the Site for those portions for which Contractor is responsible; provided, however, that following the transfer, care, custody and control of Stage I to Owner in accordance with this Agreement, Owner shall be responsible for security within those portion of the Site for which care, custody and control has been transferred to Owner. Prior to commencing any Work on the Site, as part of the Work, Contractor shall have completed the training of its security personnel, including training on the use of force, and implemented its security Plan with respect to the Site as agreed to as part of the Contractor HSSE Program. Contractor's security Plan shall comply with the requirements of this Agreement, requires the coordination of Contractor's security program with Owner's security requirements and policies, including coordination with Owner's security team, and complies with the safety and security requirements of all Applicable Laws, including, as applicable, 33 C.F.R. Part 127, 49 C.F.R. 193.2905(a), 49 C.F.R. 193.2913, 33 C.F.R. Part 105, and 33 C.F.R. 127.709; provided that Contractor shall not be required to make material modifications to its security Plan except for those reasonably necessary to address imminent threats to safety or security.

(b) As part of the Work, Contractor shall furnish, construct and install the permanent security system for the LNG Facility. Upon Substantial Completion of Stage I, Owner shall take over the permanent security system and shall implement the Owner HSSE Program with respect to accessing and performing Work on Stage I, while Contractor retains

responsibility for security with respect to other areas of the Site. Upon Substantial Completion of Stage II, the Site shall be fully incorporated into the security perimeter maintained by Owner and thereafter access thereto, and Work therein, will be subject to Owner's site safety and security requirements and other obligations under this Agreement with respect to performing Work at the Site.

2.18.6 Compliance with Federal Regulatory Requirements.

(a) All Work performed hereunder shall comply with the minimum federal safety standards for the design, installation, inspection, testing, construction, extension, operation, replacement, and maintenance of facilities contained in Title 49 of the Code of Federal Regulations (C.F.R.), Parts 192 (to the extent applicable) and 193 and in 33 C.F.R. Part 127. Contractor shall comply with requirements of the Operator Qualification Program that are outlined in 49 C.F.R. Part 193 Subpart H and 49 C.F.R. Part 195 Sub-Part G of C.F.R. Part 195, where applicable.

(b) Without limiting the generality of Section 2.18.6(a), Contractor shall participate in inspections and reviews required by Governmental Authorities, including FERC and PHMSA, from time to time during performance of the Work. Contractor shall appoint an individual to coordinate with Owner and to serve as a single point of contact with Contractor with respect to all such matters, and acknowledges and agrees that it shall provide personnel from the appropriate disciplines as requested by Owner or a Governmental Authority to participate in such inspections and reviews.

(c) Contractor shall implement and utilize a permit to work system during construction, pre-commissioning, commissioning and start-up of the LNG Facility utilizing forms and procedures as specified in the Contractor HSSE Program. Contractor shall administer the permit to work system under the Contractor HSSE program until Substantial Completion, and Contractor shall allow for a reasonable transition to incorporate Owner's requirements for permits to work used in an operating plant under the Owner HSSE Program for use once hydrocarbons are introduced into a Stage for LNG production (which, for purposes of clarity, will occur after RFSU and prior to Substantial Completion). Each Contractor or Supplier employee, contract worker or representative needing access to a "secure area" (as that term is defined in the regulations of the U.S. Coast Guard and Transportation Security Administration) of the Site shall have valid Transportation Worker Identification Credentials ("**TWIC Card**"). In addition, each such employee, contract worker or representative performing Work on the Site shall have a valid TWIC Card when, and to the extent, all or portions of the Site become regulated by the Transportation Security Administration, which, in any event, shall be no later than when such portion of the Site is incorporated into the security perimeter pursuant to Section 2.18.5. Contractor acknowledges that it has fully investigated such Owner's access requirements and procedures, as well as its site safety and security rules and procedures, and has taken such requirements, rules and procedures into account in preparing the Project Execution Plan and planning the Work to be performed in accordance with the Project Schedule. As such, Contractor shall not be entitled to a Change Order as a result of its and its Suppliers' personnel's

compliance (or failure to comply) with such access, safety and security requirements, rules and procedures.

(d) Contractor shall, and shall cause its Suppliers to, attend training by Owner as required by Applicable Laws, including such training as is required by the Commission.

2.18.7 Certain Owner Rights with Respect to Security. Should Owner at any time observe Contractor, or any of its Suppliers, failing to comply with Contractor's security plan, as accepted by Owner as part of the Contractor HSSE Program, or if Contractor or its Suppliers are acting or omitting to act in a manner that may, if it continued, fail to comply with such security plan, then Owner shall have the right (but not the obligation) to require Contractor to comply with such security plan and to stop the affected Work activity until such time as Contractor has corrected its implementation of such security plan and Contractor and its Suppliers, as applicable, are once again in compliance with such security plan; provided, that at no time shall Contractor be entitled to an adjustment of the Contract Price or Key Date Schedule based on such work stoppage. Notwithstanding anything to the contrary in the foregoing, if Contractor disagrees with any order that it receives from Owner to stop the Work for failure to comply with such security plan, and Contractor notifies Owner of such disagreement, Owner and Contractor shall each promptly escalate such disagreement to a higher supervisory level, up to the level of the Contractor Representative and Owner Representative, as applicable. If after such escalation, Owner continues to enforce the stop order and it is later determined that the Contractor was in compliance with, and would be in compliance with, such security plan, and such stop order delayed the performance of the Work by more than four (4) hours, such stop order shall constitute an Owner-Caused Delay for the purposes of this Agreement.

2.18.8 Local Community Relations. Contractor understands the importance of maintaining good relations with the communities located near the Site and the LNG Facility, and shall endeavor to emphasize the importance of good community relations to its Subcontractors, and its and their respective employees and other Persons under Contractor's supervision on the Site. Contractor shall cooperate and coordinate with Owner in Owner's outreach efforts to the local communities and the State of Texas, including, as requested by Owner, by participating in public meetings, meetings with Governmental Authorities and Owner's other outreach activities; provided that Contractor's personnel shall not, without Contractor's prior consent, be asked by Owner to provide testimony at any such meetings. Among other things, Contractor shall establish a grievance and complaint mechanism for use by the local communities around the Site, and shall maintain a log at the Site of any grievances or complaints received by Contractor from whatever source and promptly notify Owner of same. Owner shall have the right to review Contractor's grievance and complaint logs at any time upon request. Contractor shall coordinate and cooperate with Owner in resolving any grievances or complaints as soon as reasonably possible and in a manner that does not delay or adversely impact performance of the Work, whether submitted to Contractor or to Owner.

2.18.9 HSSE Monitoring and Audit Rights. Without limiting any of its other rights of inspection, review, acceptance or audit hereunder, Owner and its designees (but not

including Competitors), including representatives of any of Owner's insurers, shall have the right to from time to time as determined in Owner's sole and absolute discretion, monitor Contractor's performance of the Work, and review, inspect and audit Contractor's Books and Records related to Contractor's or Subcontractor's compliance with the Contractor HSSE Program, Owner's HSSE Program, as applicable, Applicable Laws and any other requirements of this Section 2.18. Without limiting Owner's rights to stop work in accordance with Section 2.18.4 and Section 2.18.7, Owner shall minimize interference with the performance of the Work during such inspections, reviews and audits to the extent reasonably possible. Contractor shall and shall cause its Subcontractors to cooperate with Owner and its designees when engaged in a monitoring program or during any such inspections, reviews or audits, and shall develop and implement a corrective action plan, in the event such inspections, reviews or audits indicate the Contractor HSSE Program, Contractor or its Subcontractors are not in compliance with the Contractor HSSE Program or the requirements of this Section 2.18, as applicable. Owner's monitoring, review, inspection or audit, or Owner's failure to monitor or to conduct a review, inspection or audit Contractor's compliance with the requirements of this Section 2.18, shall in no way affect Contractor's obligations hereunder.

2.19 Emergencies. In the event of any emergency endangering life or property or the environment in any way relating to the Work, the LNG Facility, the Site or otherwise, Contractor shall: (a) take such action as may be reasonable and necessary to prevent, avoid or mitigate injury, damage or loss; and (b) as soon as possible, report any such incidents, including Contractor's response thereto, in writing to Owner. If Contractor has not taken reasonable precautions for the safety of the public or the protection of the Work, the LNG Facility or the Site, and such failure creates an emergency requiring immediate action, then Owner, with or without notice to Contractor may, but shall be under no obligation to, take reasonable action as required to address such emergency. All reasonable costs of taking of any such action by Owner shall be reimbursed by Contractor. Owner's taking of, or failure to take any action, or providing any directions with respect to an emergency, shall not alter Contractor's obligations, responsibilities or liability hereunder.

2.20 Quality Assurance/Quality Control Plan.

2.20.1 Implementation of Quality Assurance Plan. Attached as Appendix R is a quality assurance/quality control procedure and plan and Supplier source inspection plan detailing Contractor's system, including quality plans and procedures, to direct and control its organization with regard to quality (the "**Quality Assurance Plan**"). Contractor's Quality Assurance Plan as set forth in Appendix R shall be consistent with Applicable Laws, ISO 9001 criteria, Applicable Codes and Standards and GECP. Contractor shall perform the Work in compliance with the Quality Assurance Plan and assume all costs associated with compliance therewith. Contractor shall cause each of its Suppliers to implement a quality assurance program that complies with the Quality Assurance Plan as applicable to the Work that such Supplier performs, including the implementation and maintenance of a rigorous inspection program, maintaining daily logs of inspections performed in compliance therewith, and the implementation and adherence to the "build it clean, build it tight" requirements of the Quality Assurance Plan.

2.20.2 Modifications. Any updates, modifications, amendments or other changes to the Quality Assurance Plan shall be furnished to Owner and shall be subject to review and approval in accordance with Section 2.4.6.

2.20.3 Records. As part of the Quality Assurance Plan (including the Supplier source inspection plan contained therein), Contractor agrees that it shall keep a daily log of inspections that it or any Supplier subject to such inspection plan performs. Contractor shall make a copy of Books and Records related to the Quality Assurance Plan, including the daily logs of inspections performed, available at the Site for Owner's and any Lender's (including the Independent Engineer's) review.

2.20.4 Quality of Equipment. Contractor shall only use Equipment for the Work as specified in or as is otherwise consistent with this Agreement. All Equipment shall be fabricated, applied, installed, connected, operated (during start-up and testing), cleaned and conditioned in a manner that meets or exceeds the written instructions of the applicable Vendor.

2.21 Correction of Work in Progress.

2.21.1 Correction of Work in Progress. Upon Contractor becoming aware of a Defect, Contractor shall, as part of the Work, correct such Defective Work, whether by repair, replacement or otherwise. If during the course of conduct of the Work, Owner reasonably believes that any Work is Defective, Owner may provide written notice to Contractor identifying and describing with reasonable specificity that portion of the Work that Owner believes is Defective. If Contractor believes the Work is not Defective, Contractor shall notify Owner, including notice as to when a final determination as to whether the Work is Defective must be made so as to avoid impacting the scheduled performance of the Work. During the period before such determination must be made, the Parties shall work together in good faith to resolve any disagreements or reach resolution regarding such Work. Contractor shall determine when Defects are corrected; provided, however, that (a) Contractor shall promptly correct Defects (i) as necessary to prevent voiding or limiting of any Supplier warranties, including correction of Defects related to the preservation of Equipment as required by the manufacturer's specifications or written recommendations; (ii) if such Defective Work presents an imminent threat to safety, health or the environment, or the structural integrity of an item or component of a Stage or the LNG Facility; (iii) if such Defective Work directly impacts any Other Contractor's work to tie-in to the LNG Facility; and (b) correction of Defective Work identified prior to Substantial Completion of a Stage will be completed before Substantial Completion of the applicable Stage unless such Defective Work is included on the agreed Punch List as a Punch List D Item. If there is a disagreement about whether the Work is Defective and the Parties have not reached resolution, without limiting Contractor's right to Dispute whether the Work is Defective, Contractor shall correct such Defect if requested by Owner while pursuing any such Dispute in accordance with the timing set forth in the foregoing sentence as applicable to such Defect. Contractor shall implement a management of change process and track rework to correct Defects during the courses of the Work in accordance with Appendix S. If Contractor fails to correct Defective Work in accordance with subclause (a) above, Owner may, it its sole and absolute discretion, upon no less than ten (10) Business Days prior written notice to Contractor, either

correct or remove and replace such Defective Work and Contractor shall pay Owner the costs to correct such Defective Work within thirty (30) Days after receipt of Owner's invoice for such costs and expenses.

2.21.2 Deviations. If Contractor or Owner determines that any of the Work is Defective, and would if completed be Defective, and such Defect or potential Defect: (a) does not or is not reasonably likely to result in the Work or the LNG Facility failing to satisfy any Applicable Laws or the conditions of any Permits; and (b) would otherwise satisfy the requirements to be a Punch List D Item, the Parties shall meet within seven (7) Days of when such Defect is identified or proposed to find a remedy for such deviation or non-conformance. If the Parties agree on a remedy for such Defective Work that modifies the scope of the Work or includes any adjustments to the Contract Price or the Key Date Schedule, Owner shall issue a Change Order, which shall be in the form of Appendix F-1, and such Change Order shall become binding on the Parties as part of this Agreement upon execution thereof by the Parties. Agreed remedies for such Defects or potential Defects shall constitute a waiver of the relevant requirements of this Agreement only so far as mutually agreed and in no event shall such agreed remedies constitute an adjustment or change or modification of any relevant Specification, the Basis of Design or any other requirement of this Agreement.

2.22 Reports.

2.22.1 Contractor Reports. Contractor shall provide Owner and, if so requested by Owner, Lenders' Agent, with an electronic copy of progress reports and such other information as reasonably requested by Owner, including the following:

(a) formal minutes and any action items for all status and other Project-related meetings within four (4) Business Days following such meeting;

(b) safety or environmental incident reports within twenty-four (24) hours after the occurrence of any such incident (including "near miss" incidents where no individual was injured or property was damaged), except for any safety or environmental incident involving a significant non-scheduled event such as LNG or Natural Gas releases, fires, explosions, mechanical failures (not including minor or insignificant failures), unusual over-pressurizations or major injuries which shall be provided to Owner within two (2) hours of the occurrence of such incident where possible and if not possible, within twenty-four (24) hours and in any event no later than notices are provided to any Governmental Authority; provided, however, notification shall be provided to Owner as promptly as practicable by all reasonably practical methods if any safety or environmental incident threatens public or employee safety, causes significant property damage, or interrupts the Work; provided, further, that Contractor shall not be required to provide Owner with any attorney-client privileged reports;

(c) Weekly status reports generally reporting on the progress of the Work ("**Weekly Status Reports**") containing the information described in Attachment S-2 to Appendix S, which shall be provided one (1) Day prior to the Weekly status meeting and shall cover all activities up to the cutoff date as described in Appendix S. Contractor shall arrange for the electronic distribution of the Weekly Status Report as Owner may reasonably request;

(d) Monthly status reports generally reporting on the progress of the Work ("**Monthly Status Reports**") containing the information described in Attachment S-2 to Appendix S. Contractor shall provide the Monthly Status Report no later than five (5) Days after the end of each Month, and the Monthly Status Report shall cover activities up through the end of the previous Month (which for the purposes of this Section 2.22.1(d) shall end as of the second to last Friday of each Month). Contractor shall arrange for the electronic distribution of the Monthly Status Report as Owner may reasonably request; and

(e) promptly upon completion of the last foundation for Stage II, Contractor shall send Owner a written notice stating that the last foundation for Stage II has been completed.

2.22.2 Access to Site Records. Without limiting Owner's rights under Section 2.23, during the performance of the Work at the Site, Owner shall have the right to have access to and to review all of Contractor's daily reports, logs and records that Contractor maintains at the Site, for purposes of Owner's reviews related to HSSE, quality and Equipment inventory and preservation.

2.22.3 No Notice; Owner Not Bound by Reports. Notwithstanding anything to the contrary in any minutes, reports or other documentation delivered by Contractor under Section 2.22.1, Owner shall not be bound by any such documents, shall not be required to take any actions based on any such documents, and shall not be deemed to have consented to or accepted the contents of any such documents. In no event shall any such minutes, reports or other documentation, or any comments or statements made by the Contractor Representative or other Contractor personnel, or any Supplier personnel, during any meeting or otherwise in connection with any such minutes, reports or documentation, constitute notice to Owner for any purpose under this Agreement.

2.23 Books, Records and Audits.

2.23.1 Maintenance of Books and Records. Contractor shall keep full and detailed books, construction logs, records, daily reports, accounts, schedules, payroll records, receipts, statements, correspondence, vouchers, memoranda, electronic files, job cost reports, accounting records, written policies and procedures, Supplier or sub-consultant files, external correspondence, change order files (including non-privileged documentation covering negotiated settlements), and other pertinent documents related to the Work and as may be required under Applicable Laws or this Agreement (collectively "**Books and Records**"). Contractor shall maintain all such Books and Records in accordance with GAAP applicable in the U.S. and shall retain all such Books and Records for a minimum period of four (4) years after the Final Completion Date, or such greater period of time as may be required under Applicable Laws. To the extent Contractor does not have any of the foregoing information (if audited by Owner), Contractor shall certify the same in writing to the extent requested by Owner.

2.23.2 Audit.

(a) Upon reasonable notice, until the fourth anniversary of the Final Completion Date, and with respect to any matters related to Taxes (including the Tax Abatements) until the expiration of the constitutional or statutory period in which an applicable Governmental Authority may audit Owner (each such period, an "**Audit Period**"), Owner, any Lender, and any of their representatives and consultants (excluding any Competitors), including the Independent Engineer, shall have the right to audit or to have audited the Books and Records with respect to: (i) ensuring that Contractor is using GECP and acting in compliance with any and all Applicable Laws, including any documents relating to safety (in accordance with Section 2.18.9), security, quality or Permits relating to the Liquefaction Project, the LNG Facility or the Work; (ii) any amounts billed on a provisional basis and later reconciled to actual amounts, or billed under cost reimbursable or unit price Change Orders, or that are otherwise reimbursed or are reimbursable under this Agreement, such as certain Taxes, Customs Duties and hedging costs; provided that such other reimbursable items do not include the fixed price components of the Contract Price or disputed amounts subject to Appendix XX; (iii) claims for amounts due and payable under Section 19.1.1 or otherwise due to any suspension or termination of the Work or this Agreement; (iv) Contractor's information submitted in the Monthly Status Reports with respect to Local Labor, Local Suppliers and Qualifying Jobs, information in connection with the Tax Abatements as set forth in Section 2.7.10; or (v) Taxes pursuant to Section 7.5.4; provided, however, notwithstanding anything herein to the contrary, such Persons shall not have the right to audit or have audited the Books and Records in connection with the internal composition of any compensation that is fixed in amount hereunder (including the composition of any markups, unit rates or fixed percentages or multipliers specified in this Agreement). Any Owner consultant or other contractor performing any such audit shall be required to enter into a reasonable and customary non-disclosure agreement with Contractor before such consultant or contractor may audit any of the Books and Records, and any such Person shall be governed by the provisions in Section 14.2.1 (including entering into confidentiality agreements with Owner to the extent required under Section 14.2.1) before such other Person may audit any of the Books and Records.

(b) When requested by Owner during any applicable Audit Period, Contractor shall provide the auditors permitted to audit pursuant to Section 2.23 with reasonable access to all of the Books and Records, including providing such Persons with copies of all such Books and Records in the format as maintained or as required under this Agreement to be maintained by Contractor (including scanned versions of hardcopy documents and electronic copies of native electronic data files), organized in a manner consistent with Contractor's records, during normal business hours, and Contractor's personnel shall reasonably cooperate with such auditors to effectuate the audit or audits hereunder. The auditors shall have the right to copy all such Books and Records (including hard copy and electronic data), subject to the use and disclosure rights under the applicable confidentiality agreements required in Section 2.23.2, at Owner's expense. Contractor shall bear at its own cost and expense all costs incurred by it in assisting Owner with audits performed pursuant to this Section 2.23.2.

(c) Except as otherwise provided in Article 20, the restrictions in this Section 2.23.2 to the audit rights of Owner, the Lenders or their consultants or representatives (excluding Competitors), including the Independent Engineer, shall not limit or restrict any rights such Persons have under Applicable Laws with respect to discovery in any arbitration or litigation arising out of or related to this Agreement or the Contractor Guarantee.

(d) Owner shall conduct any such audit at its own cost and expense. In all events, Contractor shall reimburse Owner for overpayments made to Contractor.

(e) Nothing in this Section 2.23 shall be deemed to limit or otherwise affect Owner's rights to have access to and to review Contractor's reports, logs and records in connection with the safety and quality of the Work performed or as otherwise permitted under this Agreement.

2.24 Inspections and Testing.

2.24.1 Generally. Contractor shall conduct all inspections of the Work in accordance with the inspection and testing plan prepared by Contractor or Suppliers in accordance with Appendix R. Contractor shall provide notices or status updates to Owner of testing and inspections in accordance with Section 2.24.3 and Section 2.24.4, as applicable depending on whether such test or inspection will be conducted on the Site or off-Site. Owner shall have the opportunity to witness any such inspection. Owner's Engineer and any equity participant in Owner or Common Facilities Owner shall also have the opportunity to witness any such inspection. Other Persons, including customers, that are Invitees of Owner may observe or witness any such testing or inspections, on Site or off-Site, subject to Contractor's prior consent, not to be unreasonably withheld or delayed. Owner will be entitled to monitor all aspects of the Work, including the fabrication shops and construction means, methods, techniques, sequences and procedures for coordinating all portions of the Work. Inspection or failure to inspect any or all of the Work by Owner shall not constitute acceptance of the same or act in any way to release Contractor from any or all of its obligations and liabilities hereunder, it being the intent of the Parties that Contractor shall remain responsible for performance of the Work in accordance with the requirements of this Agreement, including attainment of the Guaranteed Performance Levels.

2.24.2 Inspection and Test Plans. In addition to conducting the Performance Tests, the Performance Test Procedures and requirements that are described in Section 9.7, Contractor shall, during the course of performing the Work, perform, or cooperate and assist in the performance of, all tests and inspections of the Work or portions thereof that are: (a) required under any Applicable Laws or by any Vendor in writing; (b) in accordance with the Specifications; or (c) in accordance with GECP. Contractor shall develop detailed inspection and test plans, by discipline, with respect to off-site (factory) and on-Site inspections and tests, including with respect to Work performed at fabrication or module yards. Such plans shall include all notifications required to be provided to Owner, including notifications with respecting the activities and testing described in Appendix T-1 and the activities and testing described in Appendix T-2. Such plans shall be provided to Owner for information. Contractor shall implement and follow the inspection and test plan in connection with the performance of the Work. The tests, inspections or activities that shall be hold points where Contractor may not

proceed unless Owner is present, or Owner has waived the requirement to be present in writing, are designated on Appendix T-1 and Appendix T-2, as applicable.

2.24.3 On-Site Testing and Activities. Contractor shall provide Owner with weekly inspection and testing tracker of anticipated on-Site inspections and testing, including anticipated on-Site activities and tests as described on Appendix T-2, and Owner shall be included in Contractor's standard distribution method to be notified of any updates or schedule modifications of such activities, inspections or tests; provided that Owner shall be provided notice at least twenty four (24) hours in advance of any schedule modification. Owner, Lenders' Agent and the Independent Engineer, as well as Owner's Engineer and any equity participant in Owner or Common Facilities Owner, may observe the performance of any such test and activity or inspection, and review the results of such tests and inspections. Such Persons, as well as Owner's Engineer and any equity participant in Owner or Common Facilities Owner may also observe the performance of any other on-Site test and inspection. Contractor shall not be required to delay any such test or inspection in the event any such Persons are not present at the notified time and location unless such test or inspection has been expressly designated as a hold point in connection with the inspection and test plan covering such Work.

2.24.4 Off-Site Testing and Inspections. Contractor shall provide Owner, Lenders' Agent and the Independent Engineer with no less than ten (10) Business Days written notice (or such other advance written notice as provided in Appendix T-1) of the scheduled dates for the conduct of, and opportunity to witness, the off-site (factory acceptance and other) tests as described on Appendix T-1. Once Contractor notifies Owner of the scheduled date for the conduct of a tests as described on Appendix T-1, Contractor shall not conduct such test on an earlier date or re-schedule the test to an earlier date without prior agreement of Owner, and if Contractor delays conduct of a test, Contractor shall notify Owner as soon as practicable of the re-scheduled date. If the schedule for the conduct of any such tests changes or re-testing is required, Contractor shall provide Owner, Lenders' Agent and the Independent Engineer with written notice of the revised schedule, or the schedule for re-testing, as applicable, as promptly as practicable. Contractor shall not be required to delay any such test or inspection in the event any such Persons are not present at the notified time and location unless such test or inspection has been expressly designated as a hold point in connection with the inspection and test plan covering such Work. With respect to the tests identified on Appendix T-1, Contractor shall provide Owner with copies of all off-site test results once each Month, or earlier upon Owner's reasonable request, whether or not any Owner Group member witnesses such test. With respect to any off-site testing of Equipment or components thereof not listed on Appendix T-1, Contractor shall provide Owner with copies of off-site test results upon Owner's reasonable request. Owner's Engineer and any equity participant in Owner or Common Facilities Owner, shall also have the right to witness off-site tests and receive copies of all off-site test results to the same extent as Owner. Owner shall communicate any questions or comments relating to such off-site testing or inspections to Contractor rather than directly to Vendors.

2.24.5 Uncovering.

(a) No portion of the Work that has been designed as a hold point pursuant to the inspection and test plan agreed to by the Parties shall be covered contrary to the requirements of this Agreement and prior to giving Owner reasonable opportunity to inspect such portion of the Work, subject where applicable to the provisions of Section 2.24.3 or 2.24.4. If any such portion of the Work should be covered contrary to the foregoing sentence, it must, if required in writing by Owner, be uncovered for inspection and subsequently be recovered, all at Contractor's expense.

(b) At any time prior to Substantial Completion if Owner reasonably believes that a portion of the Work is Defective, Owner may request that Owner or the Independent Engineer be afforded the opportunity to inspect a portion of the Work which has been properly covered (i.e., Owner has been given a reasonably opportunity to inspect such portion of the Work before it was covered, subject where applicable to the provisions of Section 2.24.3 or 2.24.4), and Contractor shall uncover the same. If the Work that is uncovered is determined to be Defective, Contractor shall bear the costs of such covering and uncovering and the costs to bring the applicable portion of the Work into conformance with the terms of this Agreement. If the Work that is uncovered as a result of Owner's request is not Defective, Owner's request shall be an Owner-Caused Delay.

2.24.6 No Obligation to Inspect. Neither Owner's, Lender's Agent's nor the Independent Engineer's right to conduct inspections under this Section 2.24 obligates Owner, Lender's Agent or the Independent Engineer to do so. Neither the exercise by Owner, Lender's Agent or the Independent Engineer of any such right, nor any failure on the part of Owner, Lender's Agent or the Independent Engineer to discover or reject Defective Work, shall be construed to imply an acceptance of such Defective Work or a waiver of such Defect.

2.25 Design and Engineering Work.

2.25.1 General. Contractor shall, as part of the Work, perform, or cause to be performed, all design and engineering Work necessary so that the Work meets the requirements of this Agreement and is otherwise capable of achieving the Guaranteed Performance Levels while meeting the Emission Guarantees and the Noise Guarantee. All design Work shall be performed by Persons who are (a) engineers or other professionals qualified, experienced and competent in the disciplines of the design for which they are responsible; and (b) hold the professional licenses required under Applicable Laws to design the Work.

2.25.2 Drawings and Specifications. The Drawings and Specifications shall be delivered to Owner in Fully Functional files and shall conform and comply with the requirements of this Agreement, including the Scope of Work, Basis of Design, Applicable Laws, and GECP.

2.25.3 Review Process.

(a) Periodic Reviews. During the development of the Drawings and Specifications, Contractor shall periodically conduct reviews of the design and engineering in

progress with Owner in accordance with Appendix A, Attachment A-1 to Appendix A, and Appendix U, and provide Owner with the opportunity to provide comments during such reviews. Such reviews may be conducted at Contractor's office located in Houston, Texas, at any of its Supplier's offices, or remotely by electronic internet access, as the Parties agree.

(b) Submission by Contractor. Contractor shall submit copies of the Drawings and Specifications and other Deliverables to Owner for formal review, comment, or acceptance in accordance with Attachment A-1 to Appendix A and Appendix U.

(c) Review Periods. Owner shall have up to ten (10) Business Days from its receipt of Drawings and Specifications and other Deliverables submitted in accordance with Section 2.25.3(b) or Section 2.25.3(e) to issue written comments (which may include mark-ups of Drawings) or written acceptances of such Drawings and Specifications to Contractor.

(d) No Owner Response. If Owner does not issue any comments, proposed changes or written acceptance or rejections within such time periods, Contractor may proceed with the development of such Drawings and Specifications and any construction relating thereto, but Owner's lack of comments or acceptance, if applicable, shall in no event constitute an acceptance, approval or waiver by Owner with respect to the Drawings and Specifications received.

(e) Rejection by Owner. In the event that Owner rejects the Drawings or Specifications, Owner shall provide Contractor with a written statement of the reasons why such Drawing or Specification does not comply with this Agreement or does not comply with the version of the applicable Drawing last accepted by Owner (except as modified in accordance with Section 2.25.4), within the time period required for Owner's response under Section 2.25.3(c). Contractor shall respond to Owner's statement and, as applicable, shall provide Owner with revised and corrected Drawings and Specifications as soon as possible thereafter. Owner's rights with respect to the issuing of comments, proposed changes or acceptances or rejections of such revised and corrected Drawings or Specifications shall be governed by the procedures specified in this Section 2.25.3; provided, that Contractor shall not be entitled to any extensions of time to the Key Date Schedule, an adjustment to the Contract Price or any other adjustment as a result of the need for such revisions and corrections. If Contractor disagrees that such Drawing or Specification fails to comply with the Agreement, or does not comply with the version of the applicable Drawing last accepted by Owner (except as modified in accordance with Section 2.25.4), contrary to Owner's rejection, then in accordance with Section 8.5.1, Contractor shall identify any resulting change in the Change Request Log.

(f) Acceptance or Non-Response by Owner. Upon Owner's written acceptance of the Drawings and Specifications, or if Owner does not issue any comments, proposed changes or written acceptances or rejections of such Drawings and Specifications pursuant to Section 2.25.3(c), such Drawings and Specifications shall be the Drawings and Specifications that Contractor shall use to construct the Work; provided, that Owner's review or acceptance of any Drawings and Specifications (or Owner's lack of comments or written rejection thereof) shall not in any way be deemed to limit or in any way alter Contractor's

responsibility to perform and complete the Work in accordance with the requirements of this Agreement.

2.25.4 Technical Deviations. During the performance of the Work, Contractor shall utilize a technical deviation protocol to address any modifications or changes to any Specifications, which shall provide for notice to and prior approval of Owner of any such pending modifications or changes (not to be unreasonably withheld) before such modification or change is utilized in the Liquefaction Project, and shall be subject to Section 2.21.2, as applicable.

2.25.5 Management of Change. Contractor shall prepare a management of change procedure ("**MOC**") for Owner review and approval. Any changes to piping and instrument diagrams (P&IDs) following completion of the hazard and operability analysis shall be managed through implementation of Contractor's MOC procedure. HAZOP reviews for any changes which have safety or operability implications will be conducted with Owner participation and documented in the HAZOP LOPA Reports as MOC addendums.

2.25.6 Design Licenses. Contractor shall perform, or cause to be performed, all design and engineering Work using GECP and in accordance with Applicable Laws, and all Drawings and Specifications and design and engineering Work shall be signed and stamped by design professionals licensed in accordance with Applicable Laws.

2.25.7 CAD Drawings. Unless otherwise expressly provided under this Agreement, all Drawings and Record As-Built Drawings prepared by Contractor or its Suppliers under this Agreement shall be prepared using computer aided design ("**CAD**"), in such formats and delivered in accordance with Appendix U.

2.25.8 As-Built Drawings. During construction, Contractor shall keep a redlined, marked, up-to-date set of As-Built Drawings on the Site as required under Appendix U. Contractor shall deliver to Owner the As-Built Drawings for each Stage in accordance with Appendix U. The Record As-Built Drawings shall be delivered by Contractor for each Stage no later than one hundred twenty (120) Days after the Substantial Completion Date of such Stage, but in any event, no later than Final Acceptance.

2.25.9 3D Model. Contractor shall develop and deliver to Owner a 3D model that complies with the applicable requirements of Appendix U. Contractor shall coordinate and cooperate with Owner to update such 3D model during performance of the Work.

2.25.10 Deliverables. Contractor shall deliver copies of all Deliverables in Fully Functional files, and in the formats and in accordance with timing and other requirements set forth in Appendix U and Attachment U-1.

2.26 Survey Control Points. Contractor shall establish all survey control points and layout the entire Work in accordance with the requirements of this Agreement. If Contractor or any of its Subcontractors or any of the representatives or employees of any of them move or destroy or render inaccurate the survey control point provided by Owner, such control point shall

be replaced by Contractor at Contractor's own expense and Contractor shall be liable to Owner for all other damages, costs, losses and expenses arising out of such relocation or destruction.

2.27 Operation Prior to Substantial Completion.

2.27.1 Use of Operating Personnel. Contractor shall provide all labor, administrative personnel, materials, supplies and other items which may be required in connection with operation of each Stage prior to Substantial Completion except for the Operating Personnel. Training of Operating Personnel for the operation and maintenance of the LNG Facility shall be in accordance with Section 2.16. Until Substantial Completion of the applicable Stage, the Operating Personnel providing support to such Stage, including during Contractor's pre-commissioning, commissioning, start-up and operation of such Stage and the conduct of Performance Tests and any other tests for such Stage, shall be under the control of and supervised by Contractor; provided, that, notwithstanding the foregoing, such Operating Personnel shall remain employees or agents of Owner and shall not be considered employees of Contractor for any reason; provided, further, that the foregoing shall not be deemed or construed to limit Contractor's obligation to provide personnel during commissioning and Performance Testing, and Contractor agrees that it shall remain responsible for direct supervision of Operating Personnel that perform such activities.

2.27.2 Plan for Utilization of Operating Personnel. Contractor shall, no later than two hundred seventy (270) Days before the date on which the first tranche of Operating Personnel are scheduled to complete training in accordance with Appendix P, prepare for Owner's review a proposed plan regarding the utilization of the Operating Personnel and the interface with Contractor's personnel during pre-commissioning, commissioning, start-up and operation of such Stage, and the conduct of Performance Tests and any other tests for such Stage. Each such utilization plan shall, among other things, be prepared (a) so as to minimize, to the extent reasonably possible under the circumstances (considering the obligation to keep any Stage which has achieved Substantial Completion operable), any impact on the operation of any Stage that has achieved Substantial Completion; (b) to take into account Owner's operating and maintenance procedures; (c) based on the number of the Operating Personnel available for participation in pre-commissioning, commissioning, start-up and Performance Testing, and taking into consideration that after commissioning of Stage I is completed, all Operating Personnel assigned to maintenance and all other Operating Personnel that were part of the first tranche of training, shall be assigned to work on Stage I; (d) with consideration of any specific safety issues for such Stage; and (e) taking into account the type of activities to be performed. Such utilization plan shall be mutually agreed-upon by the Parties no later than forty-five (45) Days after Owner's receipt of Contractor's proposed plan.

2.27.3 No Relationship with Operating Personnel. Nothing in this Agreement, including this Section 2.27, shall be interpreted to create a principal-agent relationship between Contractor and any of the Operating Personnel. Notwithstanding anything in this Agreement to the contrary, Contractor will not be entitled to a Change Order or any adjustment to its obligations hereunder as a result of the performance, skill or actions of the Operating Personnel.

2.28 Coordination with Others Performing Work. Contractor acknowledges that Persons (including the Other Contractors), contracting with Owner, other Owner Group members or subcontracting with Other Contractors, may perform certain work on or near the Site, or may require working and operational spaces outside the berm for utility line corridors and rights of way for third party utility suppliers, which are considered Other Contractors under this Agreement, that will provide permanent utilities to the LNG Facility. Contractor shall: (a) in accordance with the Interface Management Plan, coordinate the Work with the work of such Persons and cooperate with such Persons to minimize the impact of any interference; (b) attend any meeting reasonably requested by Owner or the Other Contractors (whether or not Owner is an attendee of such meeting) for the purpose of coordinating performance of the Work or to resolve concerns relating to the Work, either Person's employees, or either Person's subcontractors; and (c) use its commercially reasonable efforts, and cause its Subcontractors to use commercially reasonable efforts to, maintain good working relationships with Other Contractors and their employees and such Other Contractors' subcontractors and their employees. If any Other Contractor that is performing any work on the Site fails to reasonably cooperate or coordinate with Contractor and interferes with Contractor in the performance of the Work, Contractor shall promptly notify Owner, reasonably explaining the facts and circumstances surrounding such delay, and Owner shall use reasonable efforts to cause the Other Contractor to avoid interfering with Contractor and to cooperate and coordinate their activities with Contractor.

2.29 Compliance with Lender Requirements.

2.29.1 Financing of Liquefaction Project; Agreements with Lenders. Contractor acknowledges that the Liquefaction Project will be financed with assistance provided by Lenders. Contractor agrees to deliver, at its expense and as a condition to any such financing or refinancing, such documentation and information as is customary for a financing or refinancing of such type. Without limitation on the preceding sentence, Contractor agrees, when so requested by Owner, to: (a) enter into, and cause Contractor's Guarantor to enter into, direct agreements with any such Lender or Lenders' Agent substantially in the form attached hereto as Appendix OO-1 and Appendix OO-2, respectively (each, a "**Direct Agreement**"), with such modifications thereto as required by such Lender or Lenders' Agent but that do not increase Contractor's liability or obligations to Owner or the Common Facilities Owner, or limit Contractor's rights with respect to Owner under this Agreement; (b) deliver to Lenders or Lenders' Agent certified copies of Contractor's and any Contractor Guarantor's corporate charter and by-laws, resolutions, incumbency certificates, legal opinions (covering, without limitation, such items as the validity and enforceability of this Agreement and any Contractor Guarantee, Letter of Credit or other credit support provided hereunder, the due organization and existence of Contractor and any Contractor Guarantor, that Contractor and any Contractor Guarantor has obtained all necessary governmental consents, and that no material litigation exists), financial information that is customarily provided to Lenders (in a form and format to be reasonably acceptable to Contractor), evidence of insurance, a consent to receive service of process in New York, New York and such other items as Lenders or Lenders' Agent may reasonably request, or that Owner may request in order to meet the reasonable information requests of rating agencies that are rating debt to be issued by Owner for the purposes of financing the Liquefaction Project (subject to customary rating agency confidentiality terms); (c) deliver such other information,

documents or data as customarily required by Lenders for purposes of preparing an offering memorandum, prospectus or similar sales document for a financing or capital markets offering, including by providing reasonable access to management for due diligence discussions in connection with any capital markets offering; and (d) fulfill all obligations and comply with all procedures, and require Suppliers, to the extent applicable, to fulfill all obligations and comply with all procedures, that may reasonably result from Owner's financing arrangements, including providing all information and reports reasonably requested by Lenders or Lenders' Agent to facilitate the financing or refinancing of the LNG Facility and the Liquefaction Project, including lien waivers in accordance with Sections 6.3.5 and 6.6. Contractor acknowledges that Owner will from time to time seek the consent of the Lenders, Lenders' Agent or the Independent Engineer in connection with actions that Owner may take under this Agreement as necessary or appropriate under the terms of Owner's agreements with Lenders, and that seeking such consent shall not be deemed or construed to be unreasonable.

2.29.2 Lender Requirements. Contractor agrees, as part of the Work:

(a) to make available financing expertise within its organization to work with and assist Owner's financial advisors;

(b) to promptly advise Owner of any significant change in financial position or rating;

(c) to allow Lenders, their representatives and designees (including any advisors and consultants) access to the Site, any other location where the Work is performed, and the Work, upon prior request, during normal working hours and in a manner that does not delay or disrupt construction of the LNG Facility in any respect, subject to Contractor and the Lenders having agreed on reasonably satisfactory confidentiality arrangements;

(d) to allow Lenders, their representatives and designees (including any advisors and consultants) to witness any Performance Tests conducted in connection with the Work, subject to Contractor and the Lenders having agreed on reasonably satisfactory confidentiality arrangements;

(e) to cooperate with Owner and its Affiliates in providing such documentation and information as is required by any of the Lenders with respect to the proper and ethical operation of Contractor's businesses, including assurances to the effect that Contractor, and to the extent required by Applicable Law or Lender requirements, Contractor's Affiliates, are in compliance with Section 23.13;

(f) to provide certificates, notices and other information reasonably requested by Lenders as necessary to reasonably demonstrate to the Lenders that Contractor has achieved Mechanical Completion for a Stage, Ready for Start-Up for a Stage, Substantial Completion of a Stage, Final Acceptance of a Stage, and Final Completion; and

(g) to execute promptly any reasonable amendment or modification of this Agreement required by any Lender that does not increase Contractor's liability or obligations

to Owner or the Common Facilities Owner, or limit Contractor's rights with respect to Owner under this Agreement.

2.30 COVID-19.

(a) The Parties acknowledge and agree that a LNTP or the Full Notice to Proceed may be issued, and Work may be performed, during the COVID-19 pandemic. [***], subject to Contractor's rights and obligations pursuant to Section 8.3.1(s) and Section 8.3.1(t), as applicable, and Article 18, should a COVID-19 Event occur. The Parties have agreed to certain means and methods and counter-measures (as set forth in Appendix YY), some of which are to be implemented throughout the Work (as set forth in Part II of Appendix YY), and some of which are to be implemented for the period of time as set forth in Part III of Appendix YY, in each case, to protect personnel from exposure, or to mitigate the exposure of personnel to COVID-19 and to permit the Work to be performed in accordance with all Applicable Laws during the COVID-19 pandemic (subject to Contractor's rights and obligations pursuant to Section 8.3.1(s) and Section 8.3.1(t), as applicable, and Article 18 should a COVID-19 Event occur). Such means, methods and counter-measures have been incorporated into the Work, included in the Contract Price and incorporated into the Project Schedule. Accordingly, with the exception of Contractor's rights and obligations pursuant to Section 8.3.1(s) and Section 8.3.1(t), as applicable, and Article 18, should a COVID-19 Event occur, in addition to Contractor's acknowledgement with respect to the matters contemplated in Section 2.4.1(d), Contractor hereby agrees that: (i) the COVID-19 pandemic, including any [***] or any other worsening of the COVID-19 pandemic, wherever the same may occur, [***]; (ii) [***] with respect to the impacts to the Work caused by COVID-19 or any Applicable Laws related thereto; and (iii) [***] with respect to any present or future impacts to the Work caused by COVID-19 or any Applicable Laws related thereto, and with respect to all matters described in subclauses (i) through (iii) of this Section 2.30(a), Contractor, subject to Contractor's rights and obligations pursuant to Section 8.3.1(s) and Section 8.3.1(t), as applicable, and Article 18, should a COVID-19 Event occur, [***] from and against such Claims. This Section 2.30 shall not limit Contractor's rights under Section 8.3.1(s) and Section 8.3.1(t), as applicable, and Article 18 in connection with a COVID-19 Event.

(b) The Parties have established the PCSC that shall consist of representatives selected by Contractor and one representative selected by Owner. From and after the FNTP Date and until the Parties agree otherwise (but in all cases ending at Substantial Completion of Stage II), [***] that a COVID-19 Event has occurred. [***] the Work at the Site or at any other location where the Work is being performed. At each meeting of the PCSC the Contractor shall [***]. If Contractor claims a COVID-19 Event has occurred, the PCSC shall discuss what COVID-19 Type A Counter-Measures, COVID-19 Type B Counter-Measures [***], is appropriate, as applicable, with respect to the applicable COVID-19 Event that Contractor claims has occurred, and make recommendations of the same to the Owner Representative and Contractor Representative. The Parties acknowledge that the Owner representative who attends the PCSC is not empowered to make any decisions on behalf of Owner. Statements made by Contractor or any of its representatives at any meeting held by the PCSC shall not constitute a notice which is otherwise required pursuant to Article 18.

(c) If Contractor claims that a COVID-19 PCSC Event has occurred, the PCSC shall meet within [***] Business Days of Contractor's delivery to Owner of a notice of

occurrence required pursuant to Section 18.2.1. The PCSC shall report to the Owner Representative and the Contractor Representative if such committee recommends implementation and proposed identification of any COVID-19 Type B Counter-Measures, [***], COVID-19 Type B Counter-Measure Extension [***], as the case may be for the applicable COVID-19 PCSC Event, [***] (collectively, the "**COVID-19 Recommended Additional Counter-Measures**"). If the COVID Committee recommends any COVID-19 Recommended Additional Counter-Measures, the Owner Representative and Contractor Representative [***]. At such meeting of the Owner Representative and Contractor Representative, Contractor Representative shall present, based upon information available to it at that time, a non-binding, good faith, estimate of the impact (if any) to the Contract Price and Project Schedule of the COVID-19 Recommended Additional Counter-Measures. If the Owner Representative and Contractor Representative agree that the COVID-19 PCSC Event has occurred and also agree on the adoption of the COVID-19 Recommended Additional Counter-Measures recommended by the PCSC with respect to such COVID-19 PCSC Event, then Contractor shall prepare a Change Order pursuant to Section 8.3.1(t) to document such agreement (and Owner and Contractor shall sign the agreed upon Change Order) and Contractor shall implement such agreed upon COVID-19 Recommended Additional Counter-Measures immediately after such meeting. If the Owner Representative and Contractor Representative do not agree that either (i) the applicable COVID-19 PCSC Event occurred; or (ii) that the applicable COVID-19 Recommended Additional Counter-Measures should be implemented, then the Parties shall escalate such matter to the Project Sponsors for discussion, which discussion shall occur within three (3) Business Days, or sooner if possible, after the conclusion of the meeting of the Owner Representative and the Contractor Representative. If the Project Sponsors agree that that the applicable COVID-19 PCSC Event has occurred and also agree on the COVID-19 Recommended Additional Counter-Measures, then Contractor shall prepare a Change Order pursuant to Section 8.3.1(t) to document such agreement (and Owner and Contractor shall sign the agreed upon Change Order) and Contractor shall implement such agreed upon COVID-19 Recommended Additional Counter-Measures immediately after such meeting. [***].

(d) [***].

(e) [***].

(f) [***].

ARTICLE 3

OWNER'S RESPONSIBILITIES

3.1 Payment of the Contract Price.

3.1.1 Owner Obligation. Owner shall timely pay the Contract Price in accordance with the provisions of Article 6.

3.1.2 NO OBLIGATION OF COMMON FACILITIES OWNER. CONTRACTOR ACKNOWLEDGES AND AGREES THAT NOTWITHSTANDING THAT THE COMMON FACILITIES OWNER IS A PARTY HERETO, THE COMMON FACILITIES OWNER SHALL NOT HAVE ANY OBLIGATION OR LIABILITY

WHATSOEVER FOR THE PAYMENT OF ANY AMOUNTS DUE TO CONTRACTOR HEREUNDER, WHETHER ARISING UNDER CONTRACT, TORT (INCLUDING NEGLIGENCE), STRICT LIABILITY, PRODUCTS LIABILITY, INDEMNITY, CONTRIBUTION, OR ANY OTHER CAUSE OF ACTION, AND CONTRACTOR HEREBY WAIVES AND RELEASES THE COMMON FACILITIES OWNER FROM ANY AND ALL CLAIMS FOR COMPENSATION OR PAYMENT OF ANY OTHER AMOUNTS DUE HEREUNDER, AND AGREES TO LOOK SOLELY TO OWNER WITH RESPECT TO PAYMENT OF ANY AMOUNTS OWED TO CONTRACTOR PURSUANT TO OR IN CONNECTION WITH THIS AGREEMENT.

3.1.3 [***].

3.2 Owner Supply of Electricity during Pre-Commissioning, Commissioning, Start-up and Testing. Subject to Contractor's performance of the Work in accordance with Appendix A and Appendix B and otherwise in accordance with this Agreement, that is required to interconnect the LNG Facility with the new facilities to be constructed by Entergy, Owner shall supply electricity to each Stage of the LNG Facility for use during pre-commissioning, commissioning, start-up and testing of such Stage at such dates and in the amount identified in Appendix E-1. During such periods, Contractor shall remain responsible for obtaining electrical power as otherwise required for performance of the Work in accordance with Section 2.13.2. The electricity supplied by Owner pursuant to this Section 3.2 shall be used only for operation of Equipment installed in each Stage during pre-commissioning, commissioning, start-up and testing, and shall not be used by Contractor for any other purpose.

3.3 Owner-Furnished Information.

3.3.1 Owner-Furnished Information; Non-Verified Information. Owner has provided, and may from time to time provide, Contractor with certain information relative to the LNG Facility, the Work, other aspects of the Liquefaction Project or related matters (such information, the "**Owner-Furnished Information**"). Contractor acknowledges that the Owner-Furnished Information has been provided as background information and as an accommodation to Contractor. In addition, Owner has provided Contractor with certain Non-Verified Information as identified in Appendix N. Owner acknowledges that Contractor is relying upon such information and has not verified and shall not verify the Non-Verified Information.

3.3.2 NO WARRANTIES. OWNER MAKES NO WARRANTIES, EXPRESS OR IMPLIED, TO CONTRACTOR OR ANY OTHER PERSON, AS TO THE ACCURACY, SUFFICIENCY OR CONTENT OF THE OWNER-FURNISHED INFORMATION OR THE OPINIONS THEREIN CONTAINED OR EXPRESSED, INCLUDING ANY IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. ANY ERROR IDENTIFIED IN ANY SUCH OWNER-FURNISHED INFORMATION SHALL NOT BE A BREACH OF ANY COVENANT, CONDITION, REPRESENTATION OR WARRANTY OF OWNER, SHALL NOT FORM A BASIS FOR AN OWNER EVENT OF DEFAULT, SHALL NOT BE AN EVENT OF FORCE MAJEURE, AND SHALL NOT BE AN EXCUSABLE EVENT (EXCEPT WITH RESPECT TO ERRORS OR INACCURACIES IN

THE NON-VERIFIED INFORMATION WHICH SHALL BE AN OWNER-CAUSED DELAY).

3.4 Appointment of Authorized Representative. Owner hereby appoints Karim El Kheiashy to be the Owner Representative. The Owner Representative shall have full authority to act on Owner's behalf under this Agreement; provided, however, that the Owner Representative shall not be entitled to amend or terminate this Agreement without further written authorization from Owner; provided, further, that Owner may from time to time by notice to Contractor limit the authority of the Owner Representative to take certain actions on Owner's behalf under this Agreement, which notices will be effective only prospectively from and after the date that the notices are deemed to have been given under Article 22. Owner may from time to time by notice to Contractor remove any person from his appointment as the Owner Representative and appoint another person in his place with effect from a future date to be specified in the notice. Owner shall at all times throughout the term of this Agreement ensure that some person continues to act as the Owner Representative.

3.5 Access to the Site. Subject to Contractor obtaining and maintaining any applicable Permits, Owner shall provide Contractor with such access to the Site as agreed by the Parties pursuant to a LNTP, if issued, and in accordance with this Agreement, and shall provide Contractor with access to the Site following the FNTP Date in accordance with Sections 2.11.1 and 2.11.4 as of the FNTP Date. If, at any time prior to the FNTP Date, Owner discontinues funding the SWSA or takes care, custody and control of the Site from Contractor under the SWSA, as applicable, then (a) Owner shall perform, or cause to be performed, the Site maintenance activities as described in the Site preservation and maintenance plan (PAL-PJT-CON-PRO-00-GEN-0001) as agreed to by the Parties under the SWSA, until the FNTP Date; and (b) if the work performed under the SWSA is damaged, by Force Majeure or otherwise, Owner shall repair such work with respect to such damage before the FNTP Date. If Owner issues the LNTP, and at any time before the FNTP Date, within three (3) Business Days after any Owner's request (which request shall not occur more frequently than monthly for periods between the issuance of the LNTP and the FNTP Date), Contractor and Owner shall conduct a joint inspection of the Site and Contractor shall submit to Owner in writing any issues where Contractor believes that Owner did not follow the Site preservation and maintenance plan (PAL-PJT-CON-PRO-00-GEN-0001) or where Owner failed to repair damage to the work performed under the SWSA caused by Force Majeure or otherwise, and how such issues may be corrected so as to satisfy the requirements of the Site maintenance plan (PAL-PJT-CON-PRO-00-GEN-0001). Owner's correction of such issues, submitted by Contractor to Owner in writing, prior to the FNTP Date, shall prevent such corrected issue from qualifying as an Excusable Event under clause (m) of the definition of "Owner Caused Delay".

3.6 Personnel Provided by Owner.

3.6.1 Personnel for Operations. Owner shall provide, or contract for, between eighty (80) and one hundred (100) Operating Personnel as Owner determines necessary for the operation and maintenance of the LNG Facility. Owner shall notify Contractor by no later than three hundred sixty five (365) Days after the FNTP Date of the number of Operating Personnel and the job disciplines of such Persons that Owner will make available for training. Owner will

make Operating Personnel available in accordance with Section 3.6.2 to complete field training and work under the direction of Contractor during pre-commissioning, commissioning, start-up and operation of a Stage until Substantial Completion of such Stage in accordance with the utilization plan agreed to by Owner and Contractor as described in Section 2.27.2. For the avoidance of doubt, Owner shall be responsible for payment of all wages, fringe benefits, taxes and insurance for the Operating Personnel, and the provision of any computers or tablet devices as Owner determines necessary for the Operating Personnel.

3.6.2 Personnel for Training. Owner shall ensure that, subject to Owner's sick leave and other employee policies, the Operating Personnel are available for training at the times required under the training schedule agreed to by Owner and Contractor in accordance with Appendix P.

3.7 Owner Permits. Owner shall confer with Contractor upon receipt of a notice of a proposed modification or amendment or extension of an Owner Permit, and shall sign such applications for the amendment or modification or extension of any Owner Permit as Owner reasonably agrees are desirable and appropriate and in a form reasonably acceptable to Owner. Owner shall have the right to, at Owner's request, submit any proposed modification, amendment or extension of an Owner Permit to the relevant Governmental Authority and participate in any meetings with Governmental Authorities regarding any Owner Permit. Owner shall provide such information as reasonably requested by Contractor and otherwise provide reasonable assistance to Contractor in obtaining the Contractor Permits. Owner shall obtain and maintain the Owner Permits. In connection with the FERC Order, Owner shall: (a) provide the turning lanes as and when required under Condition No. 81; (b) provide the hazard analysis reports and studies as and when required under Condition No. 88; (c) provide the operational plans and programs for each Stage as and when required under Condition No. 123, other than the O&M Manuals to be provided by Contractor as part of the Work; and (d) provide procedures for management of off-Site contractors following Substantial Completion of Stage II as and when required under Condition No. 124, other than with respect to management of Suppliers performing Warranty Work.

3.8 Feed Gas; Fuel Gas. On or before the dates set forth on the Key Date Schedule, Owner shall procure and make Fuel Gas and Feed Gas available for commissioning, start-up, cool down and testing of the LNG Facility as required for Contractor to achieve Substantial Completion of each Stage (including Natural Gas or LNG utilized in the initial cool down of the LNG Facility). Such Fuel Gas and Feed Gas shall be made available by Owner at the outlet of the applicable meter stations to be constructed by Other Contractors. When made available to Contractor, the Fuel Gas and Feed Gas will meet the Feed Gas Specifications. Fuel Gas and Feed Gas to be provided by Owner in accordance with this Section 3.8 shall be nominated and scheduled in accordance with Section 9.5.3.

3.9 Owner Provision of LNG Tankers; LNG Tanker Loading; Cool-Down Cargos. Subject to Contractor's having provided the notices and information required under Section 9.6.1, on or before the dates set forth on the Key Date Schedule, Owner shall cause LNG Tankers to be available for Loading of LNG, including for purposes of the Ship Loading Rate Performance Test. Subject to Contractor's having provided the notices and information required

under Section 9.6.7; Owner shall use commercially reasonable efforts to provide a LNG Tanker carrying at least the volume of LNG and at such time as requested by Contractor under Section 9.6.7 for use in the cool-down of applicable Stage I components.

3.10 Disposition and Title to Products. As between Contractor and Owner, Owner shall be responsible for the disposition of the produced LNG and NGLs, including LNG and NGLs produced during the commissioning, start-up, cool down and testing of the LNG Facility. As between Contractor and Owner, Owner (or its customers) shall have title to, and be entitled to retain, all revenues received from the sale of LNG, NGLs and other products.

3.11 Pre-Existing Hazardous Materials and Archeological Finds. Owner shall, as promptly as practicable following receipt of notice from Contractor in accordance with Section 2.17, and to the extent required by any Applicable Law or any Governmental Authority, remediate, or cause the remediation of, any Pre-Existing Hazardous Materials present at the Site and address Archeological Finds with the appropriate Governmental Authority, as applicable.

3.12 LNG Storage. Following Substantial Completion of Stage I and subject to Contractor providing the notices and information required in accordance with Sections 9.5.1 and 9.6, Owner shall provide sufficient storage volume for Contractor to perform the commissioning activities for Stage II.

3.13 Tipping Fees. Owner shall pay any tipping fees related to disposal of dredge material into area 9A-9B of the Sabine Naches Navigation District disposal site or area 8 of the U.S. Army Corp of Engineers site.

3.14 Rights-of-Way. Owner shall obtain rights-of-way from utility owners to allow Contractor to cross over existing and relocated utilities in the locations as depicted on Attachment L-4 to Appendix L by the dates set forth in the Key Date Schedule, subject to Contractor having provided the design of the cross-overs in accordance with Section 2.11.5 and approval of the proposed design by the applicable utilities.
Additionally:

(a) [***].

(b) By the applicable dates set forth in the Key Date Schedule, Owner shall obtain leasehold rights from the applicable Governmental Authority in order for Contractor to perform the dredging Work in the turning basin east bank area as shown in Attachment L-1 to Appendix L as Owner-Leased for Permanent Impacts, as well as temporary rights to the areas immediately surrounding such area as shown in Attachment L-1 to Appendix L as Owner-Leased for Temporary Access but within the channel so as to permit Contractor to perform such dredging Work. With the exception of the foregoing, Contractor shall remain responsible hereunder for all other coordinating activities with Governmental Authorities and any other parties necessary to perform such dredging Work.

3.15 No Other Responsibilities. Without limiting its obligations under this Article 3, Owner shall have no responsibilities with respect to the engineering, construction, pre-

commissioning, commissioning, start-up or testing of the LNG Facility, any Stage, or operation of any Stage prior to Substantial Completion of such Stage.

3.16 Owner's Failure to Perform. A failure of Owner to perform any obligation or covenant in accordance with this Article 3 (other than Section 3.1) shall not be considered a breach of any covenant, condition, representation or warranty of Owner, and shall not be construed as an Owner Event of Default, it being understood that any such failure may constitute an Owner-Caused Delay, the sole and exclusive remedy for which is set forth in Article 8 and Article 18.

ARTICLE 4

COMMENCEMENT OF WORK; PROJECT SCHEDULE

4.1 Commencement of Work.

4.1.1 Essential Team LNTP, Ramp-Up LNTP. At any time on or before the [***], Owner, in its sole discretion, may issue a LNTP, authorizing Contractor to commence performance of the Work as specified in the applicable form set forth in Appendix NN. Depending on if and when a LNTP, and the Full Notice to Proceed is issued, as applicable, the provisions of Section 4.2.1 shall apply. Owner shall have no obligation to issue a LNTP or any other limited noticed to proceed hereunder. If Owner issues a LNTP, Contractor shall execute the same and shall commence with the performance of the Work as and when described in such LNTP. Except as expressly stated in the LNTP when issued, Contractor shall not be entitled to any compensation with respect to the Work performed under the LNTP, and Owner shall not be obligated to make any payments with respect to the Work performed pursuant to the LNTP. Any payments made to Contractor pursuant to a LNTP shall be credited against the Contract Price. If Owner intends to issue a LNTP, Owner shall endeavor to give Contractor [***] prior written notice of its intent to issue such LNTP. Contractor and Owner will communicate regularly about Owner's plans to issue a LNTP. For purposes of clarity, if Owner issues [***], Owner shall not be allowed to issue [***], but shall be permitted to subsequently issue [***].

4.1.2 Effect of Full Notice to Proceed. The Full Notice to Proceed shall authorize Contractor to commence performance of all of the Work. Until Owner issues the Full Notice to Proceed and it has become effective in accordance with its terms, Contractor shall not have the right or obligation to perform any Work hereunder; provided, however, that if Owner issues a LNTP, Contractor shall have the obligations to perform the Work as described in the LNTP, and Contractor shall have the obligations as set forth in Section 18.2.5 beginning upon the Effective Date. Upon the date that the Full Notice to Proceed becomes effective in accordance with its terms, Contractor shall promptly commence the Work in accordance with the Baseline CPM Schedule. IN THE ABSENCE OF OWNER'S ISSUANCE OF THE FULL NOTICE TO PROCEED AND SUCH FULL NOTICE TO PROCEED HAVING BECOME EFFECTIVE, IF CONTRACTOR PERFORMS OR COMMENCES PERFORMANCE OF A PART OF THE WORK OTHER THAN AS AUTHORIZED UNDER A LNTP ISSUED BY OWNER, CONTRACTOR SHALL NOT BE ENTITLED TO ANY COMPENSATION HEREUNDER, PERFORMANCE OF THAT PART OF THE WORK SHALL BE AT

CONTRACTOR'S SOLE RISK AND EXPENSE AND SHALL BE REVERSED UPON THE WRITTEN ORDER OF OWNER AT CONTRACTOR'S RISK AND EXPENSE, AND CONTRACTOR SHALL NOT BE ENTITLED TO ANY ADJUSTMENT TO THE SCOPE OF WORK, CONTRACT PRICE, MILESTONES, PAYMENT SCHEDULE OR THE KEY DATE SCHEDULE, OR ANY OTHER TERMS OR CONDITIONS OF THIS AGREEMENT, IN CONNECTION WITH THE PERFORMANCE OF THAT PART OF THE WORK OR ANY SUCH REVERSAL.

4.1.3 Issuance of Full Notice to Proceed. Subject to Section 4.1.4, Owner, in its sole discretion, may issue the Full Notice to Proceed with a FNTP Date that occurs on or before [***], in which case the applicable provision of Section 4.2.1 shall apply. Owner shall have no obligation to issue the Full Notice to Proceed and shall issue or shall not issue the Full Notice to Proceed in its sole discretion.

4.1.4 Delay in FNTP Date. If Owner does not issue the Full Notice Proceed such that the FNTP Date occurs on or before [***] (the "**Bid Validity Date**"), then, unless the Parties otherwise agree, the Parties shall meet and discuss whether and how to proceed with this Agreement and the Work, including agreeing on any amendments to this Agreement that may be required. Prior to such meeting, Contractor shall, if requested by Owner, to the extent reasonably possible, provide its revised proposal for the Work, or provide a proposal to develop a revised proposal, including revisions to the Contract Price and the Key Date Schedule, reasonably anticipated to result from such delay in issuance of the Full Notice to Proceed. Adjustments proposed and agreed to by the Parties shall not be subject to the requirements or the limitations or waivers described in Article 8 or Article 18, but shall not include any changes in design, quantities or Equipment (unless such changes have been requested or directed by Owner), or adjustments to correct for errors or omissions in Contractor's assumptions; provided, however, that no such limitation on changes shall apply if the Parties have not agreed to the proposed adjustments on or before the date that is [***]. If the Parties reach agreement on how to proceed with this Agreement, Contractor and Owner shall prepare a Change Order, and any necessary amendments to this Agreement as the Parties agree, to adjust the Guaranteed Substantial Completion Dates in accordance with Section 4.2.2, and document the adjustments to the Contract Price, if any, and update Appendix C and the Payment Schedule accordingly, as agreed; provided that such Change Order shall not include any adjustments to the Milestones or the Guaranteed Performance Levels. If the Parties are unable to agree on how to proceed with this Agreement on or before [***], either Party may terminate this Agreement pursuant to Section 19.8. In no event shall Owner's rights to issue unilateral Change Orders apply under the circumstances described in this Section 4.1.4.

4.2 Project Schedule. Contractor shall perform the Work in accordance with the Project Schedule and this Section 4.2. Attached hereto as Appendix E-1 is the Key Date Schedule which lists the Key Date Items, including the Guaranteed Substantial Completion Dates, and the applicable dates of completion for each such Key Date Item. Attached hereto as Appendix E-2 is the Baseline CPM Schedule, incorporating all of the Key Date Items consistent with the Key Date Schedule. The Baseline CPM Schedule shall not be subject to adjustment during the performance of the Work unless required pursuant to Section 4.2.3, to reflect the

actual (i.e. calendar date) FNTP Date in accordance with Section 4.2.2, or otherwise agreed to by the Parties pursuant to an amendment to this Agreement (and not by Change Order). The Key Date Items on the Key Date Schedule, including the Guaranteed Substantial Completion Dates, shall be subject to adjustment only in accordance with Section 4.4 or as agreed to by Owner (or determined in accordance with Article 20) pursuant to a Change Order issued in accordance with the applicable provisions of Article 8, except that certain Key Date Items may be added to the Key Date Schedule or adjusted pursuant to Section 9.6.3.

4.2.1 Guaranteed Completion Dates. Contractor shall cause each Stage to achieve Substantial Completion on or before the dates indicated below, as determined in accordance with the applicable subsection of Section 4.2.1(a)(i) with which Owner has complied if and when it issues the FNTP.

(a) (i) Provided that (A) either (1) Owner has issued Part II of Ramp-Up LNTP (without Part I thereof) at least [***] Days prior to the issuance of the Full Notice to Proceed, and funds such Ramp-Up LNTP in accordance with its terms, and Owner has funded [***] individuals set forth on Part I of the Ramp-Up LNTP for a period of at least [***] Days prior to the issuance of Part II of the Ramp-Up LNTP pursuant to a mutually executed Work Authorization issued under the EDSA; or (2) Owner has issued the Ramp-Up LNTP (with Part I thereof) at least [***] Days prior to the issuance of the Full Notice to Proceed, and funds such Ramp-Up LNTP in accordance with its terms; or (3) Owner has issued Part II of the Ramp-Up LNTP (without Part I thereof) at least [***] Days prior to the issuance of the Full Notice to Proceed, and funds Part II of the Ramp-Up LNTP in accordance with its terms, and Owner has funded the Core Team Individuals for a period of at least [***] Days prior to the issuance of Part II of the Ramp-Up LNTP pursuant to the Essential Team LNTP; and (B) the Full Notice to Proceed is issued on or before [***], then (1) Contractor shall cause Substantial Completion of Stage I to be achieved on or before the date that is [***] Days after the FNTP Date (the "**Guaranteed Stage I Substantial Completion Date**"); and (2) Contractor shall cause Substantial Completion of Stage II to be achieved on or before the date that is [***] Days after the FNTP Date (the "**Guaranteed Stage II Substantial Completion Date**").

(ii) Provided that (A) Owner has issued the Essential Team LNTP at least [***] Days prior to the issuance of the FNTP, and funds such Essential Team LNTP in accordance with its terms, (B) Owner has not issued Part II of the Ramp-Up LNTP; and (C) the Full Notice to Proceed is issued on or before [***], then (1) the Guaranteed Stage I Substantial Completion Date shall be the date that is [***] Days after the FNTP Date, and (2) the Guaranteed Stage II Substantial Completion Date shall be the date that is [***] Days after the FNTP Date; and (3) upon the issuance of the FNTP, Contractor shall have the right to a Change Order in accordance with Section 8.3.1(u) for an increase to the Contract Price, which amount shall equal [***]; and Contractor shall have the right to a Change Order to update the Key Date Schedule and the Baseline CPM Schedule in accordance with Section 8.3.1(y).

(iii) If (A) Owner has issued Part II of the Ramp-Up LNTP and has funded Part II of the Ramp-Up LNTP in accordance with its terms; (B) Owner has funded the Core Team Individuals [***] Days prior to Owner's authorization of Part II of the Ramp-Up LNTP under Section 4.2.1(a)(iii)(A); (C) Owner has otherwise authorized Part II of the Ramp-

Up LNTP for a period of at least [***] Days prior to issuance of the Full Notice to Proceed; (D) the Full Notice to Proceed is issued on or before the Bid Validity Date, and (E) Owner did not otherwise satisfy Section 4.2.1(a)(i) at the time of the issuance of the FNTP, then, in any such case:

(1) If Owner issues the Full Notice to Proceed on or prior to the date that is [***] Days prior to the [***], then (I) the Guaranteed Stage I Substantial Completion Date and the Guaranteed Stage II Substantial Completion Date shall be determined based on the number of Days that Owner authorized [***] prior to the issuance of the Full Notice to Proceed as determined pursuant to Table 1 of Attachment C-3 to Appendix C; and (II) Contractor shall have the right to a Change Order to update the Key Date Schedule and the Baseline CPM Schedule in accordance with Section 8.3.1(y), [***];

(2) If Owner issues the Full Notice to Proceed after the date that is [***] Days prior to the [***], but on or prior to the date that is [***] Days prior to the [***], then (I) the Guaranteed Stage I Substantial Completion Date and the Guaranteed Stage II Substantial Completion Date shall be determined based on the number of Days that Owner authorized [***] prior to the issuance of the Full Notice to Proceed as determined pursuant to Table 2 of Attachment C-3 to Appendix C; and (II) Contractor shall have the right to a Change Order in accordance with Section 8.3.1(v) for an increase to the Contract Price, which amount shall equal the amount set forth in Table 2 of Attachment C-3 to Appendix C based on the number of Days that Owner authorized [***] prior to the issuance of the Full Notice to Proceed and Contractor shall have the right to a Change Order to update the Key Date Schedule and the Baseline CPM Schedule in accordance with Section 8.3.1(y); or

(3) If Owner issues the Full Notice to Proceed after the date that is [***] Days prior to the [***], but on or before the [***], then (I) the Guaranteed Stage I Substantial Completion Date and the Guaranteed Stage II Substantial Completion Date shall be determined based on the number of Days that Owner authorized [***] prior to the issuance of the Full Notice to Proceed as determined pursuant to Table 3 of Attachment C-3 to Appendix C; and (II) Contractor shall have the right to a Change Order in accordance with Section 8.3.1(v) for an increase to the Contract Price, which amount shall equal the amount set forth in Table 3 of Attachment C-3 to Appendix C based on the number of Days that Owner authorized [***] prior to the issuance of the Full Notice to Proceed and Contractor shall have the right to a Change Order to update the Key Date Schedule and the Baseline CPM Schedule in accordance with Section 8.3.1(y).

(iv) If Owner issues the Full Notice to Proceed on or prior to the date that is [***] Days prior to the [***], but Owner has not otherwise satisfied either clause (i), (ii), or (iii) of this Section 4.2.1(a)(i) at the time of the issuance of such Full Notice to Proceed then (A) the Guaranteed Stage I Substantial Completion Date shall be the date that is [***] Days after the FNTP Date, and (B) the Guaranteed Stage II Substantial Completion Date shall be the date that is [***] Days after the FNTP Date; and (C) upon the issuance of the Full Notice to Proceed, Contractor shall have the right to a Change Order in accordance with Section 8.3.1(w) for an increase to the Contract Price, which amount shall be equal [***] and Contractor shall have the right to a Change Order to update the Key Date Schedule and the Baseline CPM Schedule in accordance with Section 8.3.1(y); provided however, if the Full Notice to Proceed is issued on or before [***] Days prior to the [***], then the one time increase in the Contract Price

shall be equal to [***]; provided further, if the Full Notice to Proceed is issued on or before [***] Days prior to the [***], then [***]. Owner shall endeavor to provide Contractor with at least [***] Days' written notice of its intent to issue Full Notice to Proceed under this Section 4.2.1(a)(iv); provided however, Owner shall at a minimum endeavor to provide [***] Business Days' written notice of its intent to issue Full Notice to Proceed under this Section 4.2.1(a)(iv).

(v) If Owner issues the Full Notice to Proceed after the date that is [***] Days prior to the [***], but on or prior to the [***], and Owner has not otherwise satisfied either clause (i), (ii), (iii) or (iv) of this Section 4.2.1(a)(i) at the time of the issuance of such FNTP then (A) the Guaranteed Stage I Substantial Completion Date shall be the date that is [***] Days after the FNTP Date plus a number of days equal to [***] Days for each Day (rounded up to next whole Day) after the [***] Day prior to the [***] (but on or prior to [***]) that Owner actually issues the Full Notice to Proceed; (B) the Guaranteed Stage II Substantial Completion Date shall be the date that is [***] Days after the FNTP Date plus a number of Days equal to [***] (rounded up to next whole Day) for each Day after the [***] prior to the [***] (but on or prior to [***]) that Owner actually issues the Full Notice to Proceed; and (C) upon the issuance of the Full Notice to Proceed, Contractor shall have the right to a Change Order in accordance with Section 8.3.1(x) for an increase to the Contract Price, which amount shall be equal to [***] per Day for each day after the [***] Day prior to the [***] (but on or prior to [***]) that Owner actually issues the Full Notice to Proceed and Contractor shall have the right to a Change Order to update the Key Date Schedule and the Baseline CPM Schedule in accordance with Section 8.3.1(y). Owner shall endeavor to provide Contractor with at least [***] Days' written notice of its intent to issue Full Notice to Proceed under this Section 4.2.1(a)(v); provided however, Owner shall at a minimum endeavor to provide [***] Business Days' written notice of its intent to issue Full Notice to Proceed under this Section 4.2.1(a)(v).

(b) If the Full Notice to Proceed is not issued on or before the Bid Validity Date, then the Guaranteed Substantial Completion Date for each Stage will be agreed, subject to Section 4.1.4, and set forth in a Change Order.

(c) CONTRACT PRICE ADJUSTMENTS AS LIQUIDATED DAMAGES. ANY INCREASE TO THE CONTRACT PRICE PURSUANT TO SECTION 4.2.1(a)(i), WILL BE DEEMED TO BE A LIQUIDATED DAMAGE. CONTRACTOR SHALL NOT HAVE ANY RIGHT TO A CHANGE ORDER WITH RESPECT TO THE CONTRACT PRICE, THE MILESTONES, THE PAYMENT SCHEDULE, THE KEY DATE SCHEDULE, INCLUDING THE GUARANTEED SUBSTANTIAL COMPLETION DATE, OR THE GUARANTEED PERFORMANCE LEVELS, OR ANY OTHER TERMS AND CONDITIONS OF THIS AGREEMENT, EXCEPT AS SPECIFIED IN SECTION 4.2.1(a)(i) AND SECTION 4.2.3. THE PARTIES HEREBY ACKNOWLEDGE AND AGREE THAT IT WOULD BE DIFFICULT IF NOT IMPOSSIBLE TO ASCERTAIN AND QUANTIFY THE ACTUAL DAMAGES THAT CONTRACTOR WOULD INCUR UNDER THE CIRCUMSTANCES SET FORTH IN SECTION 4.2.1(a)(i). ACCORDINGLY, IT IS EXPRESSLY AGREED THAT NONE OF THE AMOUNTS PAYABLE UNDER SECTION 4.2.1(a)(i) CONSTITUTE A PENALTY AND THAT THE PARTIES, HAVING NEGOTIATED IN GOOD FAITH FOR SUCH SPECIFIC AMOUNTS AND HAVING AGREED THAT SUCH AMOUNTS ARE REASONABLE IN LIGHT OF THE ANTICIPATED HARM CAUSED BY THE DELAY IN THE FNTP DATE, ARE ESTOPPED

FROM CONTESTING THE VALIDITY OR ENFORCEABILITY OF THE AMOUNTS AS SET FORTH IN SECTION 4.2.1(a)(i) ON THE BASIS THAT SUCH AMOUNTS CONSTITUTE A PENALTY OR ARE OTHERWISE UNENFORCEABLE OR INVALID. NOTHING IN THIS SECTION 4.2.1(c) SHALL LIMIT CONTRACTOR'S RIGHTS UNDER SECTION 18.2.5 IN THE EVENT OF A CLAIM SUBMISSION EVENT THAT OCCURS PRIOR TO THE FNTP DATE.

4.2.2 Administrative Adjustment to Key Date Schedule and Baseline CPM Schedule. If Owner issues FNTP pursuant to Section 4.2.1(a)(i) then within thirty (30) Days after the FNTP Date, Contractor and Owner shall prepare a Change Order that documents the Guaranteed Substantial Completion Dates as dates certain (i.e. expressed as calendar dates) as determined in accordance with Section 4.2.1, and updates the Key Date Schedule and the Baseline CPM Schedule to reflect the actual FNTP Date, the Guaranteed Substantial Completion Dates and dates certain (i.e. expressed as calendar dates) for each other Key Date Item as determined pursuant to this Section 4.2.2; provided, that, without limiting Section 18.2.5, such Change Order shall not include any adjustments to the Contract Price, the Milestones and the Payment Schedule or the Project Schedule (except with respect to incorporating the Guaranteed Substantial Completion Dates and the other Key Date Items as dates certain), or the Guaranteed Performance Levels.

4.2.3 Further Adjustment to Key Date Schedule and Baseline CPM Schedule. If (a) Owner issues FNTP pursuant to any of Section 4.2.1(a)(ii) or (A), then, within sixty (60) Days after the FNTP Date or (b) Owner issues FNTP pursuant to any of Section 4.2.1(a)(iv) or (v), then, within sixty (90) Days after the FNTP Date, Contractor and Owner shall prepare a Change Order that documents the updates to the Key Date Schedule and the Baseline CPM Schedule that are necessitated by the adjustment to the Guaranteed Substantial Completion Dates required pursuant to the applicable provision of Section 4.2.1(a)(ii), (A), (iv) or (v), provided that the updates to the Key Date Schedule and the Baseline CPM Schedule made by the Parties shall be adjusted on a consistent basis with the adjustments to the Guaranteed Substantial Completion Dates made pursuant to the applicable provision of Section 4.2.1(a)(ii), (A), (iv) or (v) based on Owner's issuance of the FNTP; and provided further that the Baseline CPM Schedule shall be updated to include the additional resource loading required as a result Owner's failure to issue the Full Notice to Proceed in accordance with Section 4.2.1(a)(i), and shall otherwise be consistent with the Baseline CPM Schedule set forth in Appendix E-2 and comply with Appendix S. Such Change Order issued pursuant to this Section 4.2.3 shall also reflect the actual FNTP Date, the Guaranteed Substantial Completion Dates, and dates certain (i.e. expressed as calendar dates) for each other Key Date Item. For purpose of clarity, there shall be no adjustment to the Contract Price as a result of the Change Order issued pursuant to this Section 4.2.3.

4.2.4 ENFORCING SCHEDULE. WITHOUT LIMITING CONTRACTOR'S RIGHTS PURSUANT TO ARTICLE 8, CONTRACTOR HEREBY WAIVES, ON ITS OWN BEHALF AND ANYONE CLAIMING THROUGH IT, ANY RIGHT CONTRACTOR MAY HAVE IN LAW OR IN EQUITY TO CHALLENGE THE SCHEDULED DATE FOR ANY OF THE KEY DATE ITEMS, INCLUDING WAIVING ANY RIGHT IT MAY HAVE TO SEEK AN ORDER FROM A COURT OR A FINDING BY AN ARBITRATOR THAT THE SCHEDULED DATE FOR ANY OF THE KEY DATE ITEMS SHOULD NOT BE

ENFORCEABLE OR SHOULD BE MODIFIED IN ANY WAY FROM THE THEN-CURRENT KEY DATE SCHEDULE, AS MODIFIED FROM TIME TO TIME IN ACCORDANCE WITH THIS AGREEMENT. CONTRACTOR ACKNOWLEDGES AND AGREES THAT THE WAIVER PROVIDED BY CONTRACTOR UNDER THIS SECTION 4.2.4 WAS A MATERIAL CONSIDERATION FOR OWNER AND COMMON FACILITIES OWNER IN ENTERING INTO THIS AGREEMENT.

4.3 Liquidated Damages.

4.3.1 Delay Liquidated Damages.

(a) Subject to Section 8.4.1(e), if Substantial Completion of Stage I occurs after the Guaranteed Stage I Substantial Completion Date, Contractor shall pay to Owner the following amounts as liquidated damages per Day for each Day, or portion thereof, commencing on the Day immediately following the Guaranteed Stage I Substantial Completion Date and ending on (but including) the date on which Substantial Completion of Stage I occurs (the "**Stage I Delay Liquidated Damages**"):

[***]

(b) Subject to Section 8.4.1(e), if Substantial Completion of Stage II occurs after the Guaranteed Stage II Substantial Completion Date, Contractor shall pay to Owner the following amounts as liquidated damages per Day for each Day, or portion thereof, commencing on the Day immediately following the Guaranteed Stage II Substantial Completion Date and ending on (but including) the date on which Substantial Completion of Stage II occurs (the "**Stage II Delay Liquidated Damages**"):

[***]

4.3.2 Delay LD Cap; Delay Liquidated Damages Not a Penalty.

(a) Contractor's maximum liability to Owner for Delay Liquidated Damages for a Stage is the Delay LD Cap for such Stage.

(b) THE PARTIES HEREBY ACKNOWLEDGE AND AGREE THAT IT WOULD BE DIFFICULT IF NOT IMPOSSIBLE TO ASCERTAIN AND QUANTIFY THE ACTUAL DAMAGES THAT OWNER WOULD INCUR IF CONTRACTOR SHOULD FAIL TO MEET ANY OF THE GUARANTEED SUBSTANTIAL COMPLETION DATES. ACCORDINGLY, IT IS EXPRESSLY AGREED THAT LIQUIDATED DAMAGES PAYABLE UNDER THIS AGREEMENT DO NOT CONSTITUTE A PENALTY AND THAT THE PARTIES, HAVING NEGOTIATED IN GOOD FAITH FOR SUCH SPECIFIC DELAY LIQUIDATED DAMAGES AND HAVING AGREED THAT THE AMOUNT OF SUCH DELAY LIQUIDATED DAMAGES IS REASONABLE IN LIGHT OF THE ANTICIPATED HARM CAUSED BY THE BREACH RELATED THERETO, ARE ESTOPPED FROM CONTESTING THE VALIDITY OR ENFORCEABILITY OF THE PER-DAY RATE OF THE DELAY LIQUIDATED DAMAGES

ON THE BASIS THAT SUCH PER-DAY RATE CONSTITUTES A PENALTY OR IS OTHERWISE UNENFORCEABLE OR INVALID.

(c) During any period in which Delay Liquidated Damages have accrued or are accruing, Owner may prepare and submit an invoice to Contractor once each Month with respect to Delay Liquidated Damages that have accrued prior to such date. Contractor shall pay such Delay Liquidated Damages within thirty (30) Days after such invoice is submitted to Contractor. Payment of any Delay Liquidated Damages with respect to any Work shall be in addition to, and not in lieu of, Contractor's other obligations under this Agreement.

(d) PAYMENT OF ANY DELAY LIQUIDATED DAMAGES WITH RESPECT TO ANY WORK SHALL BE IN ADDITION TO, AND NOT IN LIEU OF, CONTRACTOR'S OTHER OBLIGATIONS UNDER THIS AGREEMENT. NOTWITHSTANDING THE FOREGOING, SUBJECT TO OWNER'S RIGHTS AND REMEDIES PURSUANT TO SECTION 4.4.2, SECTION 4.4.4, SECTIONS 19.3.1(d), 19.3.1(l), 19.3.1(m) AND 19.3.1(n), AND SECTION 21.2, DELAY LIQUIDATED DAMAGES SHALL BE THE SOLE AND EXCLUSIVE REMEDY OF OWNER AND COMMON FACILITIES OWNER FOR ANY DELAY IN THE PERFORMANCE OR COMPLETION OF THE WORK IN ACCORDANCE WITH THE BASELINE CPM SCHEDULE OR KEY DATE SCHEDULE; PROVIDED, THAT THE FOREGOING SHALL NOT BE CONSTRUED OR DEEMED TO LIMIT OWNER'S RIGHT TO RECEIVE AND CONTRACTOR'S OBLIGATION TO PAY PERFORMANCE LIQUIDATED DAMAGES IN ACCORDANCE WITH SECTION 5.2 IF CONTRACTOR FAILS TO CAUSE A STAGE TO ACHIEVE THE APPLICABLE GUARANTEED PERFORMANCE LEVELS.

4.4 Critical Path Method Schedule; Acceleration and Schedule Recovery.

4.4.1 Critical Path Method Schedule. In accordance with Appendix S, Contractor shall prepare, manage, update and deliver to Owner a CPM Schedule (and updates thereto) covering the duration of the performance of the Work and showing the actual schedule of the Work. Each CPM Schedule delivered by Contractor hereunder shall represent Contractor's best judgment as to how it shall complete the Work in compliance with the Guaranteed Substantial Completion Dates and the Key Date Schedule, and shall comply with the requirements of this Section 4.4 and the applicable requirements of Appendix S. In the event that a CPM Schedule delivered to Owner does not meet the requirements of this Agreement, Contractor shall promptly revise and resubmit the CPM Schedule to Owner. Owner shall be entitled to reasonably rely upon the Baseline CPM Schedule (as the Key Date Items may be adjusted by Change Order in accordance with this Agreement), and any CPM Schedules provided by Contractor, including reliance that Contractor has developed a comprehensive, reasonable and accurate schedule to plan, organize, direct, coordinate, perform, execute and complete each portion of the Work.

4.4.2 Recovery and Recovery Plan. If, at any time during the prosecution of the Work, the CPM Schedule or the Monthly Status Report shows, or if Contractor fails to provide a current updated CPM Schedule or a Monthly Status Report in compliance with the requirements of this Agreement and Owner reasonably determines that (each, a "**Recovery Plan Triggering**

Event"): [***], Owner may, in addition to any other remedies that it may have under this Agreement, require that Contractor prepare a plan and associated schedule to explain and display how it intends to regain compliance with the Key Date Schedule or as close thereto as reasonably possible using the means described in Section 4.4.2(f) (collectively, a "**Recovery Plan**"). Except as set forth in the next sentence, Contractor shall prepare and prosecute a Recovery Plan even if Contractor Disputes Owner's determination of the need for a Recovery Plan. As the only exception to the foregoing sentence, Contractor shall not be required to prepare and prosecute a Recovery Plan if a Recovery Plan Triggering Event occurs if, and only if: (i) Contractor claims (by Notice to Owner after Owner requests Contractor to prepare such Recovery Plan) that the occurrence of a Claim Submission Event is the cause of the Recovery Plan Triggering Event; (ii) Contractor has submitted a Claim for relief (or provided notice of the same under Section 18.2.1 or 18.2.2) under the Key Date Schedule by the Claim Submission Deadline for such Claim Submission Event pursuant to and in accordance with Section 18.2.3; and (iii) Owner is still evaluating such Claim pursuant to the provisions of Section 8.5.4 and has yet to advise Contractor on whether or not Owner has accepted or rejected such Claim. In all other circumstances, Contractor shall be required to prepare a Recovery Plan if a Recovery Plan Triggering Event occurs. Contractor shall take the following actions after written notification by Owner of the requirement for a Recovery Plan:

(a) Within ten (10) Business Days after such written notification, Contractor shall prepare the Recovery Plan in accordance with GECP and to a similar level of detail as the CPM Schedule, and submit it to Owner for Owner's review and comment. Owner shall have the right to accept or reject such Recovery Plan, such acceptance not to be unreasonably withheld or delayed. The Recovery Plan shall represent Contractor's best judgment as to how Contractor shall regain compliance with the Key Date Schedule or as close thereto as reasonably possible using the means described in Section 4.4.2(f).

(b) Within ten (10) Business Days after Contractor submits a Recovery Plan, Contractor shall participate in a conference with Owner to review and evaluate the Recovery Plan. Such conference shall include Suppliers that Owner requests participate in the conference, subject to Contractor's consent to such participation, which consent shall not be unreasonably denied if the Supplier is material to the Recovery Plan. Any revisions necessary as a result of this review shall be resubmitted to Owner within three (3) Business Days after the conference, and Owner will have the right to accept or reject such revised Recovery Plan such acceptance not to be unreasonably withheld or delayed. This process shall be repeated until Contractor provides a Recovery Plan that is accepted by Owner, such acceptance not to be unreasonably withheld or delayed. During this process, the Parties and agreed participants (including Suppliers, as set forth above) shall continue to meet daily to discuss and attempt to resolve any differences with respect to the proposed Recovery Plan. If Owner indicates in writing that it accepts the revised Recovery Plan, the revised Recovery Plan shall then be the plan which Contractor shall use in planning, organizing, directing, coordinating, performing, and executing the Work (including all activities of Suppliers).

(c) Contractor shall perform the Work covered by the Recovery Plan in accordance therewith until Contractor achieves the results agreed on in the Recovery Plan.

(d) During the performance of the Recovery Plan, Contractor shall meet with Owner once each Week at the Site to review the effectiveness of the Recovery Plan and to determine whether Contractor has regained compliance with the Key Date Schedule. At the direction of Owner and without limiting Owner's rights under Section 19.3.1(m) or 19.3.1(n), Contractor shall prepare another Recovery Plan in accordance with Section 4.4.2(a) if any of the following circumstances occur:

(i) Contractor does not comply with the Recovery Plan, including if Contractor fails to ramp-up or add additional resources, or to add additional shifts, in accordance with the agreed Recovery Plan; or

(ii) Contractor complies with the Recovery Plan but fails to achieve the agreed results set forth in such Recovery Plan.

(e) If Contractor has regained compliance with the Key Date Schedule or otherwise achieved the results agreed in the Recovery Plan, Contractor shall return to the use of the CPM Schedule.

(f) In preparing and executing the Recovery Plan, Contractor shall take [***] designed to regain compliance with the Key Date Schedule or as close thereto as reasonably possible, including establishing additional shifts, hiring additional manpower, paying or authorizing overtime, providing additional Construction Equipment, and resequencing activities.

(g) The cost of preparing the Recovery Plan, and performing in accordance therewith, shall be for Contractor's account, regardless of its success or failure.

(h) Owner's requirement, review and acceptance of the Recovery Plan, or its decision not to request a Recovery Plan, shall not relieve Contractor of any obligations for the performance of the Work, change the Guaranteed Substantial Completion Dates or other Key Date Items, or be construed to establish the reasonableness of the Recovery Plan.

(i) Nothing herein shall limit Contractor's rights under Article 8 or Section 18.1 for Force Majeure, Excusable Events, COVID-19 Events or other item(s) for which Contractor has a right to a Change Order under Section 8.3.1 that occur during performance of a Recovery Plan.

4.4.3 No Constructive Acceleration. In no event shall Owner's request for a Recovery Plan or its rejection of or comments to any proposed Recovery Plan in accordance with Section 4.4.2, Owner's notice to Contractor of the continued application of the Key Dates or the Guaranteed Dates or any of Contractor's obligations to perform the Work in accordance with the Key Date Schedule, or Owner's rejection or denial of a request from Contractor to issue a Change Order to adjust the Guaranteed Dates under circumstances where Owner reasonably believes that Contractor is responsible for the delay, constitute the acceleration of the Work, and Contractor waives all claims it may have against Owner based on a theory of constructive acceleration or similar claim.

4.4.4 Acceleration and Acceleration Plan. Even if the Work is otherwise in compliance with the Key Date Schedule, Owner may, at any time, direct Contractor by unilateral or mutually agreed Change Order to accelerate the Work by, among other things, establishing additional shifts, paying or authorizing overtime, providing additional Construction Equipment or expediting Equipment orders; provided, however, that if the Work is being performed in compliance with the Key Date Schedule, Contractor shall have agreed pursuant to a mutually agreed Change Order to accelerate the Work; [***]. In no event will a Recovery Plan be deemed to be an Acceleration Plan, and this Section 4.4.4 does not apply to the matters described in Section 4.4.2. If Owner directs Contractor in writing to accelerate the Work, Contractor shall prepare a plan and associated schedule to explain and display how it intends to accelerate the Work and how that acceleration will affect the critical path of the CPM Schedule (an "**Acceleration Plan**"), and upon receipt of a mutually-agreed Change Order or unilateral Change Order, as applicable, promptly commence and diligently perform the acceleration of the Work in accordance with the Acceleration Plan. With respect to an Acceleration Plan:

(a) The Acceleration Plan shall represent Contractor's best judgment as to how it shall satisfy Owner's acceleration directive and shall reflect Contractor's best estimate of the additional costs that will be incurred, with reasonable explanation thereof. The Acceleration Plan shall be prepared in accordance with GECP and to a similar level of detail as the CPM Schedule.

(b) On the tenth (10th) Business Day after submittal of the Acceleration Plan to Owner (or such longer time as may be mutually agreed in writing by the Parties), Contractor shall participate in a conference with Owner to review and evaluate the Acceleration Plan. Any revisions to the Acceleration Plan necessary as a result of this review shall be resubmitted to Owner no later than the tenth (10th) Business Day after such meeting or such other date as may be agreed in writing by the Parties, and Owner will have the right to accept or reject such revised Acceleration Plan. The agreed Acceleration Plan shall be the schedule which Contractor shall use in planning, organizing, directing, coordinating, performing, and executing that portion of the Work that is affected by such acceleration, with the CPM Schedule governing the performance of all other Work.

(c) Owner's review and acceptance of the Acceleration Plan shall not constitute an independent evaluation or determination by Owner of the workability, feasibility, or reasonableness of that schedule.

ARTICLE 5

PROJECT PERFORMANCE

5.1 Guaranteed Performance Levels. Contractor guarantees that each Stage will meet all of the Guaranteed Performance Levels for such Stage under the Performance Conditions during the applicable Performance Tests or Contractor shall take the actions provided for in Section 9.10.

5.2 Liquidated Damages.

5.2.1 Performance Damage Amounts. If a Stage meets the Minimum Performance Standards but fails to meet the Guaranteed Performance Levels by the last Performance Test conducted by Contractor prior to the Guaranteed Substantial Completion Date, Contractor shall take the actions to cure the applicable deficiencies and pay to Owner the Performance Liquidated Damages in accordance with Section 9.10 and Appendix G, as applicable.

5.2.2 Performance LD Cap; Performance Liquidated Damages Not a Penalty.

(a) Contractor's maximum liability to Owner for Performance Liquidated Damages for a Stage is the Performance LD Cap for such Stage.

(b) THE PARTIES HEREBY ACKNOWLEDGE AND AGREE THAT IT WOULD BE DIFFICULT IF NOT IMPOSSIBLE TO ASCERTAIN AND QUANTIFY THE ACTUAL DAMAGES THAT OWNER WOULD INCUR IF CONTRACTOR SHOULD FAIL TO MEET ANY OF THE GUARANTEED PERFORMANCE LEVELS. ACCORDINGLY, IT IS EXPRESSLY AGREED THAT THE PERFORMANCE LIQUIDATED DAMAGES PAYABLE UNDER THIS AGREEMENT DO NOT CONSTITUTE A PENALTY AND THAT THE PARTIES, HAVING NEGOTIATED IN GOOD FAITH FOR SUCH SPECIFIC PERFORMANCE DAMAGES AND HAVING AGREED THAT THE AMOUNT OF SUCH PERFORMANCE LIQUIDATED DAMAGES IS REASONABLE IN LIGHT OF THE ANTICIPATED HARM CAUSED BY THE BREACH RELATED THERETO, ARE ESTOPPED FROM CONTESTING THE VALIDITY OR ENFORCEABILITY OF THE RATE OF PERFORMANCE LIQUIDATED DAMAGES ON THE BASIS THAT SUCH RATE CONSTITUTES A PENALTY OR IS OTHERWISE UNENFORCEABLE OR INVALID.

(c) PAYMENT OF ANY PERFORMANCE LIQUIDATED DAMAGES FOR A STAGE WITH RESPECT TO ANY WORK SHALL BE IN ADDITION TO, AND NOT IN LIEU OF, CONTRACTOR'S OTHER OBLIGATIONS UNDER THIS AGREEMENT. NOTWITHSTANDING THE FOREGOING, SUBJECT TO CONTRACTOR HAVING ACHIEVED THE MINIMUM PERFORMANCE STANDARDS AND OWNER'S RIGHTS AND REMEDIES PURSUANT TO SECTION 9.10, AND SECTION 21.2, PERFORMANCE LIQUIDATED DAMAGES SHALL BE THE SOLE AND EXCLUSIVE REMEDY OF OWNER AND COMMON FACILITIES OWNER FOR THE FAILURE OF CONTRACTOR TO ACHIEVE THE GUARANTEED PERFORMANCE LEVELS TO WHICH SUCH MINIMUM PERFORMANCE STANDARDS APPLY; PROVIDED, THAT THE FOREGOING SHALL NOT BE CONSTRUED OR DEEMED TO LIMIT (I) CONTRACTOR'S WARRANTY OBLIGATIONS UNDER ARTICLE 10; OR (II) OWNER'S RIGHT TO RECEIVE AND CONTRACTOR'S OBLIGATION TO PAY DELAY LIQUIDATED DAMAGES IN ACCORDANCE WITH SECTION 4.3.

ARTICLE 6

COMPENSATION AND PAYMENT

6.1 Contract Price.

6.1.1 Contract Price. Owner shall pay to Contractor, and Contractor shall accept, the Contract Price in full consideration for performance of the Work. The Contract is a fixed "separated" price contract as defined in 34 Tex. Administrative Code §3.291(a)(13), subject to adjustment only by Change Orders (as provided in Article 8). The Contract Price, as so adjusted, includes: (a) all Taxes for which Contractor is responsible under Article 7, costs, charges, and expenses of whatever nature applicable to the Work; (b) the amounts paid to Contractor pursuant to the EDSA or the SWSA; and (c) Provisional Sums as described in Section 6.1.2. Payments made to Contractor under the EDSA and the SWSA shall be credited against the Contract Price.

6.1.2 Provisional Sums. Notwithstanding anything to the contrary in Section 6.1.1, the Parties acknowledge and agree that the Contract Price includes provisional sums for certain portions of the Work in the amounts set forth in Appendix C. Accordingly, the Contract Price may be adjusted with respect to such provisional sums in accordance with Section 8.3.1(b).

6.1.3 Reimbursement of Unused Provisional Sums. To the extent that as of the Substantial Completion Date, the actual aggregate amount of the costs incurred by Contractor to perform a portion of the Work for which a provisional sum is set forth on Appendix C, is less than the provisional sum for such Work set forth on Appendix C, Contractor shall reimburse Owner for such excess amounts of such provisional sum.

6.1.4 Option. Notwithstanding anything to the contrary in Section 6.1.1, the Parties acknowledge and agree that Appendix C (a) identifies the Scope Options that Owner may elect to exercise; (b) sets forth the related adjustments to the Contract Price, Key Date Schedule and any other adjustments to the Work or the requirements under this Agreement in connection with such Scope Option if the Scope Option is exercised; and (c) sets forth a date by which Owner must notify Contractor that Owner is exercising the Scope Option. If Owner elects to exercise a Scope Option within the applicable time period set forth in Appendix C, Owner shall notify Contractor in writing and the Parties shall enter into a Change Order to adjust the Contract Price and make the other adjustments as contemplated in Appendix C as applicable with respect to such Scope Option.

6.2 Payments.

6.2.1 Payments Prior to the FNTP Date. Prior to the FNTP Date, Owner shall make payments to Contractor on account of the Contract Price in the amounts and at the times as provided in a LNTP, if issued by Owner to Contractor; provided that in no event shall Owner's liability to make payments to Contractor pursuant to a LNTP exceed the Maximum Ramp-Up

Payment Amount as set forth in such LNTP. Except as expressly modified in a LNTP, the provisions of this Article 6 shall apply to all Invoices and payments made pursuant to the LNTP.

6.2.2 Milestone Payments After the FNTP Date. Subject to the other provisions of this Article 6, from and after the FNTP Date, Owner shall make payments to Contractor on account of the Contract Price equal in amount to the applicable Milestone Payment following Contractor's completion of each Milestone, as further described herein and in Attachment D-1 to Appendix D. Each Milestone Payment shall be due and payable only to the extent it is supported by the completion of the Milestone, it being acknowledged and understood that no Milestone Payment shall be made for any partially completed Milestones (including in the case of Defects). The Parties acknowledge that each Milestone does not represent the cost of the Work included in such Milestone; accordingly, the Milestone Payments may not represent an actual measure of the progress of the Work.

(a) Contractor acknowledges that Attachment D-1 to Appendix D includes a Milestone titled "**Administrative Milestone**" for each Month of the Baseline CPM Schedule with respect to Contractor's delivery of reports, statements and the performance of other administrative obligations of Contractor hereunder, as described in Appendix D. If Contractor fails to complete the Administrative Milestone for a Month [***], Owner may withhold from each Invoice an amount equal to the sum of: (i) the amount of the payment to be made upon achievement of the Administrative Milestone; multiplied by (ii) for such Invoice, the number of Months in the aggregate Contractor has failed to achieve the Administrative Milestone and has not cured such Administrative Milestone in accordance with the following sentence. Owner may withhold such amounts until Contractor has achieved all of the Administrative Milestones that are required to be achieved (including delivery of all reports, statements and completion of other administrative obligations of Contractor, as described in Appendix D for all previous Administrative Milestones that were not achieved).

(b) Contractor acknowledges that Attachment D-1 to Appendix D includes Milestones titled "**Local Content Milestone**" with respect to Contractor's compliance with its reporting obligations under the Local Content Program. If Contractor fails to comply with the completion criteria as described in Attachment D-1 to Appendix D with respect to a Local Content Milestone, Contractor shall not be entitled to payment of such Local Content Milestone, and Owner may withhold the amount of such Local Content Milestone, until Contractor has cured such failure to comply (delivery of all reports as described in Attachment D-1 to Appendix D for all previous Local Content Milestones that were not achieved).

(c) In connection with any adjustment to the Contract Price hereunder, the Parties shall update Attachment D-1 to Appendix D with respect to any additional Milestones (including incorporating completion criteria for such additional Milestones) and adjust the Payment Schedule. Any adjustments to the Project Schedule that increase the amount of time required for Contractor to complete the Work and include an adjustment to the Contract Price, shall be accompanied by an adjustment to the Payment Schedule to incorporate an Administrative Milestone for each additional Month (or part thereof) added to the Project

Schedule; provided that the additional Administrative Milestones shall not result in an increase of the Contract Price except to the extent that the Contract Price has otherwise been adjusted in accordance with this Agreement.

6.2.3 Progress Payments. Subject to the other provisions of this Article 6, from and after the FNTP Date, Owner shall make payments to Contractor on account of the Contract Price equal in amount to the applicable Progress Payments based on the progress of the Work, as further described herein and in Attachment D-2 to Appendix D. Progress Payments shall be due and payable to the extent progress of the Work is verified in accordance with Section 6.3.3. If the Parties determine any updates or modifications to the Payment Schedule should be made, the allocation of Progress Payments in such updated Payment Schedule shall be determined utilizing the same methodology as that used in the Payment Schedule set forth in Attachment D-2 to Appendix D as of the Effective Date.

6.2.4 Time and Materials Payments. Subject to the other provisions of this Article 6, with respect to Work performed on a time and materials basis under a Change Order, payments that are not Disputed shall be made monthly based upon the time and materials used for the Work authorized pursuant to such Change Order, as detailed in the applicable Invoice.

6.2.5 Form of Payment. All payments to Contractor shall be made in Dollars by wire transfer of immediately available funds to the bank and account specified in Appendix RR or such other bank and account located in the U.S. that Contractor specifies in a notice to Owner no later than five (5) Business Days before the applicable payment is due under this Agreement.

6.2.6 FNTP Date Payment. Within one (1) Business Day after Owner issues the Full Notice to Proceed, Contractor shall submit an invoice to Owner for payment of the Milestone Payment due upon issuance of the Full Notice to Proceed as set forth in Attachment D-1 to Appendix D. On the date that is identified as the FNTP Date in the Full Notice to Proceed when issued by Owner, Owner and Contractor shall meet at the time and location in Houston as agreed by the Parties, and:

(a) Owner shall deliver to Contractor:

(i) the payment due pursuant to the Invoice issued by Contractor pursuant to this Section 6.2.6;

(ii) [***];

(iii) [***]; and

(b) Contractor shall deliver to Owner:

(i) a Letter of Credit in accordance with Section 17.2.1; and

(ii) certificates of insurance for the insurance required pursuant to Article 16 and Appendix MM as of the FNTP Date.

Owner acknowledges and agrees that if any Person other than Owner and Common Facilities Owner directly owns an interest in the LNG Facility as of the date on which Owner issues the Full Notice to Proceed, it shall be a condition to Contractor's obligation to proceed with the Work as of the FNTP Date that Owner shall have delivered the acknowledgements as described in Section 6.2.6(a)(ii) from such Person(s).

6.2.7 Reconciliation of Payment Schedule. Within thirty (30) Days after the FNTP Date, Contractor shall submit to Owner a revised Payment Schedule that adjusts both the Milestones and the progress payments, including the progress payment curve, as necessary to reflect the amounts paid to Contractor under the EDSA and the SWSA, and if issued, a LNTP, as applicable, and the exercise of any Scope Options by Owner.

6.3 Invoices and Supporting Documentation.

6.3.1 Invoices. Within ten (10) Business Days after the end of each Month (which for purposes of the Invoices shall end as of the second to last Friday of each Month), Contractor shall submit to Owner a Monthly Invoice. Each Monthly Invoice shall include all Milestones completed during the prior Month, if any, any amounts owing for Work for which a Progress Payment is to be made that was performed during the prior Month, any amounts due with respect to a Provisional Sum, and any amounts owing for Work performed on a time and materials basis for additional Work performed pursuant to a mutually executed Change Order or a unilateral Change Order under this Agreement during the prior Month, and shall deduct any amounts previously paid with respect to Defective Work discovered after a previous Invoice covering such Work was submitted to Owner. Without limiting the foregoing, Contractor shall not include a request for payment for any known Defective Work on any Invoice. Such Monthly Invoice shall also note: (a) Milestones projected to be completed during the Month in which the Invoice is submitted and the next succeeding Month, if any; (b) amounts projected to be due for Work for which a Progress Payment is to be made during the Month in which the Invoice is being submitted and the next succeeding Month; (c) Customs Duties for which Contractor is entitled to reimbursement pursuant to Section 7.3.2; and (d) if a Change Order requires payment of amounts due under such Change Order on a basis other than pursuant to the completion of Milestones or Progress Payments, amounts projected to be due and owing for Work performed pursuant to such Change Order during the Month in which the Invoice is submitted and the next succeeding Month, if any, separated by amounts due for materials, or labor or services provided. All Invoices, other than the Invoice for final payment for each Stage under this Agreement, shall be in the form of Appendix V-1, shall comply with the requirements of Appendix S, and shall include all documentation supporting Contractor's request for payment as required under this Agreement. Contractor shall segregate the Monthly Invoice so as to clearly segregate the billing and back-up information related to completed Milestones, Progress Payments and requests for payments under mutually executed Change Orders.

6.3.2 Milestone Completion Notices. If a LNTP, if any, issued by Owner includes payments based on the completion of Milestones, Contractor shall provide written notices to Owner as the Milestones under the LNTP are completed. From and after the FNTP Date, Contractor shall provide written notices to Owner at least once each Week of the

Milestones that were completed in the previous Week (which notices may be included as part of the Weekly Status Report provided to Owner). Owner may inspect the Work to determine whether such Milestones have been completed, but is under no obligation to Contractor to do so. If Owner inspects the Work and disagrees that a Milestone has been completed, Owner shall promptly notify Contractor in writing of the reasons why Owner believes the Milestone has not been completed. Contractor shall notify Owner once Contractor has completed any further Work required to complete such Milestone, and if Owner inspects the Work and still disagrees that the Milestone has been completed, Owner shall promptly notify Contractor in writing. The Parties shall repeat this process on an iterative basis as necessary. If an Invoice includes a request for payment of any Milestone that Owner disagrees has been completed, Owner's notice to Contractor of Owner's disagreement that the Milestone has been completed pursuant to this Section 6.3.2, shall constitute Owner's notice of a Dispute pursuant to Section 6.3.6 and Section 6.4.1. If Contractor disagrees with Owner's assessment that a Milestone has not been completed, such Dispute shall be resolved pursuant to Article 20.

6.3.3 Progress Payment Verification. From and after the FNTP Date, Contractor shall provide written notices to Owner once each Week verifying the progress of the Work in the previous Week (other than engineering progress which will only be reported on a Monthly basis), which notices may be included as part of the Weekly Status Report provided to Owner. Contractor shall provide Owner with a Fully Functional copies of the detailed reports of Contractor's progress measurement details and summaries as described in Appendix S-3, as well as back up documentation for progress achieved on a Monthly basis, for the purpose of verification of achieved progress. Summaries of progress achieved shall be submitted together with Contractor's Invoice when submitted hereunder. Owner may inspect the Work to determine whether such progress has been achieved, but is under no obligation to do so. If Owner inspects the Work and disagrees with the amount of progress of the Work that Contractor reports has been achieved, Owner shall promptly notify Contractor in writing of the reasons why Owner believes the progress of the Work differs from that reported by Contractor. Contractor shall notify Owner once Contractor has completed any further Work required to achieve the progress of the Work reported by Contractor, and if Owner inspects the Work and still disagrees that the Work has progressed to the level reported by Contractor, Owner shall promptly notify Contractor in writing. The Parties shall repeat this process on an iterative basis. If an Invoice includes a request for a Progress Payment based on progress that Owner disagrees has been achieved, Owner's notice to Contractor of Owner's disagreement with the reported progress of the Work pursuant to this Section 6.3.3 shall constitute Owner's notice of a Dispute pursuant to Section 6.3.6 and Section 6.4.1. If Contractor disagrees with Owner's assessment of the progress of the Work, such Dispute shall be resolved in accordance with Article 20.

6.3.4 Time and Materials Documentation. During any period in which Contractor is performing any of the Work on a time and materials basis, Contractor shall cause its and the Suppliers' personnel performing Work on a time and materials basis to submit to Owner for countersignature bi-weekly hour reports showing hours worked by such personnel. No hourly charges with respect to such personnel may be included in any Invoice unless supported by such a countersigned bi-weekly hour reports. In addition, Contractor shall provide Owner with additional supporting documentation for any expensed amounts included on Invoices

submitted with respect to Work performed on a time and materials basis, including invoices and receipts for amounts incurred by Contractor with respect to such Work.

6.3.5 Interim Lien and Claim Waivers. Each Invoice received by Owner prior to Final Completion shall be accompanied by: (a) a fully executed Interim Lien and Claim Waiver from Contractor in the form of Appendix EE-1 for all Work for which payment is requested; and (b) fully executed Interim Lien and Claim Waivers from each Major Supplier in the form set forth in Appendix EE-2 for all Work for which payment is requested. Interim Lien and Claim Waivers shall not be required from Major Suppliers until they have performed Work, and Major Suppliers shall be required to submit additional Interim Lien and Claim Waivers only if they have performed Work not covered by a previous Interim Lien and Claim Waiver. Submission of all Interim Lien and Claim Waivers covering the period through the end of the applicable Month is a condition precedent to payment of any Invoice. In addition, beginning with the second Invoice submitted by Contractor hereunder, Contractor shall submit (i) a fully executed Interim Unconditional Lien and Claim Waiver from Contractor in the form of Appendix FF-1 for all Work for which payment was received and for which Contractor has not previously provided an Interim Unconditional Lien and Claim Waiver; (ii) fully executed Interim Unconditional Lien and Claim Waivers from each Major Supplier in the form set forth in Appendix FF-2 for all Work for which payment has been received and for which the Major Supplier has not previously provided an Interim Unconditional Lien and Claim Waiver; (iii) fully executed Final Lien and Claim Waivers in the form set forth in Appendix GG-2 from each Major Supplier that performed any part of the Work in the prior Month and that has completed all of the Work to be performed by that Major Supplier for which the Major Supplier has not previously provided a Final Unconditional Lien and Claim Waiver; and (iv) fully executed Final Unconditional Lien and Claim Waivers in the form set forth in Appendix HH-2 from each Major Supplier that has completed all of the Work to be performed by that Major Supplier and has not previously executed and delivered a Final Unconditional Lien and Claim Waiver.

6.3.6 Invoice Review and Payment. Contractor shall furnish such supporting documentation and notices as specified in this Section 6.2.7 in connection with Owner's review of an Invoice. Without limiting Owner's rights of review under this Agreement, within ten (10) Business Days after Owner receives an Invoice and all accompanying documentation required under this Section 6.2.7, Owner shall (in consultation with the Lenders Agent and the Independent Engineer, to the extent Owner chooses to consult with such Persons): (a) determine whether the Work covered thereby has been completed as described by Contractor; (b) determine whether the Work performed conforms with the requirements of this Agreement; and (c) determine and notify Contractor concerning any invoiced amount that is in Dispute and the basis for such Dispute. Unless Disputed by Owner in accordance with Section 6.4.1, each Invoice (less any withholdings allowed under this Agreement) shall be due and payable [***] Days after the Invoice is received by Owner.

6.4 Disputed Payments and No Waiver.

6.4.1 Disputed Payments. If Owner Disputes one (1) or more items in an Invoice, Owner shall pay the portion of the Invoice that is not Disputed by the due date for

payment in accordance with Section 6.3.6 and shall notify Contractor in writing of the item or items under Dispute and the reasons therefor and the Dispute shall be resolved pursuant to Article 20. Payment of such Disputed items may be withheld by Owner, without payment of interest, until settlement of the Dispute. Payment on Disputed amounts shall be made as soon as such Dispute is resolved. Failure by Owner to pay any amount in Dispute and identified pursuant to this Section 6.4.1 until resolution of such Dispute in accordance with this Agreement shall neither in any respect alleviate, diminish, modify nor excuse the performance of, Contractor's obligations to perform hereunder, including Contractor's obligation to meet the Guaranteed Substantial Completion Dates. Contractor and Owner shall use their commercially reasonable efforts to resolve all disputed amounts reasonably expeditiously and in accordance with the provisions of Article 20.

6.4.2 No Waiver. No payment made under this Agreement shall be construed to be acceptance or approval of that part of the Work to which such payment relates or shall constitute a waiver by Owner of the performance by Contractor of any of its obligations hereunder, and in no event shall any such payment affect the warranty obligations of Contractor as set forth in Section 10.1. Any payment withheld under this Agreement shall be without prejudice to any other rights or remedies available herein to Owner. Contractor's acceptance of any payment shall not be deemed to constitute a waiver of amounts that are then in Dispute.

6.5 Owner Right to Withhold and Set Off Payment.

6.5.1 Withholding. To the extent permitted by Applicable Law, Owner may withhold payment to Contractor, without payment of interest, of amounts otherwise due Contractor, and deduct or set-off monies due or owing by Contractor to Owner under this Agreement, for any of the following reasons:

(a) a Dispute over any amount in an Invoice (including as to the completion of Milestones or achievement of progress), to the extent of the Disputed amount;

(b) the filing of third-party claims against Owner asserting amounts due to such third parties by Contractor or any Supplier, or the filing of Liens against Owner or the Common Facilities Owner or any of their respective property with respect to the Work; provided that Contractor has refused or failed to defend, indemnify and hold harmless Owner and the Common Facilities Owner against such claims or obtain the release or discharge of such Liens to the extent Contractor is obligated hereunder to do so;

(c) in accordance with Tex. Property Code §53.081 following receipt of a notice from a Supplier as described therein;

(d) the assessment of any fines, penalties or similar assessments against Owner as a result of Contractor's failure to comply with Applicable Laws, to the extent of such fines, penalties or similar assessments;

(e) a failure by Contractor to pay amounts properly due for Equipment, materials and personnel used by Contractor in connection with the Work; provided, that Owner has paid Contractor all undisputed amounts hereunder;

(f) a failure by Contractor to pay any amount owing to Owner under this Agreement on or before the date due in the amount of such payment owed, or other breach by Contractor of any material provision of this Agreement as reasonably necessary for Owner to protect itself from resulting Losses;

(g) amounts previously overpaid by Owner to Contractor, including under the EDSA or the SWSA;

(h) if Contractor fails to deliver the reports, statements or otherwise perform the administrative obligations of Contractor due in connection with an Administrative Milestone in any given Month for which an Administrative Milestone is not included in the Payment Schedule, an amount equal to the most recent Administrative Milestone Payment included in the Payment Schedule, without duplicating amounts withheld under Section 6.2.2(a);

(i) if any Invoice does not include the required supporting documentation, to the extent of the amounts on such Invoice for which the supporting documentation is lacking;

(j) in accordance with Sections 6.2.2(a) and 6.2.2(b); or

(k) to the extent necessary to protect Owner from loss or potential loss against which Owner reasonably deems itself inadequately protected arising out of:

(i) failure by Contractor to provide a release or bond or otherwise discharge any Lien in breach of Section 2.9.3; provided that Contractor has refused or failed to obtain the release or discharge of such Liens to the extent Contractor is obligated to do so in accordance with Section 2.9; or

(ii) Contractor's failure to submit a Recovery Plan (without regard as to whether or not Owner has approved the proposed Recovery Plan, but without limiting Owner's right to challenge the reasonableness of such plan), or implement or materially comply with an accepted Recovery Plan.

If Owner elects to withhold payment from Contractor on account of any of the foregoing causes, Owner shall notify Contractor of such withholding at least ten (10) Days in advance of the due date for payment and state the reasons therefor. If such notice is provided with less than ten (10) Days remaining before the due date for payment, Owner shall pay the amount to be withheld but may withhold such amount from amounts due under a subsequent Invoice unless the reason for such withholding is corrected before payment is due with respect to such subsequent Invoice. Contractor shall continue to perform the Work, subject to Owner's right to terminate or suspend Contractor's performance under Section 19.3.2, notwithstanding the withholding by Owner of any such amount.

6.5.2 Payment of Withheld Amounts. Subject to Section 6.4.1, if and when the cause or causes for withholding any payment shall be remedied or removed by Contractor and reasonably satisfactory evidence of such remedy or removal has been presented to Owner, the amount withheld (other than with respect to monies due or owing by Contractor to Owner) shall be paid to Contractor at the due date for payment of the next Invoice to become due. If Contractor fails or refuses to remedy or remove any cause for withholding such payment for [***] Days after Owner notified Contractor that it intended to withhold such payment, Owner may remedy or remove the same, or cause the same to be remedied or removed, and may recover from Contractor the costs incurred by Owner to remedy or remove the same, or may deduct the cost thereof from any amounts due or owing to, or that may become due or owing to, Contractor; provided, however, that if Owner withholds amounts due to a Contractor Event of Default, Contractor shall have the same amount of time to attempt to remedy or cure such Contractor Event of Default as Contractor would have with respect to such default pursuant to Section 19.3.1.

6.5.3 Insufficient Amounts. If insufficient amounts are available for full offset by Owner, then Contractor, upon receipt of Owner's written notice of Contractor's outstanding obligations hereunder, shall promptly remit to Owner all amounts properly due and owing pursuant to the terms of this Agreement. Should Contractor fail to pay any such amount within [***] Days after Owner's notice (reserving its right to draw on the Letter of Credit), Owner may at its sole and absolute discretion draw on the Letter of Credit for such amounts, in addition to any other remedies that may be available to it under this Agreement.

6.5.4 No Suspension or Termination. Subject to Applicable Laws, and notwithstanding the provisions of Sections 19.4.2 and 20.5, Contractor shall not have any rights of termination or suspension under Section 19.4.2 as a result of Owner's exercise or attempted exercise of its rights under this Section 6.5.

6.6 Final Payments. Upon Final Completion, Contractor shall, in addition to any other requirements in this Agreement for achieving Final Completion, including those requirements set forth in Section 1.2 for the definition of Final Completion, submit a fully executed final Invoice (the "**Final Invoice**") in the form attached hereto as Appendix V-2, along with: (a) a statement summarizing and reconciling all previous Invoices, payments and Change Orders; (b) an affidavit that all payrolls, Taxes, liens, charges, claims, demands, judgments, security interests, bills for Equipment, and any other indebtedness connected with the Work have been paid; (c) fully executed Final Lien and Claim Waiver from Contractor in the form of Appendix GG-1; and (d) fully executed Final Lien and Claim Waivers in the form set forth in Appendix GG-2 from each Major Supplier that performed any part of the Work in the prior Month. No later than [***] Days after receipt by Owner of the Final Invoice and all requested documentation and achieving Final Completion, Owner shall, subject to its rights to withhold payment under this Agreement, including Owner's right to withhold payment for any unpaid liquidated damages which Contractor owes under the terms of this Agreement, and subject to Contractor concurrently delivering to Owner a Final Unconditional Lien and Claim Waiver in the form of Appendix HH-1 and delivering fully executed Final Unconditional Lien and Claim Waivers in the form set forth in Appendix HH-2 from each Major Supplier from which a Final

Unconditional Lien and Claim Waiver has not yet been delivered, pay Contractor the balance of the Contract Price. Acceptance of final payment by Contractor shall constitute a waiver of claims for payment by Contractor except those previously made in writing and identified by Contractor in the Final Invoice which are unsettled at the time of Contractor's application for final payment. Any Invoice or other request for payment delivered by Contractor with respect to a Stage more than [***] Days after the Final Completion Date, other than for amounts determined by virtue of an audit conducted under Section 2.23.2, amounts owing by Owner pursuant to Article 15, or amounts determined to be owed by Owner in accordance with Article 20 with respect to Disputes arising prior to the Final Invoice, as described therein, shall be invalid, and Owner shall have no obligation or liability to pay such Invoice or request.

6.7 Late Payments. Any late payments due to Owner or Contractor under this Agreement, excluding any payments that are properly withheld pursuant the terms of this Agreement, shall bear interest from the date payment is due at the Late Payment Rate per annum.

6.8 Overpayments. If an error is made in connection with a payment, and such payment is an overpayment, the overpayment shall be reconciled with the next monthly Invoice, or in the case of an overpayment by Owner offset under Section 6.5, or if no further invoices are planned or the amount of such Invoices are not estimated to be of an amount sufficient to properly reconcile the error, then the Party receiving such payment in error shall promptly refund the mistaken amount to the paying Party.

6.9 Currency Conversions. Within ten (10) Days after the FNTP Date with respect to any portions of the Contract Price that are stated in currencies other than Dollars on Appendix C, Contractor shall prepare and submit a proposed Change Order to Owner in accordance with Section 8.3.1(m) to: (a) convert those portions of the Contract Price that are stated in currencies other than Dollars on Appendix C (the "**Foreign Currency Amount**"), into Dollars, in accordance with Attachment C-2 to Appendix C that are being converted as of such date; and (b) reimburse Contractor for the associated hedging costs incurred by Contractor (without any mark-up), as demonstrated by the hedging agreements that Contractor has entered into with respect to conversion of such currencies and that are provided to Owner in connection with such Change Order. Except for such adjustments to the Contract Price as described in Attachment C-2 to Appendix C, Contractor will not have a right to any further adjustment to the Contract Price, or to any adjustment of the Milestone Payments, Progress Payments, the Payment Schedule, the Key Date Schedule, including the Guaranteed Substantial Completion Dates, the Guaranteed Performance Levels, or any other terms or conditions of this Agreement, as a result of the conversions of the Foreign Currency Amount pursuant to this Section 6.9 and Attachment C-2 to Appendix C.

6.10 Effect of Payment. No payment, final or otherwise, shall constitute a waiver of any claims by Owner or be considered or deemed to represent that Owner has inspected the Work, nor shall it constitute or be deemed an acceptance, in whole or in part, of any portion of the Work not in accordance with this Agreement.

6.11 Certain Conditions Precedent to Payment. It shall be a condition precedent to Owner's obligation to make any payment hereunder (a) whether under a LNTP or after the FNTP

Date, that Contractor has provided to Owner, and is maintaining (i) the Contractor Guarantee in accordance with Sections 17.1; and (ii) has procured and is maintaining the insurance policies in accordance with Article 16 and Appendix MM (as evidenced by certificates of insurance provided in accordance with Section 16.9); and (b) after the FNTP Date, that Contractor has provided to Owner, and is maintaining the Letters of Credit in accordance with Sections 17.2 and 9.10, as and when applicable.

6.12 Fixed Price Nature of Contract. Without limiting either Contractor's or Owner's rights pursuant to Article 8, Contractor and Owner acknowledge and agree there are cost risks inherent in the execution of a fixed price contract for construction. Contractor acknowledges that this Agreement constitutes a fixed price, date certain obligation to engineer, design, procure, construct, test and start-up a turnkey project (including the training of the Operating Personnel as described herein). References to the obligations of Contractor under this Agreement as being "turnkey" and performing the Work on a "turnkey basis" means that Contractor is obligated to supply all of the Equipment, labor and design services and to supply and perform all of the Work, in each case as may reasonably be required, necessary, incidental, or appropriate to complete the Work such that the LNG Facility meets the Guaranteed Performance Levels, or the Minimum Performance Standards, where applicable, and the LNG Facility otherwise complies with the applicable terms, conditions and other requirements set forth in this Agreement, all for the Contract Price. Contractor acknowledges that "turnkey" or "turnkey basis" does not limit Owner's right to review, inspect or comment on any aspect of the Work or Contractor's performance thereof as permitted under this Agreement. Contractor further acknowledges that it may have miscalculated its and its Suppliers' costs to perform the Work, and that the performance of the Work in accordance with this Agreement may result in Contractor (or its Suppliers) expending more resources than it or they estimated or budgeted or otherwise intend to expend. Similarly, Owner acknowledges that Contractor may have been conservative in its assumptions regarding the overall cost of the Work, and that the actual cost to Contractor to perform the Work may in fact be significantly less than the Contract Price. The fact that either Party may have so miscalculated the costs to perform the Work hereunder, or that either Party expended extra resources that it did not intend to spend as a result of such miscalculation, shall not form the basis for any claim of relief hereunder, whether such claim arises in contract or tort.

ARTICLE 7

TAXES

7.1 Responsibility for Taxes. The Contract Price includes all Taxes imposed on or payable by Contractor and Subcontractors in connection with the Work (and for purposes of clarity, any Customs Duties imposed on Equipment imported for fabrication of modular components and stored in modular yards that are not part of the FTZ shall be paid by the Contractor and are included in the Contract Price), other than: (a) those Taxes for which Owner is responsible as described in Section 7.3; and (b) those Texas Sales and Use Taxes for which Owner will be responsible as described in Section 7.5. Contractor shall: (i) pay and cause the payment when due of all Taxes imposed on or payable by Contractor and its Subcontractors in connection with the Work for which Contractor is responsible pursuant to this Section 7.1; and (ii) make, and shall cause its Subcontractors to make, any and all payroll deductions required by

Applicable Laws. Without limiting the foregoing, the Contract Price includes, and Owner shall have no responsibility to pay, any Texas Sales and Use Taxes or property taxes or any other taxes assessed, incurred or levied on any Construction Equipment. The Contract Price shall not be increased with respect to any of the foregoing or with respect to any withholdings that Owner may be required to make in respect of any of the foregoing items. Contractor shall also bear responsibility for any employment Taxes with respect to all individuals performing services under this Agreement on the behalf of Contractor who are not employed by Contractor as employees of Contractor, and cause all Subcontractors to bear responsibility for any employment Taxes with respect to all individuals performing Work for such Subcontractors who are not employed by such Subcontractors as employees of such entities. Notwithstanding the foregoing, Contractor shall not be liable for, and the Contract Price shall not include property Taxes levied on: (i) the real property of Owner; and (ii) Equipment and materials to be incorporated into, affixed to, or installed into the LNG Facility; provided, however, that notwithstanding anything to the contrary in the foregoing, Contractor shall be responsible to pay, and the Contract Price includes, property Taxes on Equipment and materials to be incorporated into, affixed to, or installed into the LNG Facility that are assessed by any jurisdiction outside of Jefferson County, Texas due to Contractor's delivery, handling, transport or storage of the Equipment (including Capital Spare Parts) that would not have been incurred or levied if Contractor had delivered the Equipment to the Site or the laydown yard in Jefferson County, Texas, as applicable, and stored it therein or thereon, until installation in the Liquefaction Facility; provided, further, that the foregoing shall not limit Contractor's right to relief in connection with the occurrence of a Force Majeure event. Contractor shall, and shall cause its Subcontractors to, file all returns required with respect to Taxes for which Contractor or such Subcontractors are responsible hereunder by the date required under Applicable Laws.

7.2 Withholding of Taxes. If Owner is required by Applicable Laws to withhold compensation due to Contractor to satisfy any obligation of Contractor for Taxes, Owner shall use commercially reasonable efforts to provide Contractor with at least ten (10) Business Days prior notice and may withhold such amounts from any payment due to Contractor hereunder. Owner shall pay any amounts so withheld to the applicable taxing authority and provide Contractor with any tax receipts or other evidence of payment that Owner obtains from such taxing authorities. Owner shall not withhold such Taxes from Contractor's compensation if Contractor produces evidence, reasonably satisfactory to Owner, that Contractor is exempt from withholding of such Taxes at least ten (10) Business Days prior to the next payment date.

7.3 Foreign-Trade Zone.

7.3.1 Cooperation. Owner shall designate the Site as a Foreign-Trade Zone, and shall similarly designate the off-Site laydown area(s) located in Jefferson County, Texas as identified in Appendix ZZ, as part of the Foreign-Trade Zone for purposes of the Liquefaction Project. Owner shall act as the "FTZ Operator" for the approved FTZ(s) and Contractor will utilize the Owner's FTZ(s) as a "Zone User". Contractor shall, to the maximum extent possible under Applicable Laws, and shall cause its Suppliers to, use the locations designated as part of the FTZ(s) for admissions of imported Contractor-Furnished Items. Contractor shall, and shall cause its Suppliers to, cooperate in good faith with Owner and its tax/customs consultants to achieve applicable Customs Duties and fee savings as it relates to the FTZ designations. Such

cooperation may include, among other things, timely providing relevant shipment information to Owner, filing required FTZ documentation with U.S. Customs and Border Protection for in-bound transportation from the port of arrival to the designated FTZ location and admission into the FTZ in lieu of a normal entry for consumption, and providing relevant information to Owner regarding inventory admitted within the FTZ(s) (including movement within and out of the FTZ(s)); provided, however, if Owner's Tax/customs consultant requests information relating to the actual cost of any item of Equipment, Contractor shall provide such information to Owner's Tax/customs consultant, subject to such consultant having signed a reasonable and customary non-disclosure agreement with Contractor and on the understanding that such consultant shall not disclose to Owner the actual cost incurred by Contractor or its Subcontractors for any item of Equipment included in the Contract Price. Owner will rely on cooperation from Contractor and its Suppliers to ensure regulatory compliance. Costs associated with integrating the FTZ's inventory control and recordkeeping system ("**ICRS**") software with Contractor's Enterprise Resource Planning system shall be borne by Contractor. The costs for Contractor and the Suppliers to comply with the FTZ requirements and to support Owner in the administration of the FTZ(s) are included in the Contract Price.

7.3.2 Importer of Record; Payment of Customs Duties. Contractor shall be the importer of record and Owner shall pay Customs Duties when due and reimburse Contractor for any Customs Duties paid by Contractor, except to the extent Contractor fails to comply with its obligations with respect to importing Equipment through the applicable FTZ (once the FTZ is activated and subject to Sections 2.12.2(c) and 2.12.4) and transporting Equipment such that Owner does not lose the FTZ benefits. Contractor shall utilize the FTZ(s) for eligible Equipment, and shall use commercially reasonable efforts to minimize Customs Duties and restrictions or other punitive or retaliatory duties imposed by the U.S. in its sourcing decisions, irrespective of the FTZ(s). Contractor shall, and shall cause its Suppliers to pursue and utilize any available Free Trade Agreement or duty preference program as it relates to Contractor-Furnished Items imported into the U.S. (such as the U.S.-Mexico-Canada Agreement (USMCA), the U.S.-Korean Free Trade Agreement (KORUS), the U.S. Goods Returned program, and the Generalized System of Preferences (GSP)), assuming the imported Contractor-Furnished Item qualifies as originating under the rules of the relevant agreement or duty preference program.

7.4 Exemptions. Contractor and Owner shall use commercially reasonable efforts to cooperate with each other to minimize the liabilities for Taxes of both Parties to the extent legally permissible and to secure Tax credits and incentives and exemptions that are available or that Owner obtains for the Liquefaction Project, supplying resale and exemption certificates, if applicable, and any other information as reasonably requested or required by Governmental Authorities or Owner. Contractor certifies that the Contract Price does not include any Taxes for which Owner is responsible under Section 7.3 or any Customs Duties or Texas Sales and Use Taxes that are reimbursable pursuant to Section 7.3.2 or Section 7.5, respectively. If Contractor or any Supplier stores any Equipment off the Site in a manner that causes the imposition of any Taxes that would not otherwise be imposed if the Equipment were delivered to and stored at the Site, or, once the FTZ is activated and subject to Sections 2.12.2(c) and 2.12.4, within the FTZ, or does not utilize the FTZ for importation of Contractor-Furnished Items or otherwise through its acts or omissions causes the imposition of any Taxes on the Equipment that would not

otherwise be imposed if Contractor or such Supplier had complied with the requirements of this Agreement, Owner shall not have any liability or responsibility to pay for or reimburse Contractor for such Taxes.

7.5 Texas Sales and Use Tax Matters.

7.5.1 Texas Sales and Use Taxes – Generally. For Texas Sales and Use Tax purposes, this Agreement is intended to be a "separated contract" as such term is defined in 34 Tex. Administrative Code §3.291(a)(13). The Parties acknowledge and agree that any Supply Contract in connection with the Project will be structured as a "separated contract" to the extent reasonably practicable.

7.5.2 Exemption Certificates. Owner shall provide Contractor with a Texas direct pay exemption certificate on or before the FNTP Date, and shall pay applicable Texas Sales and Use Taxes directly to the State of Texas. Contractor shall issue, and shall cause the applicable Suppliers to issue, properly completed resale certificates or other documentation or exemption certificates to all applicable Suppliers, in order to claim, obtain or evidence that the sale of such taxable items is exempt or otherwise not taxable for Texas Sales and Use Tax purposes. As used in this Section 7.5, the term "taxable item" has the meaning assigned to that term in Section 151.010 of the Texas Tax Code. Pursuant to direct pay permit status, Owner shall pay applicable Texas Sales and Use Tax on Equipment directly to the State of Texas. In no event shall Owner have any obligation to reimburse Contractor for Texas Sales and Use Taxes paid, directly or indirectly, by Contractor or any Supplier with respect to any taxable items for which Owner has provided a Texas direct pay exemption certificate, nor shall Owner have any responsibility to pay any Texas Sales and Use Taxes assessed, incurred or levied on any Construction Equipment.

7.5.3 Sales and Use Tax List. Set forth on Appendix C is an allocation of the Contract Price by item or category of items included in the Work that complies with the requirement of 34 Tex. Administrative Code § 3.291(a)(13) to provide separately stated amounts for incorporated materials, and separately stated amounts for all skill and labor that includes fabrication, installation and other labor that is furnished by Contractor. Each Change Order issued hereunder shall include a similar detailed breakdown with respect to the adjustment to the Contract Price reflected in such Change Order. Set forth on Attachment C-1 to Appendix C is the incorporated materials price for the incorporated Equipment listed on Attachment C-1 to Appendix C for Owner's Texas Sales and Use Tax purposes. To the extent any Change Order includes any new incorporated Equipment, or as necessary to reflect the final installed Equipment (or the quantity thereof), Contractor shall update Attachment C-1 to Appendix C to account for any such changes. Notwithstanding anything to the contrary in this Section 7.5.3, Contractor shall provide Owner with a final statement of information within thirty (30) Days after Final Acceptance of Stage II that otherwise complies with the requirements of this Section 7.5.3 regarding the matters set forth on Attachment C-1 to Appendix C. Contractor shall also provide Owner with any additional information regarding the allocations in Appendix C and Attachment C-1 to Appendix C, including modifying the allocations of the separated Contract Price on Appendix C and modifying Attachment C-1 to Appendix C to further itemize equipment

descriptions and prices of items listed on Appendix C-1, and such Change Orders, and Texas Sales and Use Tax matters related thereto, reasonably requested by Owner.

7.5.4 Owner's Audit Right. Pursuant to Section 2.23, Owner shall have the right to have its tax consultant, after the consultant has signed a reasonable and customary non-disclosure agreement with Contractor, audit the relevant Books and Records of Contractor and Subcontractors to confirm: (a) that all Taxes paid by Contractor and its Subcontractors in connection with the Work are properly owed under Applicable Laws; (b) the quantities and descriptions of any Equipment installed in or ordered for the LNG Facility for purposes of Texas Sales and Use Tax or property Tax; and (c) such other information as Owner or Owner's tax consultant may deem reasonably necessary in connection with the preparation of Owner's tax returns or other tax documentation in connection with the Liquefaction Project. If Owner's tax consultant requests information relating to the actual cost of any item of Work, Contractor shall provide such information to Owner's tax consultant, after the consultant has signed a reasonable and customary non-disclosure agreement with Contractor, on the understanding that such tax consultant shall not disclose to Owner the actual cost incurred by Contractor or its Subcontractors for any item of Equipment included in the Contract Price, or unless the amount of Tax properly payable for an item of Work is subject to audit, litigation, arbitration, subpoena, or summons issued by a Governmental Authority; provided, however, that such tax consultant may report to Owner the amount of Taxes properly payable under Applicable Laws.

7.6 Fixed Asset Price Allocation Schedule. Contractor shall complete a fixed asset price allocation schedule in the form attached hereto as Appendix PP (the "**Fixed Asset Schedule**") for each Stage of the Work and shall provide Owner such other information reasonably necessary for Owner to maintain segregated accounts for its Tax records and fixed asset records. The Fixed Asset Schedule, among other information, will provide a breakdown of the Contract Price by individual category (i.e. "soft costs" (i.e. engineering, permitting, etc.) and "hard costs" (materials, labor, equipment, etc.)). The Fixed Asset Schedule shall also include information necessary to assist Owner with any reporting requirements or filings under any Tax Abatements under Section 2.7.10 or other filings with any Governmental Authority. Contractor shall deliver a draft Fixed Asset Schedule for each Stage within thirty (30) Days after the Mechanical Completion Date for such Stage occurs, and shall update such Fixed Asset Schedule periodically thereafter if any material change occurs, until Contractor delivers the final Fixed Asset Schedule for such Stage (which shall be on or before the Substantial Completion Date).

ARTICLE 8

CHANGE ORDERS

8.1 Changes to the Work. Except for changes to the Work and adjustments to the extent applicable to the Contract Price, the Milestones, the Payment Schedule, the Key Date Schedule, including the Guaranteed Substantial Completion Dates, or the Guaranteed Performance Levels, pursuant to a Change Order signed by Owner, or Owner and Contractor, as applicable, in accordance with this Article 8, none of the rights or obligations of the Parties under this Agreement shall be changed, modified, altered or adjusted by a Change Order or in any other manner except by a written amendment to this Agreement signed by the Parties. Contractor

expressly waives any other compensation as a result of a change in the Work except as set forth in Section 8.4.2(k)(iii) or a Change Order in accordance with this Article 8.

8.2 Change Orders Requested by Owner.

8.2.1 Changes in the Work. Owner shall have the right in its sole and absolute discretion to make changes in the Work (including changes which reduce the scope of Contractor's Work hereunder). All such changes shall be made and documented in accordance with this Section 8.2 and shall be considered, for all purposes of this Agreement, as part of the Work. The adjustments to the Work, the Contract Price, the Milestones, the Payment Schedule, the Key Date Schedule, including the Guaranteed Substantial Completion Dates, or the Guaranteed Performance Levels, as described in this Section 8.2, shall be the sole adjustments to any of the terms and conditions of this Agreement as a result of the applicable Owner-initiated Change Order.

8.2.2 Owner-Initiated Change Order Procedure.

(a) If Owner desires to initiate a Change Order, Owner shall submit to Contractor a notice with a narrative with respect to any change in the Work that Owner desires to make. Contractor shall respond to Owner within fifteen (15) Days with a preliminary estimate (a "**Preliminary Change Order Estimate**"), setting forth the estimated impact, if any, which Owner's proposed change to the Work would have on the Contract Price, the Milestones, the Payment Schedule, the Key Date Schedule, including the Guaranteed Substantial Completion Dates, or the Guaranteed Performance Levels, together with a sufficiently detailed narrative to justify the estimated impact Contractor proposes such change would have on such terms, including signed quotations from Suppliers(including CIMTAS but excluding other Affiliates of Contractor), as applicable, including a description of when the Parties would need to execute a final Change Order so as to minimize as much as possible the effect any such Change Order would have on the Key Date Schedule. Such response from Contractor shall also include Contractor's notice of its estimated costs to prepare a proposed final Change Order if such costs are estimated to exceed the CO Cost Threshold. After receipt of the Preliminary Change Order Estimate, if Owner desires to proceed to a full and final Change Order, Owner shall notify Contractor. If Contractor is instructed to prepare a full and final Change Order, Contractor shall do so (which shall contain all the information required under this Section 8.2.2) within fifteen Days after Owner's notice; provided, however, that if it is not possible for Contractor to provide all of the information under this Section 8.2.2 within the fifteen (15) Day period described in this Section 8.2.2, Contractor shall provide Owner with as much information as possible, together with a written explanation of the reason that additional time is required. With respect to any information not provided within such fifteen (15) Day period, Contractor shall exercise reasonable diligence to provide such information as soon as possible, but in no event later than thirty (30) Days (unless the Parties otherwise agree in writing) following Contractor's receipt of Owner's notice that Contractor shall prepare a full and final Change Order from a Preliminary Change Order Estimate.

(b) Contractor's Preliminary Change Order Estimate and any final proposed Change Order (i) shall only include adjustments to the Project Schedule, including the

Guaranteed Substantial Completion Dates in accordance with Section 8.4.1(a); and (ii) shall only include adjustments to the Contract Price, the Milestones and the Payment Schedule in accordance with Section 8.4.1(b); provided that Contractor shall build-up its costs using the rates set forth in Appendix KK. Contractor shall only propose changes to the Guaranteed Performance Levels in accordance with Section 8.4.1(c); provided, however, that if an alternate change to the Work can be made which would not necessitate any adjustment to the Guaranteed Performance Levels, Contractor shall include in any such proposed change in the Work an option (which option shall identify the incremental cost and schedule impact in order to maintain such Guaranteed Performance Levels) to permit Owner to accept a change in the Work which would not require an adjustment to the Guaranteed Performance Levels.

(c) Owner shall respond to Contractor's revised Change Order within fifteen (15) Business Days after receipt of all information to be furnished by Contractor, indicating Owner's agreement or disagreement with Contractor's proposed revisions to the Contract Price, the Milestones, the Payment Schedule, the Key Date Schedule, including the Guaranteed Substantial Completion Dates, or the Guaranteed Performance Levels, in such Change Order.

(d) If Contractor's actual costs to prepare a Change Order in response to a request from Owner pursuant to this Section 8.2.2 exceed the CO Cost Threshold and Contractor notified Owner in accordance with Section 8.2.2(a) that its estimated costs would exceed such amount, Owner shall reimburse Contractor for such costs (without mark-up, overhead, fees or profit on such costs), subject to Owner's receipt of reasonable supporting documentation of such costs from Contractor.

8.2.3 Agreed Owner-Initiated Change Orders. If the Parties reach agreement on the proposed Change Order, the Parties shall execute such Change Order, and such Change Order shall become binding on the Parties, as part of this Agreement. Each agreed change in the Work, the Contract Price, the Milestones, the Payment Schedule, the Key Date Schedule, including the Guaranteed Substantial Completion Dates, and the Guaranteed Performance Levels, shall be reflected in such Change Order as executed by the Parties.

8.2.4 Scope Option. Without limiting the generality of this Section 8.2, if Owner desires to elect to exercise a Scope Option, Owner shall, on or before the date by which Owner must exercise the Scope Option as described in Appendix C with respect to such Scope Option, submit to Contractor a Change Order in the form of Appendix F-1 with respect to such Scope Option, setting forth, as applicable, the adjustments to the Contract Price, the Milestones and the Payment Schedule, and the Baseline CPM Schedule and Key Date Schedule, as described in Appendix C. Such Change Order, which shall be signed by Owner when submitted to Contractor, shall be signed by Contractor upon receipt.

8.2.5 COVID-19 Cessation. If due to the discovery of a treatment, inoculation or other vaccine for COVID-19, or due to the permanent abatement of COVID-19, Applicable Laws related to the containment of the spread of COVID-19 are lifted, then with respect to those means and methods and counter-measures set forth in Part III of Appendix YY (including any Additional COVID-19 Counter-Measures) that pursuant to Appendix YY (as it may be updated

from time to time pursuant to Section 8.4.2(j)) should, as of such date, be in effect for the performance of the Work, that (a) with respect to COVID-19 Type A Counter-Measures, are no longer deemed required under Applicable Law; (b) with respect to any COVID-19 Type B Counter-Measures, are no longer recommended pursuant to COVID-19 Guidelines; (c) [***]; (d) in the case of a COVID-19 Type A Counter-Measure Extension, such extended means, methods and counter-measures are no longer required to be in place under Applicable Laws; (e) in the case of a COVID-19 Type B Counter-Measure Extension, such extended means, methods and counter-measures are no longer recommended pursuant to COVID-19 Guidelines; (f) [***]; and (g) in each case are not identified in Part II of Appendix YY, [***]: (i) reflect the estimated decrease to Contractor's costs (including those of its Affiliates other than CIMTAS) saved by Contractor not having to employ such means and methods and counter-measures (or Additional COVID-19 Counter-Measures) for the remainder of the period during which Contractor assumed it would employ such methods as set forth in Part III of Appendix YY (as it may be updated from time to time pursuant to Section 8.4.2(j)); and (ii) [***].

8.3 Change Orders Requested by Contractor.

8.3.1 Permitted Change Order Requests. Contractor shall only have the right to a Change Order in connection with the occurrence of the following events, but only to the extent described in Section 8.4, and in all cases subject to the requirements of Section 8.5, and, in the case of Sections 8.3.1(e) through (and including) 8.3.1(j), 8.3.1(n), 8.3.1(o), 8.3.1(p), 8.3.1(q), 8.3.1(r), 8.3.1(s) and 8.3.1(t) (the "**Claim Submission Events**"), subject to the provisions of Sections 18.2 and 18.1.3:

(a) the purchase of operating spare parts for a Stage in accordance with Section 2.14.2, as requested by Owner;

(b) (i) the purchase of Capital Spare Parts in accordance with Section 2.14.3 to the extent the aggregate purchase price and delivery costs, taken as a whole for all of the Capital Spare Parts, differs from the provisional sum included in the Contract Price for the Capital Spare Parts as set forth in Appendix C; (ii) to the extent that the aggregate costs incurred by Contractor to close-out action items that were identified during Contractor's HAZOP review that require input from Vendors not received as of the Effective Date, differs from the provisional sum included in the Contract Price for such Work as set forth in Appendix C; (iii) the aggregate fees incurred by Contractor to dispose of materials stripped from the Site (such as during clearing and grubbing) at Contractor's selected landfill in Port Arthur, Texas prior to establishment of the on-Site disposal area and, thereafter, once the on-Site disposal area has reached full capacity, to the extent the aggregate amount of such disposal fees differs from the provisional sum included in the Contract Price for such Work as set forth in Appendix C; provided, that the foregoing shall include only the fees paid to the selected landfill and not any other costs such as costs of stripping or transport of such material; or (iv) to the extent the aggregate costs incurred by Contractor to construct the Beneficial Use Dredge Material disposal area, differs from the provisional sum included in the Contract Price for such Work as set forth in Appendix C;

(c) a reduction in the scope of the Work in the case where Owner agrees to perform any of the Work or any of the Work is removed from Contractor's scope in accordance with Section 2.21.2;

(d) acceleration of the Work in accordance with Section 4.4.4;

(e) Excusable Events, subject to the terms of Article 18;

(f) Force Majeure, subject to the terms of Article 18;

(g) physical loss or damage to or destruction of the Work;

(h) in accordance with Section 18.4;

(i) in connection with Contractor's suspension of the Work pursuant to Section 19.4.2(a); or

(j) in connection with an evacuation of the Site in accordance with Section 18.3;

(k) a delay in issuing FNTP if after the Bid Validity Date, in accordance with Section 4.1.4;

(l) Owner's exercise of a Scope Option pursuant to Section 6.1.4;

(m) in accordance with Section 6.9 in connection with the conversion of the Foreign Currency Amount;

(n) Contractor's suspension of the repairs or restoration of Work in accordance with Section 16.5.2 due to Owner's failure to release the insurance proceeds that have been paid to Owner for the completion of repairs, replacement or other necessary Work by Contractor;

(o) Owner's modification of the Owner HSSE Program prior to Substantial Completion of a Stage;

(p) delays to the Work due to compliance with the FEIS with respect to [***] (including delays in the Work in the affected areas), and the imposition by FERC or other relevant Government Authority of additional mitigation measures beyond those mitigation measures required for Contractor to comply with the environmental conditions set forth in the FEIS, as a result of the occurrence of an event, which the mitigation measures required under the FEIS are intended to prevent or avoid; provided, in each case, that Contractor has complied with the requirements of the FEIS and that the imposition of such additional mitigation measures are not the result of an act or omission of any member of the Contractor Group;

(q) delays or changes in the Work caused by a modification to Contractor's means and methods of performing the Work, which modification is due to Owner's failure to obtain [***];

(r) a change in the design of the slope protection of the turning basin east bank from that set forth in Section 4.6.15 of Appendix A which change results in a net increase to the baseline design dredge volume [***] for the turning basin east bank dredging scope;

(s) the occurrence of a COVID-19 Event other than a COVID-19 PCSC Event;

(t) the occurrence of a COVID-19 PCSC Event, in accordance with the procedures of Section 8.4.2(k);

(u) as and in the manner required pursuant to Section 4.2.1(a)(i)(ii);

(v) as and in the manner required pursuant to Section 4.2.1(a)(i)(iii);

(w) as and in the manner required pursuant to Section 4.2.1(a)(i)(iv);

(x) as and in the manner required pursuant to Section 4.2.1(a)(i)(v); or

(y) as and in the manner required pursuant to Section Section 4.2.3.

8.4 Change Order Remedies.

8.4.1 General Requirements. The general requirements as stated in this Section 8.4.1 shall apply in determining all adjustments to the Contract Price, the Milestones, the Payment Schedule, the Key Date Schedule, including the Guaranteed Substantial Completion Dates, or the Guaranteed Performance Levels, to be made in connection with any Change Order. To the extent the specific adjustments referenced in the description of the remedies available under Section 8.4.2 conflict with any of the provisions of this Section 8.4, the more limited adjustments shall apply.

(a) Adjustments to the Key Date Schedule, including the applicable Guaranteed Substantial Completion Dates, shall, subject to Section 18.1.3, be made only if and to the extent Contractor demonstrates that Contractor will be delayed in the performance of Critical Path Items due to the applicable event such that, based on the CPM Schedule and using critical path analysis, Contractor will fail to achieve Substantial Completion of a Stage by the then applicable Target Substantial Completion Date of such Stage, and the Guaranteed Substantial Completion Date shall then only be adjusted on a day-for-day basis as such demonstrated delay to the Target Substantial Completion Date. When the planned progress curves are impacted by a Change Order, Contractor shall include updated progress curves with the CPM Schedule submitted with such Change Order.

(b) All adjustments to the Contract Price through a Change Order shall (i) be prepared on a "separated contract" fixed price basis, separating the proposed adjustments into amounts for materials, and amounts for labor and services; (ii) reflect the estimated effect (increase or decrease) of the change to Contractor's costs (including those of its Affiliates other than CIMTAS) caused by such Change Order event; (iii) reflect the estimated effect of the change to Contractor's costs in the case of Supply Contracts (including CIMTAS but excluding other Affiliates) which shall be equal to the actual costs charged or to be charged by the Supplier (including CIMTAS but excluding other Affiliates), plus in the case of each subclause (ii) and (iii), an amount equal to [***] of such estimated increase or decrease of such costs, which amount shall represent Contractor's associated overhead (including general and administrative costs), and profit, margin and fees; (iv) include a reasonable amount of contingency appropriate for the scope and risk of the Change Order, where applicable, in any event not including any Change Orders with respect to [***] other than with respect to the estimated costs identified in the Change Order that have not yet been incurred; and (v) comply with the requirements of Section 6.2.2(c). For purposes of clarity, the rates set forth in Appendix KK shall only be used in the build-up of Contractor's costs for adjustments to the Contract Price with respect to Change Orders issued pursuant to [***]. The calculation of any adjustment to the Contract Price shall include and identify all elements of cost using the following guidelines: labor to include category, unit rate, total rate and hours, travel and other related expenses; and materials to include category, unit rate, total rate and quantity. Contractor shall not be entitled to payment for preparation of Change Orders pursuant to Section 8.3. In connection with any Contract Price adjustment, the Change Order will incorporate changes to the Payment Schedule, including both Milestones and the payment curve, as applicable.

(c) Changes to the Guaranteed Performance Levels shall be made if and only to the extent that Contractor is able to reasonably demonstrate, using the original methodology and calculations, including design margin percentages, that were used by Contractor to determine the Guaranteed Performance Levels, that the change in the Work to which a proposed Change Order relates would impact the expected performance of a Stage such that the Guaranteed Performance Levels cannot be achieved. For the avoidance of doubt, no change, modification or amendment shall be made to the Guaranteed Performance Levels, or any of the provisions of Appendix G, in connection with any Change Order requested by Contractor other than in connection with a Change in Law.

(d) No Claim or demand or request for a Change Order shall be made, or deemed to be made, hereunder unless and until Contractor prepares a fully complete proposed draft of the Change Order, including all amounts that Contractor intends to include in such Claim. Notwithstanding anything to the contrary in this Agreement, Owner shall have no obligation or responsibility to respond to or take any further action with respect to "indicative" or "preliminary" or similar incomplete requests for a Change Order made by Contractor hereunder.

(e) [***].

(f) Nothing in this Agreement shall be deemed to permit Contractor to receive a duplication of relief (whether by increase to the Contract Price or extensions of any of

the Key Date Items, or both) by reason of the occurrence of an event, failure or circumstance qualifying under more than one of the subclauses set forth in Section 8.3.1.

8.4.2 Specified Remedies. In connection with the Change Order events described in this Section 8.4.2, the remedies set forth in Section 8.4.1 shall be limited as described below:

(a) In the case of the occurrence of an Excusable Event, and subject to the provisions of Section 18.1 and Section 18.2, Contractor shall only have a right to a Change Order under Section 8.3.1(e) for an adjustment to the Key Date Schedule, the Contract Price (with corresponding adjustments to the Milestones and the Payment Schedule), and to the Guaranteed Performance Levels with respect to impacts caused by Change in Law if and only to the extent permitted under Section 18.1.2.

(b) In the case of the occurrence of an event of Force Majeure, and subject to the provisions of Section 18.1 and Section 18.2, Contractor shall only have a right to a Change Order under Section 8.3.1(f) for adjustments to the Key Date Schedule and the Contract Price (with corresponding adjustments to the Milestones and the Payment Schedules) if and only to the extent permitted under Section 18.1.2.

(c) In the case of Section 8.3.1(a), Contractor shall only have a right to a Change Order to adjust the Contract Price (with corresponding adjustments to the Milestones and the Payment Schedules) for the actual purchase price and delivery costs of the operating spare parts in accordance with Section 2.14.2.

(d) In the case of a Change Order due to an acceleration of the Work pursuant to Section 8.3.1(d), the adjustment to the Contract Price (with corresponding adjustments to the Milestones and the Payment Schedules) with respect to any acceleration of the Work as contemplated in Section 4.4.4 will be an amount limited to the actual costs attributable to such acceleration that Contractor reasonably demonstrates will be incurred over and above Contractor's costs that would be incurred without such acceleration (in the case of any personnel costs, such costs shall be limited to any incremental shift differential, costs to expedite, or overtime payments to laborers, craft labor or field supervisors and other employees of Contractor dedicated to the Work (including additional indirect staff) on a full-time basis).

(e) In the case of a Change Order pursuant to Section 8.3.1(g) due to physical loss or damage to or destruction of the Work: (i) an adjustment to the Contract Price (with corresponding adjustments to the Milestones and the Payment Schedules) shall only be made with respect to the costs which Contractor is entitled to recover under Section 11.3.1(c); and (ii) extensions to the Key Date Schedule, including the Guaranteed Substantial Completion Dates, shall be limited to the extent to which the physical loss, damage or destruction and any resulting delay in the performance of the Work was not due to acts or omissions of Contractor or any other member of the Contractor Group, and then in accordance with Section 8.4.1(a).

(f) In the case of a Change Order requested pursuant to Section 8.3.1(h), any adjustment to the Contract Price shall only be made in accordance with

Section 18.4, and adjustments to the Key Date Schedule shall, subject to Contractor having satisfied the requirements of Section 18.4, otherwise be made in accordance with Section 8.4.1(a).

(g) In the case of Owner's suspension of the Work pursuant to Section 19.2 or Contractor's suspension of the Work pursuant to Section 19.4.2(a), the adjustment to the Contract Price will be equal to the reasonable costs of such suspension, including demobilization and remobilization costs, if necessary, plus an amount equal to [***] of such costs, which amount shall represent Contractor's associated overhead (including general and administrative costs), and profit, margin and fees, but in no event shall Contractor be entitled to receive any amount for contingency, risk or anticipatory profit.

(h) In the case of a Change Order requested pursuant to Section 8.3.1(j), adjustments to the Contract Price and Key Date Schedule shall be made in accordance with Section 18.3.

(i) [***].

(j) In the case of the occurrence of a COVID-19 Event other than a COVID-19 PCSC Event, and subject to the provisions of Section 18.1 and Section 18.2, [***] if and only to the extent permitted under Section 18.1.2; provided, however, that: (i) Contractor submits the Claim for such COVID-19 Applicable Law Event in accordance with Section 18.2; (ii) the Change Order which adopts the applicable Type A Counter-Measure required as a result of the COVID-19 Applicable Law Event shall implement such COVID-19 Type A Counter-Measures for a period of time only equal to the lesser of: (A) [***] subject a COVID-19 Type A Counter-Measure Extension); and (B) [***] is no longer required, recommended or continued pursuant to Section 8.2.5; and (iii) the Parties shall update Part III of Appendix YY as part of such Change Order to include the applicable COVID-19 Type A Counter-Measures adopted and the period of time in which the same are adopted.

(k) In the case of the occurrence of a COVID-19 PCSC Event, the following procedures shall apply with respect to any Change Order as a result of the occurrence of such COVID-19 PCSC Event.

(i) If pursuant to the provisions of Section 2.30(c) either the Owner Representative and Contractor Representative, or each of the Project Sponsors, agree that the COVID-19 PCSC Event has occurred and also agree on the adoption of the COVID-19 Recommended Additional Counter-Measures recommended by the PCSC with respect to such COVID-19 PCSC Event, then clause (ii) below shall apply.

(ii) Subject to the provisions of Section 18.1 and Section 18.2, [***] if and only to the extent permitted under Section 18.1.2; provided, however, that: (A) Contractor submits the Claim for such COVID-19 PCSC Event in accordance with Section 18.2; (B) the Change Order which adopts the applicable Type B Counter-Measure [***] required as a result of the COVID-19 PCSC Event shall implement such COVID-19 Type B Counter-Measure [***], for a period of time only equal to the lesser of: (1) [***] after the occurrence of such COVID-19 PCSC Event, unless the Parties agree to a longer duration (such three month period subject to a COVID-19 Type B

Counter-Measure Extension [***], as applicable); and (2) any earlier date on which the applicable COVID-19 Type B Counter-Measure [***], as applicable, is no longer required, recommended or continued pursuant to Section 8.2.5; and (C) the Parties shall update Part III of Appendix YY as part of such Change Order to include the applicable COVID-19 Type B Counter-Measures [***], as applicable, adopted and the period of time in which the same are adopted.

(iii) [***].

(iv) [***].

(v) [***].

(vi) [***].

(l) Intentionally Omitted.

(m) [***].

8.5 Change Request Logs; Contractor-Requested Change Order Procedures.

8.5.1 Change Request Log. Subject to Section 8.8, Contractor shall maintain a log of purported Owner instructions or comments that Contractor reasonably considers represent a change to the scope of Work made by Owner, which, in Contractor's view, should result in the issuance of a Change Order by Owner pursuant to Section 8.2. Such log shall contain sufficient detail, including the date on which such instruction was given, for the Parties to identify the instruction or comment at issue. The Parties shall review such log during the Monthly progress review meetings as described in Appendix S. Neither the addition of items by Contractor to this log, including Change Orders requested by Contractor that may be listed in the log, nor the review of such log with Owner during the Monthly progress review meetings, shall constitute a Change Order or a formal request to Owner for a Change Order, and Owner's failure to comment or dispute items on such log shall not be deemed an admission by Owner that such log is accurate or otherwise agreed upon by the Parties. Requests for Change Orders to be issued by Owner must be made in accordance with Section 8.2. If after review of the log by the Parties, Contractor believes that Owner's instructions or comments nonetheless constitute a change in the Work, Contractor shall notify Owner in writing, and if Owner disagrees and does not issue a Change Order request under Section 8.2 or a unilateral Change Order under Section 8.6 with respect to such Work, either Party may submit such disagreement to dispute resolution proceedings in accordance with Section 20.1.

8.5.2 Change Order Proposal. Upon the occurrence of an event as described in Section 8.3, Contractor shall notify Owner in writing and issue to Owner, at Contractor's expense, a proposed Change Order in the form attached hereto as Appendix F-1, setting forth the effect, if any, which the change has had or would have on the Contract Price, the Milestones, the Payment Schedule, the Key Date Schedule, including the Guaranteed Substantial Completion Dates, or the Guaranteed Performance Levels, as applicable, and accompanied by a detailed written explanation of the proposed change and Contractor's reasons for proposing the change,

all documentation necessary to demonstrate the effects of the change on such terms, and all other information reasonably required by Owner to verify such proposed Change Order. In all cases, Contractor shall submit all Claims for relief hereunder for Claim Submission Events by the applicable Claim Submission Deadline.

8.5.3 Agreed Change Orders. If the Parties reach agreement on Contractor's proposed Change Order, Owner shall issue such Change Order, which shall be in the form of Appendix F-1, and such Change Order shall become binding on the Parties as part of this Agreement upon execution thereof by the Parties.

8.5.4 Owner's Review of Change Orders; Disputed Change Orders.

(a) Without limiting Owner's rights under Section 2.23 or Section 18.2.3, Owner shall not be obligated under this Agreement to review, comment on, seek additional information with respect to, accept, or deny a proposed Change Order request made by Contractor under Section 8.3 unless and until Contractor submits a proposed final Change Order request for Owner's review which fully and finally sets forth (as contemplated by Section 8.9) all Claims based on or arising out of the subject matter of such Change Order. Owner shall not be obligated to review, comment on, approve or reject any Change Order request made by Contractor which either reserves Contractor's rights to supplement its Change Order request, or otherwise purports to be "preliminary" (or words of similar import), and any such Change Order request shall have no force or effect under this Agreement except with respect to Contractor's obligation to submit updates to Owner with respect to potential Claims pursuant to Sections 18.2.3 and 18.2.5.

(b) Once Contractor submits to Owner a proposed final Change Order request for Owner's review which fully and finally sets forth (as contemplated by Section 8.9) all Claims for relief hereunder of Contractor and all Suppliers (as set forth above), Owner shall be allowed (the "**Owner Change Order Review Period**"): (i) [***] Business Days after Owner's receipt of Contractor's proposed full and final Change Order; (ii) with respect to all Change Order requests seeking relief for a Claim Submission Event (other than those set forth in subclause (i) or (iii)), a number of Days to review, comment on, seek additional information with respect to, accept, or deny such proposed Change Order request equal to the number Days between the date that Contractor provided the initial notice under Section 18.2.1 of such Excusable Event, or event of Force Majeure or COVID-19 Event for which Contractor is seeking relief and the date that Contractor submitted such proposed final Change Order for Owner review (inclusive); and (iii) with respect to all other Change Order requests prepared by Contractor pursuant to Section 8.3 not identified in subclause (i) or (ii) above, [***] Business Days after Owner's receipt of Contractor's proposed full and final Change Order.

(c) Owner shall not be deemed to have rejected or otherwise improperly delayed acceptance or rejection of any Change Order request to which Contractor is otherwise entitled under this Section 8.3 by reason of Owner's utilizing the entire Owner Change Order Review Period to review, comment on, seek additional information with respect to, accept or deny such proposed Change Order, and Contractor acknowledges that Owner shall be under no obligation to review or respond to any preliminary Claims if the Claim Submission Deadline is

extended to more than [***] Days to allow Contractor additional time to prepare a Claim. Contractor hereby waives any remedies at law or at equity (including under such remedies as "constructive acceleration") by reason of Owner's exercise of its rights under this Section 8.5.4, including Owner's enforcement during the Owner Change Order Review Period of Contractor's obligations hereunder to comply with the Key Date Schedule.

(d) If the Parties do not reach agreement on all aspects of a Contractor-requested Change Order within fifteen (15) Business Days after the applicable Owner Change Order Review Period, then, without limiting Owner's rights under Section 8.6, either Party may refer the Dispute for resolution under Article 20. Any disagreement with respect to a Contractor-requested Change Order must be submitted for resolution in accordance with Section 20.1 to be raised for discussion by the Parties pursuant to Section 20.2 within [***] Days of the end of the applicable Owner Change Order Review Period. Contractor's failure to submit such Dispute Notice in accordance with Section 20.1 within such [***] Day period shall be a waiver of Contractor's right to make a claim for relief (whether the claim for such relief is related to adjustments to the Contract Price, the Key Date Schedule or otherwise) under this Agreement based on the event, circumstance or occurrence underlying the Contractor-requested Change Order. Contractor shall continue to diligently perform the Work (as required absent the proposed Change Order or, if applicable, as required in a unilateral Change Order issued by Owner pursuant to Section 8.6) pending resolution of the Dispute.

8.6 Unilateral Change Orders. If Contractor and Owner are unable to agree on the matters described in a proposed Change Order, or if they are unable to agree on whether Contractor is entitled to a Change Order, regardless of whether such Change Order is requested by Contractor or by Owner, or if Owner desires that a proposed change in the Work commence without having reached agreement on a proposed Change Order, Owner may, by issuance of a unilateral Change Order in the form attached hereto as Appendix F-2 as submitted by Owner, require Contractor to commence and perform the Work as specified in the unilateral Change Order on a time and materials basis at the rates set forth on Appendix KK, plus an amount equal to [***] of Contractor's costs, which amount shall represent Contractor's associated overhead (including general and administrative costs), contingency and profit; provided, that Contractor will only be entitled to payment under this Section 8.6 to the extent that Contractor reasonably demonstrates (subject to Section 8.11 and otherwise with reasonably adequate supporting documentation), that Contractor's costs to perform the Work are materially increased by such unilateral Change Order; provided, further, that such unilateral Change Order does not constitute a cardinal change in the Work. Owner shall assign a "Pending Item Claim Number" to the Work in question and shall issue Contractor a separate notice to proceed with respect to such unilateral Change Order. Contractor shall proceed to perform the Work identified therein. If Owner and Contractor ultimately agree either on the effect of such disputed change in the Work, or agree as to whether Contractor was entitled to such Change Order (in the case of a dispute over whether Contractor is entitled to a Change Order hereunder), such agreement shall be recorded by execution by the Parties of a Change Order in the form attached hereto as Appendix F-1, which shall supersede the unilateral Change Order previously issued and relating to such changed Work. If the Parties do not agree on the effect of a unilateral Change Order within [***] Business Days after Owner's issuance of the unilateral Change Order, then either Party may refer

the Dispute for resolution under Article 20. Pending resolution of the Dispute, Contractor shall perform the Work as specified in such unilateral Change Order as issued by Owner and Owner shall continue to pay Contractor in accordance with the terms of this Agreement, the unilateral Change Order and any previously agreed Change Orders. Contractor shall commence the performance of the changed Work as set forth in such unilateral Change Order upon issuance thereof by Owner (or within such other time specified in such unilateral Change Order) and shall diligently perform the changed Work required in such unilateral Change Order. Notwithstanding anything to the contrary in the foregoing: (a) Contractor may, in Contractor's sole and absolute discretion, reject an unilateral change to the extent such change directs Contractor to classify, handle, remediate, transport, store, or dispose of any Pre-Existing Hazardous Materials or any Hazardous Materials other than Hazardous Materials for which Contractor is responsible under this Agreement; and (b) [***].

8.7 Subsequent Invoices. Without prejudice to Sections 8.2 or 8.3, after signature or other determination of a Change Order by the Parties, or pursuant to Article 20, subsequent Invoices shall reflect any increase or decrease in the Contract Price pursuant to such Change Order.

8.8 NO OBLIGATION OR PAYMENT WITHOUT EXECUTED CHANGE ORDER. [***] NOTWITHSTANDING ANY ORAL INSTRUCTION, OR ANY WRITTEN INSTRUCTION THAT IS NOT IN ACCORDANCE WITH THIS ARTICLE 8, IN NO EVENT SHALL CONTRACTOR BE ENTITLED TO UNDERTAKE OR BE OBLIGATED TO UNDERTAKE ANY CHANGE TO THE WORK, UNTIL CONTRACTOR HAS RECEIVED A CHANGE ORDER EXECUTED BY OWNER PURSUANT TO SECTION 8.6, OR EXECUTED BY OWNER AND CONTRACTOR PURSUANT TO SECTIONS 8.2.3 OR 8.5.3, AS APPLICABLE, OR AS MAY BE ORDERED PURSUANT TO ARTICLE 20. IN THE ABSENCE OF SUCH A CHANGE ORDER, IF CONTRACTOR UNDERTAKES ANY CHANGES IN THE WORK, THEN SUCH CHANGES SHALL BE AT CONTRACTOR'S SOLE RISK AND EXPENSE AND SHALL BE REVERSED UPON THE WRITTEN ORDER OF OWNER AT CONTRACTOR'S RISK AND EXPENSE, AND CONTRACTOR SHALL NOT BE ENTITLED TO ANY COMPENSATION HEREUNDER OR ADJUSTMENT TO THE SCOPE OF WORK, CONTRACT PRICE, MILESTONES, PAYMENT SCHEDULE OR KEY DATE SCHEDULE, INCLUDING THE GUARANTEED SUBSTANTIAL COMPLETION DATES, OR ANY OTHER TERMS OR CONDITIONS OF THIS AGREEMENT, FOR UNDERTAKING SUCH CHANGES OR REVERSAL.

8.9 Executed Change Order Form Final. Each executed Change Order shall constitute a final settlement of, and waiver by, Contractor of the right to assert: (a) [***]; or (b) any further Claim in any way addressed by the items set forth in such Change Order, including any increase in compensation based upon any theory such as loss of productivity, lost efficiency, constructive acceleration, cardinal change, [***].

8.10 No Suspension. [***],Contractor shall not suspend the Work pending resolution of any proposed Change Order unless directed by Owner in writing in accordance with Section 19.2.

8.11 Supplier Rates. With respect to all Change Orders (either issued by Owner or claimed by Contractor), Contractor shall supply signed quotations from the relevant Suppliers (including CIMTAS but excluding other Affiliates of Contractor) with respect to any costs on a proposed Change Order that are related to such Supplier, together with reasonable supporting documentation to justify the amount claimed with respect to such Supplier. In calculating the value of any Change Order for which the rates of Appendix KK are to be applied, with respect to such Supplier, to the extent Appendix KK does not contain the various rates and pricing information from the applicable Supplier, in calculating the value of any Change Order with respect to such Supplier, Contractor shall use such Supplier's actual class rate or pricing for such employee or item of Equipment.

8.12 SOLE AND EXCLUSIVE REMEDY. CONTRACTOR EXPRESSLY WAIVES ANY ADDITIONAL COMPENSATION FOR ANY AND ALL CHANGE ORDERS EXECUTED HEREUNDER, INCLUDING ANY OTHER CHANGE IN THE CONTRACT PRICE, THE MILESTONES, THE PAYMENT SCHEDULE, THE KEY DATE SCHEDULE, INCLUDING THE GUARANTEED SUBSTANTIAL COMPLETION DATES, OR THE GUARANTEED PERFORMANCE LEVELS. THE TOTAL CHANGE TO THE CONTRACT PRICE OF ANY CHANGE ORDER SHALL BE THAT INDICATED IN THE EXECUTED CHANGE ORDER AND CONTRACTOR WAIVES ANY CLAIM FOR ANY ADDITIONAL INCREASE TO THE CONTRACT PRICE ARISING OUT OF ANY AND ALL EXECUTED CHANGE ORDERS BASED ON ANY THEORY SUCH AS LOSS OF PRODUCTIVITY, CONSTRUCTIVE ACCELERATION, EFFICIENCY, [***].

ARTICLE 9

TESTING AND COMPLETION

9.1 Pre-Commissioning Plan; Completion Database.

9.1.1 Pre-Commissioning Plan. No later than six (6) Months prior to the date on which Contractor is scheduled to commence pre-commissioning of a Stage, Contractor shall provide to Owner for its review and comment a pre-commissioning plan for such Stage, with priorities assigned for pre-commissioning activities to be conducted on each System, and sequential details of pre-commissioning activities to be conducted. The pre-commissioning plan shall include pre-commissioning procedures for each System, and checklists of pre-commissioning requirements, and otherwise comply with the requirements of Appendix A. If Owner provides any comments to the pre-commissioning plan, Contractor shall consider such comments in good faith and resolve the comments with Owner before finalizing the pre-commissioning plan. Contractor shall comply with the requirements for pre-commissioning activities set forth in the plan, and shall comply with the pre-commissioning procedures and otherwise follow the pre-commissioning plan as finalized pursuant to this Section 9.1.

9.1.2 Systems Designation. Contractor shall designate Systems on mark-ups of the P&IDs (the "**Scoped P&IDs**") for use during pre-commissioning and commissioning activities. The initial Scoped P&IDs were issued to Owner prior to the Effective Date. Any

updates to the Scoped P&IDs that occur during performance of the Work shall be issued to Owner via transmittal.

9.1.3 Completions Database. Contractor shall maintain a contemporaneous completions database for the duration of the Work that tracks completion of the Work by System, and as otherwise agreed by Contractor and Owner (the "**Completions Database**"). The Completions Database shall track the status of the Work, including Systems and Punch List Items. Designated representatives of Owner's completion team shall have read-only electronic access to the Completions Database at all times once, and where, the database is in use by Contractor (with no data room restrictions), which shall include the capability to access those portions related to preservation activities and maintenance, commissioning activities, turnover completion package tracking, and Punch List tracking and reporting, and the ability to generate and print reports from the database. Contractor shall also provide Owner with a Weekly completions report broken out by System, sub-System and discipline, cross-referenced with the associated WBS areas where applicable. Such report shall clearly illustrate certified versus planned progress of construction and commissioning activities.

9.2 Mechanical Completion.

9.2.1 Mechanical Completion of Systems. Contractor shall provide Owner with a weekly completion report by System, and walkdown each System to determine if Mechanical Completion of such System has occurred in accordance with its completion schedule. Contractor shall notify Owner of walkdowns of Systems and Owner may participate in such walkdowns. If during a walkdown or review of the completion reports with respect to such System, any issues that would cause such System not to be Mechanically Complete are identified by Contractor (or if Owner identifies any such issue, Owner shall notify Contractor), and Contractor shall take such corrective action or perform additional Work, or list any such issue as a Punch List Item as appropriate, so as to cause such System to be Mechanically Complete. Once Mechanical Completion of a System has been achieved, Contractor shall notify Owner and make the construction turnover packages for such System, including the Punch List Items for such System, available to Owner. The foregoing shall not limit or restrain Owner from reviewing and commenting on such System in connection with any Mechanical Completion Certificate for a Stage, Ready for Start-Up Certificate or Substantial Completion Certificate.

9.2.2 Mechanical Completion Certificate.

(a) When Contractor believes the last System of a Stage is Mechanically Complete, including that the requirements of Section 9.9.2(a) have been satisfied with respect to each such System, and that the Mechanical Completion Date has occurred, Contractor shall execute and deliver to Owner a Mechanical Completion Certificate for such Stage, and make the construction turnover packages with respect to the Systems, including the Punch List Items for such Systems, available to Owner for review.

(b) As soon as practicable following its receipt of a Mechanical Completion Certificate, Owner shall notify Contractor of any Defect of which it is aware that, if not remedied, would prevent Owner from countersigning the Mechanical Completion Certificate

for the relevant Stage. As soon as practicable, and in any event within three (3) Days following its receipt of a Mechanical Completion Certificate for a Stage, Owner shall either:

(i) countersign and deliver to Contractor the Mechanical Completion Certificate for the relevant Stage; or

(ii) notify Contractor in writing that Mechanical Completion of such Systems has not been achieved, stating in detail the reasons therefor.

(c) If Mechanical Completion of such Systems of the relevant Stage has not been achieved, Contractor shall promptly take such corrective action or perform such additional Work as to achieve Mechanical Completion of such Systems of the relevant Stage, and shall issue to Owner another Mechanical Completion Certificate for the relevant Stage, as applicable, pursuant to Section 9.9.2(a). Neither Owner's execution of the Mechanical Completion Certificate for the relevant Stage, nor any matter reported by Owner pursuant to Section 9.9.2(b), nor any action taken by Contractor pursuant to this Section 9.9.2(c) shall diminish Contractor's obligations pursuant to Article 10.

9.3 Commissioning Activities.

9.3.1 Commissioning Manager. The individual who will act as Contractor's commissioning manager shall be specifically named and identified on Contractor's organization chart. Such individual shall be dedicated full time to the performance of the Work by no later than the date that Contractor is scheduled to commence reviews of the "Issued for Construction" P&ID Drawings in accordance with the CPM Schedule.

9.3.2 Conditions to Commencement of Commissioning. Contractor shall not commence commissioning of a System unless: (a) all Punch List A Items with respect to such System have been completed in accordance with Section 9.9.2(a) or re-classified as a Punch List B Item or otherwise as the Parties agree to allow commissioning of such System to commence; (b) commissioning procedures for such System have been finalized in accordance with Section 9.3.4; and (c) all Permits required prior to commencing commissioning of such System have been obtained in accordance with Applicable Laws.

9.3.3 Commencement of Commissioning. Contractor shall commence commissioning activities of each System promptly after Mechanical Completion of such System, subject to satisfying the requirements of Section 9.3.2.

9.3.4 Commissioning and Start-Up Plan; Operating and Maintenance Procedures.

(a) No later than six (6) Months prior to the date on which Contractor is scheduled to commence commissioning and start-up of any System within a Stage, Contractor shall provide to Owner for its review and comment a detailed commissioning and start-up plan with priorities assigned for commissioning activities to be conducted on each System, and sequential details of commissioning and start-up activities to be conducted, including the LNG

Tanks. The commissioning and start-up plan shall include commissioning and start-up procedures for each System or groups of Systems within such Stage, identify pre-start-up safety reviews by System or groups of Systems, checklists of commissioning and start-up requirements, and shall otherwise comply with the requirements of Appendix A. If Owner provides any comments to the commissioning and start-up plan, Contractor shall respond to such comments in good faith and resolve the comments with Owner before finalizing the commissioning and start-up plan. Contractor shall comply with the requirements for commissioning and start-up activities set forth in the plan, and shall comply with the commissioning and start-up procedures and otherwise follow the commissioning and start-up plan as finalized pursuant to this Section 9.3.4(a).

(b) Contractor shall also prepare and deliver, together with the commissioning and start-up plan, operating and maintenance procedures for the Equipment and facilities within each Stage, for review and comment by Owner. If Owner provides any comments to the operating and maintenance procedures, Contractor shall respond to such comments in good faith and resolve such comments with Owner before finalizing the operating and maintenance procedures. Once the operating and maintenance procedures are finalized, Contractor shall comply with such procedures in connection with the operation and maintenance of each Stage until such Stage achieves Substantial Completion and care, custody and control of such Stage is turned over to Owner.

9.4 Ready for Start-Up.

9.4.1 Start-Up of Systems or Groups of Systems. Upon determining that the requirements of Section 9.9.2(b) have been satisfied for a System, or a group of Systems, and that the System or group of Systems is otherwise ready for start-up, including that any Punch List A Items for such System or group of Systems to which Owner agreed to a work-around for purposes of achieving Mechanical Completion have been completed, Contractor shall notify Owner, make any supporting documentation with respect to such System or group of Systems, including the Punch List Items for such System or group of Systems, available to Owner for review, and walkdown the System or group of Systems with Owner. The Parties shall use commercially reasonable efforts to complete such walkdowns within three (3) Business Days of Contractor’s notice to Owner. If either Party identifies any issues in the walkdown of such System or group of Systems that would cause such System or group of Systems to not be ready for start-up, Contractor shall promptly take such corrective action or perform such additional Work as will cause such System or group of Systems to be ready for start-up, and shall notify Owner when such Work is completed. The foregoing shall not limit or restrain Owner from reviewing and commenting on such System or Systems in connection with any Ready for Start-Up Certificate for a Stage or Substantial Completion Certificate. Owner acknowledges and agrees that, subject to Section 2.13.4, Contractor may start-up Systems, including the wet flare, dry flare, the introduction of Fuel Gas to certain Systems, Feed Gas to warm end, and cool down of the loading System and the LNG Tank, prior to Mechanical Completion of a Stage; provided, that any required FERC approvals or authorizations shall have been received and Contractor’s pre-start-up safety review shall have been submitted to and signed by Owner before such start-up activities commence.

9.4.2 Ready for Start-Up of a Stage. When Contractor believes that Ready for Start-Up of a Stage has been achieved, and that all of the requirements of Sections 9.9.2(b) and 9.9.2(c) have been satisfied with respect to the Systems of such Stage, Contractor shall execute and deliver to Owner a Ready for Start-Up Certificate for such Stage, together with required documentation with sufficient detail to enable Owner to determine whether the requirements for Ready for Start-Up for such Stage have been met.

(a) As soon as practicable following its receipt of a Ready for Start-Up Certificate delivered pursuant to Section 9.4.2, Owner and Contractor shall walkdown the applicable Stage and all of the applicable Work, and Owner promptly notify Contractor of any Defect of which it is aware that, if not remedied, would prevent Owner from countersigning the Ready for Start-Up Certificate. As soon as practicable, and in any event within three (3) Business Days following its receipt of a Ready for Start-Up Certificate, Owner shall consider the report submitted by Contractor and either:

(i) countersign and deliver to Contractor the Ready for Start-Up Certificate; or

(ii) notify Contractor in writing that Ready for Start-Up of the relevant Stage has not been achieved, stating in detail the reasons therefor.

(b) If Ready for Start-Up of the Stage has not been achieved, Contractor shall promptly take such corrective action or perform such additional Work as to achieve Ready for Start-Up for the Stage, and shall issue to Owner another Ready for Start-Up Certificate for such Stage, in which case the Parties shall walkdown the applicable part of the Stage and the Work that has been corrected in accordance with this Section 9.4.2. Neither Owner's execution of the Ready for Start-Up Certificate, nor any matter reported by Owner pursuant to Section 9.4.2, nor any action taken by Contractor pursuant to this Section 9.4.2(b), shall diminish Contractor's obligations pursuant to Article 10.

9.4.3 Start-Up; Notice of Initial Production Date. Following Owner's acceptance of the Ready for Start-Up Certificate for the applicable Stage, Contractor shall thereafter follow the start-up procedures and conduct the start-up and cool-down activities with respect to such Stage in accordance with the commissioning and start-up plan accepted by Owner pursuant to Section 9.3.4, and shall commence production of LNG. Within five (5) Business Days after the occurrence of the Initial Production Date for the LNG Train that is a part of the applicable Stage, Contractor shall provide to Owner a notice stating that the Initial Production Date for that LNG Train has occurred and identifying the Initial Production Date.

9.5 Notices of Initial Production Dates and Feed Gas Requirements.

9.5.1 Notices of Initial Production Date for Stage I.

(a) Subject to the issuance of the Full Notice to Proceed, Contractor expects the Initial Production Date for Stage I to occur during a [***] period beginning on the date that is [***] Months after the FNTP Date (the "**Train 1 First Production Window**").

(b) No later than [***] Days in advance of the first Day of the Train 1 First Production Window, Contractor shall give Owner a written notice specifying a [***] Day period falling within the Train 1 First Production Window in which it expects the Initial Production Date for Stage I to occur (the "**Train 1 Second Production Window**"); provided, that if Contractor fails to give such notice within such [***] Day period, the Train 1 Second Production Window shall be the last [***] Day period within the Train 1 First Production Window.

(c) No later than [***] Days in advance of the first Day of the Train 1 Second Production Window, Contractor shall give Owner a written notice specifying a [***] Day period falling within the Train 1 Second Production Window in which it expects the Initial Production Date for Stage I to occur (the "**Train 1 Third Production Window**"); provided, that if Contractor fails to give notice within such [***] Day period, the Train 1 Third Production Window shall be the last [***] Day period within the Train 1 Second Production Window.

(d) No later than [***] Days in advance of the first Day of the Train 1 Third Production Window, Contractor shall notify Owner of a window of one (1) week during which the Initial Production for Stage I is expected to occur, which shall fall within the Train 1 Third Production Window; provided, that if Contractor fails to give notice by such date, the Initial Production Date for Stage I shall be the last Day in the Train 1 Third Production Window.

(e) Contractor shall promptly notify Owner if for any reason the proposed Initial Production Date for Stage I is expected to occur after the last Day of the current window, with such notice to include a reasonably detailed explanation of the reason for such delay and the date on which Contractor expects the Initial Production Date to occur.

9.5.2 Notice of Initial Production Date for Stage II. On the Day immediately following the Day on which the Initial Production Date of Stage I occurs, Contractor shall notify Owner of the date on which the Initial Production Date for Stage II is expected to occur, which date shall be no earlier than [***] Days and no later than [***] Days after the Initial Production Date of Stage I. Contractor shall promptly notify Owner if for any reason the proposed Initial Production Date for Stage II is expected to occur after such date.

9.5.3 Notice of Requirements for Fuel Gas and Feed Gas for each Stage.

(a) Within [***] Months after the FNTP Date, Contractor shall provide Owner with a good faith estimate of (i) Fuel Gas required for each Month during the commissioning and start-up of the Project; and (ii) Feed Gas required for each Month during the start-up and testing of the Project.

(b) Not later than the first (1st) Business Day of the Month occurring three (3) Months prior to the Month in which Contractor first needs Fuel Gas for commissioning the Project, Contractor shall give written notice to Owner of the estimated quantity of commissioning Fuel Gas required for that first Month in which Fuel Gas is needed and for each following Month for commissioning and system start-up prior to commencement of delivery of Feed Gas. Not later than the first (1st) Business Day of the Month occurring three (3) Months

prior to the Month in which Contractor first needs Feed Gas for start-up of the Project, Contractor shall give written notice to Owner of the estimated quantity of Feed Gas required for that first Month in which Feed Gas is needed and for each following Month prior to Substantial Completion.

(c) In the event that Contractor at any time becomes aware or has reason to believe that Contractor's need for Fuel Gas or Feed Gas will be delayed beyond the periods specified by Contractor pursuant to Section 9.5.3(a) or Section 9.5.3(b), or that the quantities required by Contractor have changed from that identified in Contractor's prior notices, Contractor shall as promptly as practicable give Owner written notice of that delay or change in quantities and of the date on which Contractor then expects to require Fuel Gas or Feed Gas, as applicable, and the estimated quantities.

(d) Not later than the first (1st) Business Day of the Month occurring two (2) Months prior to the Month in which Contractor first needs Feed Gas for commissioning and start-up of the Stage, Contractor shall give written notice to Owner of the total quantity of Feed Gas required for commissioning, start-up, operation and testing, as applicable, for each twenty-four (24) hour period between the hours of 9:00 am (Central Time) of one (1) Day to 9:00 am (Central Time) of the next Day (the "**Daily Quantity**") for that first Month in which Feed Gas is needed and shall provide revised figures for the total quantity of Feed Gas required for commissioning, start-up, operation and testing of the Stage, as applicable, each following Month prior to Substantial Completion of the Stage.

(e) Not later than ten (10) Business Days prior to the first (1st) Day of the Month in which Contractor first needs Feed Gas for commissioning and start-up of a Stage, and not later than ten (10) Business Days prior to the first (1st) Day of each following Month during the period prior to Substantial Completion of the Stage, Contractor shall give written notice to Owner of the anticipated Daily Quantities of Feed Gas for the next three (3) Months.

(f) During each Month prior to Substantial Completion of a Stage in which Contractor requires delivery of Feed Gas for commissioning, start-up, operation or Performance Tests of a Stage, Contractor shall give daily written notices to Owner by 8:00 am (Central Time) of the Daily Quantity of Feed Gas required by Contractor, which notices shall be given on the form of notice provided by Owner, which form shall be provided to Contractor no later than [***] Days before Owner is scheduled to commence delivery of Feed Gas to Contractor as set forth in the Key Date Schedule. If, following the first (1st) Business Day of each Month after the Month in which Contractor first needs Feed Gas for commissioning and start-up of a Stage, Contractor notifies Owner in writing that Contractor's need for Daily Quantities of Feed Gas has changed materially from the previously noticed Daily Quantities, then Owner shall use commercially reasonable efforts to reschedule the delivery of such Feed Gas so as to accommodate the revised Daily Quantities notified by Contractor.

(g) In the event that Contractor at any time becomes aware or has reason to believe that Contractor will require materially less or more Feed Gas for a Day than the previously noticed Daily Quantity of Feed Gas, Contractor shall as promptly as possible give Owner written notice of such fact and of the revised Daily Quantity for Feed Gas. Contractor

shall make commercially reasonable efforts to change its nomination of Feed Gas by notice to Owner upon at least thirty-six (36) hours' notice prior to the Day for which the nomination will be changed; provided, that Contractor shall provide as much notice of changes in its nomination of Daily Quantities as reasonably possible.

(h) In the event that Contractor requests delivery of Feed Gas for a Stage pursuant to Section 9.5.3(f) that Owner reasonably determines is excessive due to the Stage not being able to start-up or operate in a safe manner or utilize the quantity requested on the requested delivery date, Owner may notify Contractor that Owner will not deliver the requested Daily Quantity of Feed Gas until Contractor reasonably demonstrates to Owner that the Stage is capable of safe operation and would reasonably be expected to use the Daily Quantity requested. Owner shall promptly notify Contractor following Owner's receipt of Contractor's request for delivery of a Daily Quantity of Feed Gas if Owner will not deliver all or any part of the requested Daily Quantity pursuant to this Section 9.5.3(h). Owner's failure to deliver all or part of the Daily Quantity of Feed Gas pursuant to this Section 9.5.3(h) shall not be deemed or construed to be an Owner-Caused Delay or Excusable Event, nor shall it otherwise serve as the basis of a proposed Change Order; unless and until Contractor reasonably demonstrates that the Stage is capable of safe operation and Contractor is reasonably expected to use the Daily Quantity requested.

9.6 LNG Production From and After Start-Up.

9.6.1 LNG Production Schedule. Not later than [***] Days prior to the start of the Train 1 Second Production Window and not later than [***] Days prior to the scheduled Initial Production Date for Stage II, Contractor shall deliver to Owner notice (the "**LNG Production Schedule**") of the amounts of LNG it reasonably projects will be produced between the Initial Production Date and projected Substantial Completion of such Stage, assuming maximum useable rate deliveries of Natural Gas could be delivered to the LNG Train, and including: (a) an estimated forty-eight (48) hour Loading window for each proposed Cargo, which window shall begin at 6:00 a.m. Central Time on the first Day of the proposed window and end forty-eight (48) hours later (each, a "**Loading Window**"); and (b) the quantities of LNG that is estimated to be available for each Cargo. Contractor shall use commercially reasonable efforts to cause each Cargo prior to the Substantial Completion Date of the Stage to be equal to the maximum quantity of LNG that may safely be Loaded onto and transported by an LNG Tanker that has a maximum gross cargo containment capacity of no less than [***] and no larger than [***] (a "**Full Cargo**"). Contractor shall keep Owner informed of the expected LNG Production Schedule for each Stage, including providing Owner with the production profile during execution of the Work beginning on the Initial Production Date for such Stage and continuing until the Substantial Completion Date for such Stage.

9.6.2 LNG Tanker Coordination. Contractor and Owner shall each provide the other Party on an on-going basis with any information available to Contractor or Owner, respectively, regarding the expected and actual production of LNG for each Stage prior to the Substantial Completion Date of such Stage, the proposed Cargos, the proposed Loading Windows, the proposed LNG Tankers that will be made available for Loading, and any other

relevant information that could reasonably be expected to affect the LNG Production Schedule. From time to time after the delivery of the initial LNG Production Schedule for Stage pursuant to Section 9.6.1, Contractor shall deliver to Owner an update to the LNG Production Schedule, incorporating among other things any additional information provided by Owner regarding Feed Gas deliveries and the cargo capacity of the LNG Tankers that will be provided for Loading of each Proposed Cargo. Without limiting the generality of the foregoing, Owner shall notify Contractor of the gross cargo containment capacity of each LNG Tanker (and quantities required for cool down (if any)) that Owner expects will be available to load the proposed Cargo specified in the initial LNG Production Schedule for a Stage provided by Contractor pursuant to Section 9.6.1 as promptly as practicable once such information is available to Owner, and shall thereafter notify Contractor of any changes to the gross cargo containment capacity of the LNG Tankers that will be provided to Load any proposed Cargo as promptly as practicable once Owner receives any notice of a change in the LNG Tankers that will be provided. Owner shall use commercially reasonable efforts to obtain the necessary cargo capacity so that Contractor can continue to perform commissioning and start up and produce LNG. Contractor shall as necessary from time to time based on the cargo capacity of the LNG Tankers that Owner expects will be available to Load during the proposed Loading Window, modify the LNG Production Schedule and the proposed Cargo sizes reflected in the LNG Production Schedule such that Contractor's proposed schedule is based on the cargo capacity of such LNG Tankers.

9.6.3 Confirmation of Loading Windows. No less than [***] Days prior to the proposed Loading Window for each proposed Cargo included in the most recent LNG Production Schedule for a Stage that has been provided by Contractor, Contractor shall confirm and, if necessary, update such scheduled Loading Window for such Cargo. No less than ten (10) Days prior to the proposed Loading Window for each proposed Cargo included in the most recent LNG Production Schedule for a Stage that has been provided by Contractor, Contractor shall confirm the quantity of LNG in the Cargo and the final Loading Window (the "**Final Loading Window**") for such Cargo. The Final Loading Window for (a) the Cargo to be loaded into the Initial Tanker; and (b) the Cargo or Cargoes to be loaded in connection with a Ship Loading Rate Performance Test, will each be incorporated into the Key Date Schedule and will define the Key Date Items with respect to Owner's obligations to deliver an LNG Tanker under Section 3.9, and such dates shall thereafter be deemed to be part of the Key Date Schedule for such purposes and shall be adjusted only as permitted pursuant to this Agreement. Owner shall use commercially reasonable efforts to schedule LNG Tankers to meet the Final Loading Windows for Cargos other than as described in the foregoing sentence, but the failure of an LNG Tanker to arrive in time to load Cargos during such other Final Loading Windows shall not serve as the basis for a Change Order to adjust either the Contract Price or the Key Date Schedule.

9.6.4 Adjustments to LNG Production Schedule. The Parties shall cooperate and work together to accommodate adjustments to LNG Production Schedule that may occur from time to time. Contractor shall use commercially reasonable efforts to ensure that Cargoes are available for delivery during the proposed and the Final Loading Windows, and if Owner requests an alteration of any Loading Window, Contractor shall use commercially reasonable efforts to accommodate such requested adjustment. If Contractor desires to move the applicable Loading Window with respect to a Cargo to an earlier date and notifies Owner of such revised

Loading Window in writing, Owner shall promptly consult with its customers and shall notify Contractor if Owner will be able to provide an LNG Tanker for Loading at an earlier date than the scheduled Loading Window (but in no event will the scheduled Loading Window be moved forward to an earlier date without Owner's prior written consent). If Contractor at any time is aware or has reason to believe that its ability to Load a Cargo during a scheduled Loading Window will be delayed beyond the end of such Loading Window period, Contractor shall give Owner written notice of the delay as promptly as practicable and of the date on which Contractor then expects Contractor will be ready to Load. In the event of a delay in the applicable Loading Window, Owner's obligations to deliver an LNG Tanker will be extended to the later scheduled Loading Window (but in no event will a scheduled Loading Window be moved forward to an earlier date without Owner's prior written consent) as notified by Contractor. Notwithstanding anything to the contrary in the foregoing, in no event may Contractor accelerate or delay a Final Loading Window without Owner's prior written consent.

9.6.5 Failure to Load an LNG Tanker. If during the period prior to Substantial Completion of a Stage, Owner is unable to Load the first LNG Tanker scheduled for loading (the "**Initial Tanker**") during the Final Loading Window as scheduled pursuant to Section 9.6.3 for reasons arising out of or related to the acts or omissions of Contractor or a Supplier and such reasons are not the basis for a Change Order under Article 8, and Owner has an LNG Tanker scheduled to receive the Loading of LNG and pays any demurrage, cancellation or other charges to the LNG Tanker owner or charterer or customer of the LNG Facility, then to the extent such demurrage, cancellation or other charges are due to such acts or omissions of Contractor or a Supplier, Contractor shall be responsible for the lesser of: (a) [***] for each Day or part of a Day of delay in Loading such LNG after the expiration of such Final Loading Window; or (b) an amount equal to the sum of any demurrage, cancellation and other charges with respect to the LNG Tanker scheduled for such Loading Window that are incurred by Owner in connection with such delay in or failure to Load; provided that Contractor's liability for the failure to load such LNG Tanker as scheduled shall not exceed a maximum of [***] in the aggregate.

9.6.6 Contractor Obligation to Produce LNG. From and after the Initial Production Date for a Stage until Owner takes care, custody and control of such Stage in accordance with Section 11.2.2 or Section 11.2.3, so long as Owner provides Feed Gas for the applicable Stage, Contractor shall, unless directed otherwise by Owner, use commercially reasonable efforts to operate such Stage so as to continually produce LNG in accordance with GECP to until the LNG Tanks are full, except to the extent that such production would impact Contractor's ability to perform the Work in accordance with this Agreement.

9.6.7 Natural Gas and LNG for Cooling and Gasification.

(a) In addition to its obligation to produce LNG and supply LNG for Loading as provided in this Section 9.6, Contractor shall utilize LNG produced from the LNG Facility for purposes of gasification and cool down of LNG Tankers.

(b) Owner shall bring in a LNG Tanker to deliver LNG for use in cooling down Stage I, subject to Contractor having notified Owner at least thirty (30) Days in advance as to when it will require LNG for cooling down Stage I and the volume of LNG

Contractor anticipates will be required. Owner shall use commercially reasonable efforts to obtain such LNG at the time as requested by Contractor. Contractor shall be responsible for unloading any LNG Tanker that delivers LNG for cool down.

9.7 Performance Testing.

9.7.1 Performance Test Procedures. No later than two hundred forty (240) Days prior to the Guaranteed Substantial Completion Date of Stage I, Contractor shall propose to Owner for its review and acceptance detailed final test procedures for the conduct of Performance Tests, and the functional tests as described in Appendix G, with respect to each Stage, including for Stage I, detailed final test procedures with respect to the LNG Tanks and the other Common Facilities; provided that Contractor shall endeavor to provide such test procedures no later than two hundred forty (240) Days prior to the Target Substantial Completion Date if earlier than the Guaranteed Substantial Completion Date. Contractor's proposed test procedures shall incorporate all of the requirements and comply with the conditions of testing described in Appendix G. Once Owner has accepted final test procedures for the conduct of the Performance Tests and the functional tests described in Appendix G for such Stage (the "**Performance Test Procedures**"), the Performance Test Procedures shall form a part of the requirement for the conduct of the Performance Tests. Thereafter, either Party may propose changes to a Performance Test Procedure at any time up to sixty (60) Days prior to commencement of the initial functional test as described in Appendix G or the initial Performance Test, as applicable, and each Party agrees to cooperate in good faith in evaluating such change. No change shall be effective, however, without written acceptance of Owner and Contractor.

9.7.2 Notice of Readiness for Performance Testing. Without limitation of the foregoing or any other scheduling requirements contained in this Agreement, Contractor shall give Owner ninety (90) Days' prior written notice of a thirty (30) Day period in which it expects to conduct the Performance Tests with respect to a Stage (and the LNG Tank with respect to such Stage) and shall provide notice to Owner of the scheduled date for any such Performance Test, which date shall fall within the thirty (30) Day period previously notified, at least thirty (30) Days prior to such date. Any Ship Loading Rate Performance Test shall be performed using an LNG Tanker scheduled in accordance with Section 9.6.

9.7.3 Owner Access; Performance Test Reports.

(a) Owner, Lenders' Agent, the Independent Engineer and equity participants in the LNG Facility may attend each of the Performance Tests. Other Invitees of Owner (including, where invited by Owner, customers) may attend each of the Performance Tests, subject to Contractor's consent, which consent shall not be unreasonably withheld or delayed.

(b) Contractor shall analyze the data obtained during all Performance Tests, and ensure that such data reflects the performance standards required hereunder. A complete copy of all raw performance data and a list of all testing instrumentation utilized shall be provided to Owner at the completion of testing. Following completion of each Performance

Test, Contractor shall provide to Owner a Performance Test report and analysis for the Performance Tests conducted for such Stage. At a minimum, each Performance Test report shall include: (i) the raw data; (ii) the instrumentation utilized for the applicable Performance Tests; (iii) a description of the Performance Test Procedures and Contractor's compliance with same; (iv) calculations and information, and a full explanation concerning same, for adjustments to the Performance Conditions; and (v) any other supporting information used to demonstrate that the Work has met the Minimum Performance Standards, Guaranteed Performance Levels, and other requirements of this Agreement for the applicable Stage, including the LNG Tank and other Common Facilities with respect to Stage I.

9.7.4 Contractor Right and Obligation to Repeat Performance Tests Prior to Guaranteed Substantial Completion Date.

(a) Until Substantial Completion of a Stage has occurred, Contractor may discontinue, or repeat the Performance Tests for such Stage as Contractor deems appropriate, subject to Contractor's compliance with its obligations under this Agreement.

(b) If, prior to Substantial Completion of a Stage: (i) a Performance Test with respect to that Stage has been completed; (ii) Contractor or any Supplier makes any modification to that Stage; and (iii) such modification could reasonably be expected to have a material effect on the outcome of that Performance Test if it had been made before the completion of that Performance Test, then such Performance Test shall be re-run, as a condition to achieving Substantial Completion of the applicable Stage.

(c) Contractor shall bear the costs of performing the Performance Tests other than with respect to Owner's provision of Feed Gas and LNG Tankers as required. Contractor shall give Owner three (3) Days advance notice of each Performance Test following the initial Performance Test. Contractor's ability to repeat a Performance Test requiring LNG Tankers will be subject to the availability of LNG Tankers in accordance with Section 9.6.

9.8 Substantial Completion.

9.8.1 Substantial Completion Certificate. When Contractor believes that a Stage has achieved Substantial Completion, Contractor shall execute and deliver to Owner a Substantial Completion Certificate for such Stage, together with a report of the Work completed with sufficient detail to enable Owner to determine whether the Substantial Completion for such Stage has been achieved. The Substantial Completion Certificate for each Stage shall be accompanied by all other supporting documentation to establish that the requirements for Substantial Completion of such Stage have been met.

9.8.2 Owner Acceptance or Rejection. As soon as practicable following its receipt of a Substantial Completion Certificate for a Stage delivered pursuant to Section 9.8.1 or 9.8.3, Owner and Contractor shall walkdown the applicable Stage and all of the applicable Work and Owner shall promptly notify Contractor of any Defect of which it is aware that, if not remedied, would prevent Owner from countersigning the Substantial Completion Certificate for such Stage. As soon as practicable, and in any event within ten (10) Business Days following its

receipt of a Substantial Completion Certificate for such Stage, Owner shall consider the report submitted by Contractor and either:

(a) countersign and deliver to Contractor the Substantial Completion Certificate for such Stage; provided, that Contractor shall have paid Owner any Delay Liquidated Damages that have accrued with respect to such Stage, including any Delay Liquidated Damages that have accrued since the date of Owner's last invoice for Delay Liquidated Damages, if any, submitted to Contractor pursuant to Section 4.3.2(c), and until such payment is made, Owner shall have no obligation hereunder to countersign the Substantial Completion Certificate; or

(b) notify Contractor in writing that Substantial Completion for such Stage has not been achieved, stating in detail the reasons therefor.

No Delay Liquidated Damages shall accrue with respect to a Stage during the period in which Owner reviews the Substantial Completion Certificate for such Stage; provided that if Substantial Completion for such Stage has not occurred, Delay Liquidated Damages shall continue to accrue during such period. Notwithstanding anything to the contrary in the foregoing, if Owner fails to respond to Contractor's submission of a Substantial Completion Certificate for a Stage within ten (10) Business Days, Delay Liquidated Damages shall not accrue if Owner agrees that Substantial Completion has occurred, and if Owner rejects the Substantial Completion Certificate in accordance with Section 9.8.2(b), Delay Liquidated Damages shall not accrue during the period beginning on the last Day of such ten (10) Business Day period and ending on the Day on which Owner responds to Contractor's submission in accordance with Section 9.8.2(a) or 9.8.2(b). Notwithstanding the date on which Owner countersigns the Substantial Completion Certificate, once Owner countersigns the Substantial Completion Certificate, Substantial Completion shall be deemed to have occurred on the date set forth in the Substantial Completion Certificate that is countersigned by Owner.

9.8.3 Corrective Action. If Substantial Completion for a Stage has not been achieved, Contractor shall promptly take such corrective action or perform such additional Work as will achieve Substantial Completion for such Stage, including all Work required to achieve the applicable Guaranteed Performance Levels (or the Minimum Performance Standards if Contractor achieves Substantial Completion for such Stage by achieving the Minimum Performance Standards), and shall issue to Owner another Substantial Completion Certificate for such Stage pursuant to Section 9.8.1. Neither Owner's execution of the Substantial Completion Certificate for such Stage nor any matter reported by Owner pursuant to Section 9.8.2 and action taken by Contractor pursuant to this Section 9.8.3 shall diminish Contractor's obligations pursuant to Article 10.

9.8.4 Failure to Agree upon Achievement of Substantial Completion. In the event that Owner and Contractor do not agree upon whether Substantial Completion of a Stage has been achieved, the Dispute shall be resolved in accordance with Article 20.

9.8.5 Common Facilities. Owner acceptance of Substantial Completion of the Common Facilities included as part of Stage I Substantial Completion shall not relieve Contractor of its obligation as part of the Work for the Common Facilities to support the design

and performance requirements of Stage II in order for Stage II Substantial Completion to be achieved.

9.9 Punch List.

9.9.1 Development of Punch Lists; Punch List Item Categories. Prior to issuance of a notice to Owner of Mechanical Completion for a System, Contractor shall generate a Punch List updated with the Punch List Items remaining to be completed for such System. Each Punch List Item will be categorized as either "Punch List A Items", "Punch List B Items", "Punch List C Items" or "Punch List D Item" as described below, and Contractor and Owner shall contemporaneously review and concur on such Punch List; provided, however, any disagreement with respect to "Punch List A Items", "Punch List B Items" or "Punch List C Items" shall be resolved by Contractor's commissioning and start-up manager, without prejudice to Owner's right to stop Work in accordance with Section 2.18.4 or to Dispute such determination. Any additional items of Work remaining to be completed that are noted during the System walkdowns by Owner or Contractor shall be included in the Punch List. Contractor shall update the Punch List during performance of the Work to reflect Punch List Items that have been completed, added or re-classified (with Owner's concurrence). No less than ten (10) Business Days prior to Substantial Completion of a Stage, Contractor shall issue an updated Punch List to Owner for Owner's review and acceptance, together with an estimate of the cost and time necessary to complete or correct each Punch List D Item. Only Defects or deficiencies or other incomplete Work which satisfy the criteria of a Punch List D Item shall be eligible for inclusion on the Punch List as of the Substantial Completion Date. The failure to include any items on any iteration of the Punch List shall not alter the responsibility of Contractor to complete all of the Work in accordance with the terms and provisions of this Agreement.

(a) "**Punch List A Items**" are items of Work that impact the energization of a System, hamper subsequent commissioning and start-up activities of such System or other Systems of such Stage, or jeopardize the safe operation of such System, the Stage or the LNG Facility.

(b) "**Punch List B Items**" are items of Work that are incomplete or Defective and do not meet any of the criteria of Punch List A Items, but that must be completed prior to start-up of the System or the introduction of hydrocarbons into such System or a Stage, under Applicable Laws or in accordance with GECP.

(c) "**Punch List C Items**" are items of Work that are incomplete or Defective and do not meet the criteria to be classified as a Punch List D Item.

(d) "**Punch List D Items**" are items of Work that are incomplete or otherwise Defective but meet each of the following:

(i) it does not impede the safe operation of the LNG Facility in accordance with GECP, or impede marine operations (other than with respect to the Pioneer Docks);

(ii) it does not affect the operability, safety or mechanical, electrical or structural integrity of the LNG Facility;

(iii) it can be corrected safely with the LNG Facility operating at design capacity;

(iv) it does not materially increase the cost of operating the LNG Facility; and

(v) it does not materially and adversely affect the economic benefits to Owner that arise from the operation of the LNG Facility.

9.9.2 Conditions to Commissioning, Start-Up, Testing and Completion.

(a) In no event shall Contractor commence commissioning a System, nor shall a System achieve Mechanical Completion, until all of the Punch List A Items with respect to that System have been completed, or the Parties have agreed to a work-around for such Punch List A Item that allows Contractor to safely commence commissioning of such System.

(b) In no event shall Contractor start-up a System, nor shall a System achieve Ready for Start-Up, until (i) such System has achieved Mechanical Completion; (ii) any Punch List A Items for which Owner agreed to a work-around for purposes of achieving Mechanical Completion have been completed and no Punch List A Items are included in the Punch List with respect to such System; and (iii) all of the Punch List B Items with respect to that System included on the Punch List have been completed or the Parties have agreed to re-classify such Punch List Item with an agreed-to completion date, and no Punch List B Items are included in the Punch List with respect to such System. In no event shall Contractor achieve Ready for Start-Up of a Stage until all of the Punch List B Items with respect to the Systems within the LNG Train within such Stage and the related process and utility Systems of the Stage containing such LNG Train, have been completed and no Punch List B Items are included in the Punch List with respect to any such Systems.

(c) In no event shall Contractor introduce Feed Gas into a System or a Stage for processing into LNG until Ready for Start-Up of such Stage has been achieved.

(d) In no event shall Contractor commence Performance Tests other than functional tests with respect to a Stage until all of the Systems within such Stage have achieved Mechanical Completion and Ready for Start-Up.

(e) In no event shall Contractor achieve Substantial Completion of a Stage until all of the Systems within such Stage have achieved Mechanical Completion and Ready for Start-Up, and all of the Punch List C Items with respect to such Stage have been completed.

9.9.3 Access; Completion of Punch List D Items. Owner shall provide Contractor with access to each Stage after Substantial Completion that is reasonably sufficient to

enable Contractor to complete all Punch List D Items, so long as such access does not unreasonably interfere with operation of such Stage or any other Stage that has achieved Substantial Completion and subject to Contractor complying with Owner's HSSE Program. All Punch List D Items shall be completed as a condition to Final Acceptance of such Stage. Contractor shall promptly initiate measures to complete or correct, as appropriate, the Punch List D Items on the Punch List within the estimated time necessary to complete or correct that Punch List Item provided by Contractor. On a bi-Weekly basis after Substantial Completion of a Stage, Contractor shall revise and update the Punch List to include the dates that items listed on such Punch List are completed by Contractor and accepted by Owner. Notwithstanding any of the foregoing, a Punch List D Item shall not be considered complete until Owner has inspected the Punch List D Item and acknowledged, by notation on the updated Punch List, that the Work related to that Punch List D Item is complete.

9.9.4 Owner Completion. At any time after the scheduled date for Final Acceptance of such Stage, Owner may elect by written notice to complete the remaining Punch List Items that have not been completed as of the date of Owner's notice. Upon such election, Owner may withhold and use amounts otherwise due to Contractor hereunder to pay for Owner's reasonably documented costs incurred to complete such remaining Punch List Items, or if such costs exceed amounts remaining to be paid to Contractor hereunder, Contractor shall pay Owner its reasonably documented costs within thirty (30) Days after receipt of an invoice from Owner reasonably documenting the costs incurred by Owner to complete such Punch List Items.

9.10 Achievement of Guaranteed Performance Levels.

9.10.1 Achievement of Substantial Completion. If at any time prior to Substantial Completion of a Stage, a Stage: (a) meets the Emission Guarantees; (b) either meets the Noise Guarantee or Contractor is able to demonstrate through modeling, using the Noise Model, that such Stage satisfies the Noise Guarantee; (c) meets the Guaranteed Performance Levels to which a Minimum Performance Standard does not apply; and (d) for any Guaranteed Performance Levels which are not satisfied, the Minimum Performance Standards for a Stage are met during the Performance Tests for such Stage, then Contractor shall have the option to: (i) perform remedial Work to correct the deficiencies in performance and re-perform the failed Performance Test; or (ii) if all other conditions to Substantial Completion for such Stage have been met or waived by Owner, achieve Substantial Completion for such Stage by increasing the Letter of Credit provided by Contractor pursuant to Section 17.2, or providing Owner with a separate Letter of Credit that meets the requirements of Section 17.2.1, in an amount equal to all Performance Liquidated Damages due with respect to the Guaranteed Performance Levels that have not been met; provided, that if the Guaranteed Substantial Completion Date has occurred, then: (A) Delay Liquidated Damages will accrue until Substantial Completion is achieved; and (B) if all other conditions to Substantial Completion for such Stage have been met or waived by Owner, Owner may at any time require Contractor to post such Letter of Credit under subclause (ii) and achieve Substantial Completion for such Stage, in which case Contractor shall provide a Substantial Completion Certificate for such Stage to Owner.

9.10.2 Contractor Obligation to Attempt to Achieve Guaranteed Performance Levels. If a Stage: (a) meets the Emission Guarantees; (b) either (i) meets the Noise Guarantee; or (ii) fails to meet the Noise Guarantee but Contractor's Noise Model demonstrates that such Stage satisfies the Noise Guarantee; (c) meets the Guaranteed Performance Levels ,or meets the Minimum Performance Standards for those Guaranteed Performance Levels that have not been achieved, during the Performance Tests; and (d) such Stage has satisfied the other requirements to achieve Substantial Completion, then, at Contractor's or Owner's option, which may be exercised by either such Party by providing notice to the other Party any time until ten (10) Days after the date on which Owner countersigns a Substantial Completion Certificate for such Stage, Contractor shall attempt for a period of up to [***] Days commencing on the date that the applicable Party exercises its option under this Section 9.10.2 (the "**Guaranteed Performance Levels Correction Period**"), to correct the Work so that the LNG Facility achieves all of the Guaranteed Performance Levels for the applicable Stage and otherwise achieves any conditions to Substantial Completion that were waived by Owner for such Stage; provided, however, if such Stage fails to meet any of the Guaranteed Performance Levels by only [***], then Contractor shall have the option in its sole discretion to pay the Performance Liquidated Damages due with respect to the Guaranteed Performance Levels for which Contractor achieved all but [***] of the Guaranteed Performance Levels in lieu of undertaking any efforts to correct the Work (but must undertake corrective efforts with respect to the Guaranteed Performance Levels which have failed to meet the respective Guaranteed Performance Level by more than [***]). Within ten (10) Days after either receipt of a notice from Owner or Contractor's notice electing to undertake to cure the performance deficiencies, and prior to commencing any curative Work during the Guaranteed Performance Levels Correction Period, Contractor shall submit a plan describing the Work that Contractor will undertake to correct, repair or remedy any of the Work necessary to achieve the relevant Guaranteed Performance Levels, the access required and when such Work will be performed (a "**GPL Correction Plan**"), for review and acceptance by Owner with respect to timing when such Work will be performed and the access required to perform such Work, not to be unreasonably withheld, conditioned or delayed by Owner. The GPL Correction Plan shall be amended in accordance with Section 9.10.3 as may be necessary with respect to Work necessary to satisfy the Noise Guarantee. Any such GPL Correction Plan shall minimize any interference that performance of the curative Work shall or may have on the relevant Stage or any other Stage that has achieved Substantial Completion. Contractor shall thereafter complete all such Work in accordance with the GPL Correction Plan that has been accepted by Owner. Contractor shall bear all costs to correct the Work pursuant to this Section 9.10.2; provided, however, that if Owner elects to require Contractor to correct the Work, Contractor shall not be required to incur costs to perform curative Work that exceed the amount of [***].

9.10.3 Contractor's Demonstration of Satisfaction of the Noise Guarantee. With respect to the Noise Guarantee for each Stage, if the Performance Test conducted prior to Substantial Completion does not demonstrate that the Noise Guarantee has been satisfied, but the Noise Model demonstrates that such Stage satisfies the Noise Guarantee, then during the Guaranteed Performance Levels Corrections Period, Contractor shall promptly prepare and deliver to Owner for submission to FERC the necessary information, including the Noise Model, to demonstrate to FERC that the applicable Stage satisfies the Noise Guarantee. If FERC does not agree that such Stage satisfies the Noise Guarantee, Contractor shall amend its GPL

Correction Plan, using the same procedures as described in Section 9.10.2, to include the Work that Contractor will undertake to correct, repair or remedy any of the Work necessary to cause the Stage to satisfy the Noise Guarantee. Without limiting Contractor's rights hereunder in the event of a Change in Law, Contractor's costs to perform curative Work to satisfy the Noise Guarantee shall not be subject to the limitation on Contractor's costs as described in Section 9.10.2.

9.10.4 Contractor Access. During any Guaranteed Performance Levels Correction Period, Owner shall provide Contractor with access to the LNG Facility sufficient to perform its curative Work under this Agreement in accordance with the plan as accepted by Owner pursuant to Section 9.10.1 or 9.10.2, so long as such access does not unreasonably interfere with operation of the relevant Stage or any other Stage that has achieved Substantial Completion, and in connection therewith Owner may place reasonable limitations on Contractor's access to the Work such that performance of the Work will minimize disruption to Owner's operations and loss of revenue resulting from performance of such Work. In any event, Owner shall notify Contractor of the periods in which Owner is scheduled to operate a Stage to produce LNG as necessary for imminent Loading of a LNG Tanker and during Cargo Loading, and Contractor acknowledges that Contractor shall not have access to the Work during such periods. If during performance of the curative Work Contractor determines that any activities that were not contemplated in the plan as accepted by Owner pursuant to Section 9.10.2 have become necessary, Contractor shall provide the prior written notice required under Section 2.11.2 to Owner if performance of the curative Work will interfere with operation of that Stage or prior Stages, in which case Owner may place reasonable limitations on Contractor's access to the Work such that performance of the Work will minimize disruption to Owner's operations and loss of revenue resulting from performance of such Work. If Contractor is not granted access to the LNG Facility in order to perform the curative Work in accordance with the plan as accepted by Owner pursuant to Section 9.10.1 or 9.10.2, the Guaranteed Performance Levels Correction Period shall be extended as necessary to provide Contractor with the required access in accordance with such plan.

9.10.5 Conduct of Performance Tests. During any Guaranteed Performance Levels Correction Period, Contractor shall provide notice to Owner when Contractor believes the relevant Stage is prepared for Performance Tests to be conducted to demonstrate such Stage meets the applicable Guaranteed Performance Levels, and Owner shall conduct such Performance Tests in accordance with the Performance Test Procedures; provided, that Contractor shall supply all test technicians and instrumentation and any other personnel, other than the Operating Personnel, necessary to perform the Performance Tests. If a Performance Test with respect to a Stage is commenced but is not completed, the Performance Test must be Successfully Run after such attempt and before Contractor shall have met its obligations under the applicable GPL Correction Plan. If based on such Performance Test, a Stage fails to meet any of the Minimum Performance Standards, or the Performance Test is not otherwise Successfully Run, Contractor shall within forty eight (48) hours submit a GPL Correction Plan for Owner's review and acceptance in accordance with Section 9.10.2, for the correction or repair or remedy of any of the Work as necessary to correct such performance deficiencies as soon as possible. Contractor shall continue to perform curative work in accordance with this

Section 9.10.5 until the Stage achieves the applicable Minimum Performance Standards and the applicable Performance Test is otherwise Successfully Run, notwithstanding the expiration of the Guaranteed Performance Levels Correction Period.

9.10.6 Calculation of Performance Liquidated Damages. If Contractor corrects the performance of the Stage and based on subsequent Performance Tests meets the relevant Guaranteed Performance Levels or improves the performance of the Stage with respect to the Guaranteed Performance Levels to which the Minimum Performance Standards apply, the Performance Liquidated Damages payable pursuant to this Agreement shall be recalculated by Contractor and submitted to Owner. If Owner disagrees with Contractor's calculation of the Performance Liquidated Damages that are due, Owner shall notify Contractor, and Contractor and Owner shall attempt to resolve any such disagreements. Contractor shall pay Owner the undisputed Performance Liquidated Damages within thirty (30) Days after Contractor first submits its calculations to Owner, and shall pay Owner any disputed Performance Liquidated Damages that are determined to be due and owing to Owner upon resolution of the related Dispute in accordance with Article 20. If and to the extent the amount by which the Stage fails to meet any of the Guaranteed Performance Levels to which the Minimum Performance Standards apply has increased and additional Performance Liquidated Damages are due with respect to such Guaranteed Performance Levels, Contractor shall pay such additional Performance Liquidated Damages to Owner. If the performance of the Stage decreases such that the Stage fails to meet the Minimum Performance Standards or fails to meet any of the Guaranteed Performance Levels to which the Minimum Performance Standards do not apply following the performance of Contractor's curative Work, then Contractor shall continue to perform curative work to cause the Stage to achieve at least the Minimum Performance Standards where applicable and achieve any Guaranteed Performance Levels to which the Minimum Performance Standards do not apply, notwithstanding the expiration of the Guaranteed Performance Levels Correction Period. Once Contractor demonstrates the Stage meets the Guaranteed Performance Levels, or the Minimum Performance Standards, as applicable, the Parties shall re-calculate, approve and pay the Performance Liquidated Damages as contemplated in this Section 9.10.6, notwithstanding the expiration of the Guaranteed Performance Levels Correction Period. Owner shall release the Letter of Credit provided by Contractor with respect to Performance Liquidated Damages for such Stage pursuant to Section 9.10.1 (or Contractor may reduce the Letter of Credit provided by Contractor pursuant to Section 17.2 if Contractor elected to increase such Letter of Credit in accordance with Section 9.10.1), upon receipt of payment in full of all Performance Liquidated Damages that are due hereunder with respect to such Stage.

9.11 Final Acceptance.

9.11.1 Final Acceptance Certificate. When Contractor believes that a Stage has achieved Final Acceptance, Contractor shall execute and deliver to Owner a Final Acceptance Certificate for such Stage, together with a report of the Work completed with sufficient detail to enable Owner to determine whether Final Acceptance of such Stage has been achieved. The Final Acceptance Certificate for each Stage shall be accompanied by all other supporting

documentation as may be required to establish that the requirements for Final Acceptance of such Stage have been met.

9.11.2 Owner Acceptance or Rejection. As soon as practicable following its receipt of a Final Acceptance Certificate delivered pursuant to Section 9.11.1 or 9.11.3, Owner shall inspect the applicable Stage and all of the applicable Work and promptly notify Contractor of any matter of which it is aware that, if not remedied, would prevent Owner from countersigning the Final Acceptance Certificate for such Stage. As soon as practicable, and in any event within ten (10) Business Days following its receipt of a Final Acceptance Certificate for such Stage, Owner shall consider the report submitted by Contractor and either:

(a) countersign and deliver to Contractor the Final Acceptance Certificate for such Stage; or

(b) notify Contractor in writing that Final Acceptance for such Stage has not been achieved, stating in detail the reasons therefor.

9.11.3 Corrective Action. If Final Acceptance for a Stage has not been achieved, Contractor shall promptly take such corrective action or perform such additional Work as will achieve Final Acceptance for such Stage and shall issue to Owner another Final Acceptance Certificate for such Stage pursuant to Section 9.11.1. Neither Owner's execution of the Final Acceptance Certificate nor any matter reported by Owner pursuant to Section 9.11.2 and action taken by Contractor pursuant to this Section 9.11.3 shall diminish Contractor's obligations pursuant to Article 10.

9.11.4 Achievement of Final Acceptance. Contractor shall achieve Final Acceptance of each Stage within [***] Days after the Substantial Completion Date for such Stage; provided, however, that such [***] Day period shall be reasonably extended to the extent that Contractor is not provided access to such Stage in accordance with Appendix M during such period to the extent necessary to perform the Work required to satisfy the conditions to Final Acceptance.

9.11.5 Failure to Agree upon Achievement of Final Acceptance. In the event that Owner and Contractor do not agree upon whether Final Acceptance for a Stage has been achieved, the Dispute shall be resolved in accordance with Article 20.

9.12 Final Completion.

9.12.1 Final Completion Certificate. When Contractor believes that it has met all of the requirements for Final Completion, Contractor shall execute and deliver to Owner a Final Completion Certificate, together with a report of the Work completed with sufficient detail to enable Owner to determine whether Final Completion has been achieved. The Final Completion Certificate shall be accompanied by all other supporting documentation as may be required to establish that the requirements for Final Completion have been met.

9.12.2 Owner Acceptance or Rejection. As soon as practicable following its receipt of a Final Completion Certificate delivered pursuant to Section 9.12.1 or 9.12.3, Owner shall promptly notify Contractor of any matter of which it is aware that, if not remedied, would prevent Owner from countersigning the Final Completion Certificate. As soon as practicable, and in any event within ten (10) Business Days following its receipt of a Final Completion Certificate, Owner shall consider the report submitted by Contractor and either:

(a) countersign and deliver to Contractor the Final Completion Certificate; or

(b) notify Contractor in writing that Final Completion has not been achieved, stating in detail the reasons therefor.

9.12.3 Corrective Action. If Final Completion has not been achieved, Contractor shall promptly take such corrective action or perform such additional Work as will achieve Final Completion and shall issue to Owner another Final Completion Certificate pursuant to Section 9.12.1. Neither Owner's execution of the Final Completion Certificate nor any matter reported by Owner pursuant to Section 9.12.2 and action taken by Contractor pursuant to this Section 9.12.3 shall diminish Contractor's obligations pursuant to Article 10.

9.12.4 Failure to Agree upon Achievement of Final Completion. In the event that Owner and Contractor do not agree upon whether Final Completion has been achieved, the Dispute shall be resolved in accordance with Article 20.

ARTICLE 10

WARRANTIES AND CORRECTION OF WORK

10.1 Contractor's Warranties.

10.1.1 Warranty Coverage. Contractor warrants to Owner as follows:

(a) Contractor shall perform the Work using its skills and attention, in accordance with GECP associated with constructing Comparable Facilities, as such standards are applicable to the circumstances of the LNG Facility and the Liquefaction Project.

(b) All Equipment procured or furnished by Contractor hereunder shall be new, of good quality, suitable for use in a liquefaction facility in accordance with GECP and shall comply with the Specifications.

(c) The Work, including all Equipment, and each component thereof, shall comply with the requirements of this Agreement, the Scope of Work, Basis of Design, the Deliverables and Applicable Laws.

(d) Subject to Owner having paid undisputed amounts due hereunder, Owner and the Common Facilities Owner, as applicable, shall receive good and marketable title to and ownership of the Work, and each component of the Work shall be free and clear of any

and all Liens when title thereto passes to Owner, except those of the Lender, but in no event including any Liens of Contractor or any Supplier.

(e) All Equipment and any component thereof shall be composed and made of only proven technology, of a type in commercial operation as of the Effective Date, with conditions substantially similar to those contained herein.

If requested by Owner, Contractor shall provide Owner with reasonably satisfactory evidence that any items of Equipment meet the warranties set forth in this Section 10.1.1.

The warranties set forth in this Article 10 are in addition to and constitute separate obligations from Contractor's obligation to achieve the Guaranteed Performance Levels set forth in this Agreement. Provided that Contractor has achieved the Minimum Performance Standards pursuant to Successful Runs of the Performance Tests for each Stage, the failure by Contractor to achieve the Guaranteed Performance Levels (other than those to which Minimum Performance Standards do not apply) shall not be deemed to be a Defect.

10.1.2 Warranty Exclusions. The Warranty excludes remedies, and Contractor shall have no liability to Owner, for damages or defects to the extent caused by: (a) Owner's failure to maintain or repair any Equipment in accordance with the recommendations set forth in the O&M Manuals, including the use of spare parts in the repair or maintenance of Equipment that are not in accordance with the specifications set forth in the O&M Manuals, but only after Substantial Completion of the applicable Stage containing such Equipment; (b) operation of any Equipment or any component thereof by Owner outside of the operating parameters or other material requirement of the O&M Manuals, but only after Substantial Completion of the applicable Stage containing such Equipment; (c) normal wear and tear; provided, that actions by Operating Personnel furnished by Owner under Section 3.6 but acting under the direction of Contractor shall be considered actions of Contractor, not Owner; or (d) repairs or alterations of Defective Work during or after the Warranty Period not performed by Contractor (except for work performed by Owner pursuant to Section 10.3.5); or (e) damage caused by a Force Majeure event that occurs after Substantial Completion of the applicable Stage.

10.1.3 Warranty Period. The warranty period with respect to each Stage will commence on the Substantial Completion Date and continue for a period of [***] months from the Substantial Completion Date of such Stage (each such period referred to herein individually as a "**Warranty Period**"). Notwithstanding anything to the contrary in this Section 10.1.3, the Warranty Period with respect to items of the Common Facilities shall commence on the date of Substantial Completion of Stage II unless such item of Common Facilities installed as part of Stage I can be both fully utilized and fully tested at Substantial Completion of Stage I, and the Warranty Period for any part or component of the Work which is corrected, repaired or replaced pursuant to this Section 10.3.1 shall be renewed for a period of [***] months from the date of completion of such correction, repair or replacement; provided, further, that the Warranty Period for any part or component of the Work that is out of service because of a Defect affecting another part or component shall be extended by a period equal to the period during which such Work cannot be used by reason of the Defect. Notwithstanding the preceding, but subject to

Section 10.4, the Warranty Period for any part or component of the Work (including warranty Work) shall in no event extend beyond [***] months from the date of commencement of the Warranty Period upon the Substantial Completion of the applicable Stage, except with respect to the Extended Warranty Items.

10.1.4 Assignment of Warranties. The warranties made in this Agreement shall be for the benefit of Owner and its successors and assigns and the respective successors and assigns of any of them, and any warranties obtained by Contractor from its Suppliers (including CIMTAS but excluding other Affiliates of Contractor) that remain after the expiry of the Warranty Period, as extended pursuant to Section 10.1.3, shall be assigned to Owner (or its successors or assigns).

10.2 Supplier Warranties.

10.2.1 Generally. Contractor shall be fully responsible and liable to Owner for its warranty and Corrective Work obligations and liability under this Agreement for all Work, regardless of whether any Supplier warranties meet the requirements of this Agreement. Contractor shall use commercially reasonable efforts to obtain similar Warranties to those provided by Contractor hereunder from its Suppliers (including CIMTAS but excluding other Affiliates of Contractor) as appropriate for the Work provided by such Supplier, but except with respect to the Extended Warranty Items (subject to Section 10.2.2) and the Licensors, for which Contractor shall obtain the warranties as described herein, Contractor shall not be required to obtain any specific warranties from Suppliers. Contractor shall promptly assign any Supplier warranties remaining in effect at the end of the Warranty Period under Section 10.1.3 to Owner by duly executed instruments, including from CIMTAS but excluding warranties from other Affiliates of Contractor. All warranties provided by any Supplier (including CIMTAS but excluding other Affiliates of Contractor) shall be in such form as to permit direct assignment of any remaining warranty without the consent of Supplier.

10.2.2 Extended Supplier Warranties. Notwithstanding anything to the contrary in Section 10.2.1, Contractor shall obtain warranties from the relevant Vendors with respect to the Extended Warranty Items that extend for a period of no less than [***] months from the introduction of feed gas to the applicable Equipment. The "**Extended Warranty Items**" are the following: fill/adsorbent for the dryer bed and the mercury removal unit, respectively, each as described in Appendix B. Such warranties shall be assigned by Contractor to Owner at the end of the Warranty Period (and Owner shall accept such assignment), and if Contractor does not assign such warranties to Owner, Contractor shall owe such Warranty obligations to Owner.

10.3 Warranty Repair Procedures.

10.3.1 Corrections during Warranty Period. If, during the Warranty Period for any Stage, any Work for such Stage is found to be Defective, Contractor shall, at its sole cost and expense, promptly and on an expedited basis correct such Defective Work, whether by repair, replacement or otherwise, including any and all obligations in connection with such repair, replacement or otherwise, such as in and out costs, storage, labor, Taxes, transportation and expediting costs and any other costs necessary to fully correct the Defective Work (collectively,

the "**Corrective Work**"). The cost of disassembling, dismantling or making safe and reassembling finished Work for the purpose of Corrective Work shall be borne by Contractor. Contractor shall use reasonable efforts to avoid or mitigate the loss of refrigerants and other consumables during the performance of the Corrective Work. Nothing herein shall be deemed to expand Contractor's obligations under Section 11.3.2 for physical loss, damage to or destruction of the Work as a result of such Defective Work. Within forty-eight (48) hours, for matters affecting the operation of a Stage, or ten (10) Business Days, for all other matters, after receipt by Contractor of a Notice from Owner identifying and describing with reasonable specificity that portion of Work that fails to meet an applicable warranty and requesting Contractor to correct the failure, Contractor shall submit a plan to Owner specifying how Contractor proposes to remedy such failure and Contractor and Owner shall mutually agree when Contractor shall remedy such failure. No such remediation or repair shall be considered complete until Owner has reviewed and agreed that such remedial work has been completed and the Defect has been corrected.

10.3.2 Access to the LNG Facility; Spare Parts. Owner shall provide Contractor with access to the LNG Facility portions of the LNG Facility, and will de-energize and de-pressurize the applicable Equipment and otherwise take such other action with respect to such Equipment and the relevant portions of the LNG Facility, as necessary for Contractor to safely access such Equipment and perform its Corrective Work, subject to the security or safety requirements of Owner; provided that Contractor's activities do not unreasonably interfere with the construction or operation of the LNG Facility. If Owner does not provide Contractor with access to perform the Corrective Work in accordance with the schedule agreed to by the Parties in accordance with Section 10.3.1, the period allowed for Contractor to perform such Corrective Work shall be extended for the length of the delay. Contractor shall not utilize spare parts owned by Owner in the course of performing the Corrective Work without Owner's prior written consent. In the event Contractor utilizes spare parts owned by Owner in the course of performing the Corrective Work, Contractor shall supply Owner free of charge with spare parts equivalent in quality and quantity to all such spare parts used by Contractor (which shall be new except as otherwise agreed by Owner), from the original manufacturer of the spare parts used, or otherwise as soon as possible following the utilization of such spare parts, or shall reimburse Owner for the complete replacement costs incurred by Owner to replace such spare parts.

10.3.3 Warranty Manager. Contractor shall furnish and retain at least one (1) Warranty Manager at the LNG Facility on a full-time (forty (40) hours per Week) basis for the duration of the Warranty Period to assist in coordinating resolution of any Warranty claims. Contractor shall provide a replacement Warranty Manager during any periods of vacation or extended illness of the appointed Warranty Manager. Any Person designated by Contractor to serve as the Warranty Manager shall be subject to Owner's review and shall be reasonably acceptable to Owner.

10.3.4 Standards for Corrective Work. All Corrective Work shall be performed to the same standards as the original Work is required to be meet under Section 10.1.1. Any change to parts or Equipment that would be inconsistent with the requirements of this Agreement may be made only with the express written consent of Owner. Upon completion of the applicable Corrective Work, Contractor shall perform applicable functional tests on the corrected

Work to demonstrate such Work is performing in accordance with the requirements of Section 10.1.1.

10.3.5 Owner's Right to Perform Warranty Work. If Contractor fails to submit a plan for completion of the Corrective Work or fails to commence the Corrective Work as agreed with Owner in accordance with Section 10.3.1, or does not complete such Corrective Work in accordance with the plan for completion (or revised and agreed upon plan (as to when Contractor shall remedy such failure) for completion as necessitated by the circumstances), then Owner, by written notice to Contractor, may (in addition to any other remedies that it has under this Agreement) perform such Corrective Work or cause such Corrective Work to be performed, and Contractor shall be liable to Owner for all reasonable costs and expenses arising out of or relating to such Corrective Work and shall pay Owner within thirty (30) Days after receipt of Owner's invoice an amount equal to such costs and expenses; provided, however, that if the Defective Work presents an imminent threat to safety, health or the environment, or the structural integrity of an item or component of a Stage or the LNG Facility, Owner may proceed to perform or cause such Corrective Work to be performed, and in connection therewith Owner may contact the applicable Supplier that furnished the Defective Work with contemporaneous written notice to Contractor, and Contractor shall nonetheless be liable to Owner for all reasonable costs and expenses arising out of or relating to such Corrective Work. Notwithstanding anything to the contrary in this Section 10.3.5, if an Other Contractor of Owner performs Corrective Work pursuant to this Section 10.3.5 prior to the expiration of the applicable Warranty Period: (a) such Other Contractor shall perform such Corrective Work in accordance with the Specifications applicable to such Corrective Work (unless such Specifications are Defective); and (b) if the Other Contractor provides a warranty for such Corrective Work, Owner shall assign such warranty to Contractor for the duration of the applicable Warranty Period (on the understanding that Contractor shall assign any remaining warranty provided by such Other Contractor back to Owner in accordance with Section 10.2 upon the expiration of the applicable Warranty Period), and Contractor shall not be liable to Owner for the cost of the Other Contractor's warranty applicable to such Corrective Work to the extent such warranty exceeds Contractor's warranty obligations under this Article 10.

10.3.6 Other Warranty Work Performed by Owner. Without limiting the Parties' rights and obligations under Section 10.3.5, if the Parties agree that Owner will perform certain Corrective Work, then (a) Owner will perform such Corrective Work in accordance with the instructions and procedures with which Contractor would comply if Contractor had performed such Corrective Work (provided that Contractor has, promptly after such agreement by the Parties, provided such instructions and procedures to Owner); (b) Owner will provide to Contractor an estimate of Owner's costs (including actual out of pocket costs and internal costs) to perform such Corrective Work; and (c) Contractor shall reimburse Owner for all reasonable costs and expenses arising out of or relating to such Corrective Work and shall pay Owner within thirty (30) Days after receipt of Owner's invoice an amount equal to such costs and expenses.

10.4 Structural Works Defects. Notwithstanding the terms of Section 10.1.3, to the maximum extent permitted by Applicable Laws, the Warranty Period under this Article 10 with

respect to Structural Works Defects in the Work for a Stage will continue for a period of [***] Months from the Substantial Completion Date of Stage II.

10.5 Root Cause. If during the Warranty Period any part or component of the Equipment is changed, repaired or replaced once due to failure to comply with or meet the warranties set forth in Section 10.1, and such Equipment, or similar parts or components or the same or similar Equipment furnished by Contractor hereunder, is Defective again during the applicable Warranty Period (as extended), Contractor shall as promptly as practicable after such Defect or Defective Equipment is identified, undertake a technical root cause analysis of such failures and provide Owner with a copy of such analysis. If there is a root cause that is correctable, and it is reasonably determined that the similar parts or components or the same or similar Equipment furnished by Contractor hereunder contain the same Defect as the Equipment giving rise to the root cause analysis, Contractor shall determine what changes, repairs or replacements are necessary to avoid further failures of such Equipment, or similar parts or components or the same or similar Equipment furnished by Contractor hereunder, Contractor shall make such necessary changes, repairs or replacements to address the root cause with respect to all such Equipment, and similar parts or components or the same or similar Equipment furnished by Contractor hereunder, as part of its warranty obligations hereunder. If there is no root cause or the root cause cannot be identified, Owner and Contractor shall agree on a resolution and Contractor shall repair or replace the Equipment or take such other action as Owner and Contractor have agreed. Without limiting the foregoing, in each case, during the Warranty Period, Contractor shall repeat such process on an iterative basis until such Defects and the underlying cause thereof are corrected, and until such Equipment has not failed again during the immediately succeeding [***] Day period (or such shorter period remaining before expiration of the Warranty Period). Contractor shall complete any root cause analysis commenced during a Warranty Period and shall provide such root cause analysis to Owner whether or not such analysis was completed before the end of the applicable Warranty Period.

10.6 EXCLUSIVE WARRANTY; EXCLUSIVE REMEDY. THE WARRANTIES IN THIS AGREEMENT, AND OTHER OBLIGATIONS AND RESPONSIBILITIES OF CONTRACTOR AS SET FORTH IN THIS ARTICLE 10 ARE CONTRACTOR'S SOLE WARRANTY OBLIGATIONS. CONTRACTOR MAKES NO OTHER WARRANTIES OR GUARANTEES, EXPRESS OR IMPLIED, WITH RESPECT TO THE WORK, INCLUDING IMPLIED WARRANTIES, OR WARRANTIES OF MERCHANTABILITY, ORDINARY USE, FITNESS OR SUITABILITY FOR A PARTICULAR PURPOSE, ALL OF WHICH ARE EXPRESSLY DISCLAIMED AND WAIVED. FROM AND AFTER SUBSTANTIAL COMPLETION OF A STAGE, WITHOUT LIMITING CONTRACTOR'S OBLIGATIONS UNDER THIS AGREEMENT WITH RESPECT TO ACHIEVING THE NOISE AND EMISSIONS GUARANTEES AS DESCRIBED IN APPENDIX G AND THE GUARANTEED PERFORMANCE LEVELS, CONTRACTOR'S PERFORMANCE OF ITS OBLIGATIONS UNDER THIS ARTICLE 10, INCLUDING IN THE CASE OF OWNER'S PERFORMANCE OF ANY WARRANTY WORK HEREUNDER, SHALL BE OWNER'S SOLE REMEDY WITH RESPECT TO DEFECTIVE WORK, EXCEPT AND TO THE EXTENT THAT CONTRACTOR FAILS TO PERFORM ITS OBLIGATIONS AND SUCH FAILURE IS A CONTRACTOR EVENT OF DEFAULT PURSUANT TO SECTION 19.3.1.

ARTICLE 11

TITLE TRANSFER; CUSTODY; RISK OF LOSS

11.1 Transfer of Title.

11.1.1 Title to Equipment and Work Product. Title to: (a) all or any component or portion of the Equipment that forms a part of or is included in the Common Facilities shall pass to the Common Facilities Owner; and (b) all or any component or portion of any other Equipment shall pass to Owner; in each case upon the earlier of: (i) delivery of such Equipment to the Site; (ii) incorporation of such Equipment into the LNG Facility; (iii) the Substantial Completion Date of the Stage in which such Equipment is included; (iv) the effective date of termination or cancellation of this Agreement; or (v) after payment for such Equipment has been made, upon Owner's written request. Title to Work Product with respect to all parts of the LNG Facility other than the Common Facilities shall transfer to Owner, and with respect to the Common Facilities shall transfer to the Common Facilities Owner, as described in Section 12.1. Transfer of title to any of the Work shall be without prejudice to Owner's right to reject Defective Work, or any other right of Owner or the Common Facilities Owner under this Agreement. This transfer of title does not relieve Contractor in any way of its obligations or liabilities under this Agreement.

11.1.2 Protection. Contractor shall take or cause to be taken all steps necessary under Applicable Laws to protect Owner's and the Common Facilities Owner's title and to protect Owner and the Common Facilities Owner against claims by third parties, including Suppliers, with respect to Owner's and the Common Facilities Owner's interest in the LNG Facility and all Equipment until title passes to Owner or the Common Facilities Owner, as applicable, pursuant to Section 11.1.1. If Contractor stores any Equipment off the Site, Contractor shall notify Owner where such Equipment is located if in storage for more than five (5) Days, including in such notice a detailed description of such Equipment, including any serial or identification numbers and such other information as may be necessary for Owner to make such security filings as Owner determines is necessary or desirable to protect Owner's interest or to protect Owner against claims by third parties; provided, however, that Owner shall make any such filings as Owner determines in its sole and absolute discretion and that Owner's filing or failing to make such filing shall not relieve Contractor of its responsibilities under this Section 11.1.2.

11.2 Care, Custody and Control.

11.2.1 Contractor. Notwithstanding the passage to title of Equipment or other parts of the Work to Owner or the Common Facilities Owner, as applicable, Contractor shall have care, custody, and control of the Equipment and the other Work related to each Stage from the date on which any part of the Work is commenced, until the date that care, custody and control of such Stage transfers to Owner in accordance with Section 11.2.2 or Section 11.2.3, as applicable.

11.2.2 Owner Occupancy; Transfer to Owner. Owner may occupy buildings such as the administration and warehouse buildings as certificates of occupancy and such other Permits that are required for such buildings to be occupied in accordance with Applicable Laws are obtained. During such occupancy prior to Substantial Completion of the Stage in which such buildings are included, Owner shall coordinate with Contractor and shall not unreasonably interfere with any on-going Work that Contractor must perform with respect to such buildings prior to Substantial Completion. Notwithstanding Owner's occupancy of any such buildings, care, custody and control of each Stage, including all Equipment, buildings and facilities that form a part of that Stage and the area of the LNG Facility related to such Stage, shall pass from Contractor to Owner on the earlier of termination of this Agreement or the Day immediately following the Day on which Owner countersigns the Substantial Completion Certificate with respect to such Stage.

11.2.3 [***].

11.2.4 Termination. If this Agreement is terminated for any reason, Contractor shall transition care, custody and control of the Site to Owner in an orderly manner, consistent with the requirements of Article 19.

11.3 Risk of Loss.

11.3.1 Prior to Substantial Completion.

(a) Notwithstanding passage of title as provided in Section 11.1 of this Agreement, Contractor shall, to the fullest extent allowed under Applicable Laws, bear the risk of physical loss, damage to or destruction of the Work and each component thereof (including physical loss, damage to or destruction of Equipment whether occurring at a Supplier's premises prior to transit of such item of Equipment to the Site, while in storage whether at the Site or in another location, while such Equipment is in transit and not yet delivered to the Site, or has been incorporated into the LNG Facility) as follows: (i) with respect to the Work performed for Stage I, Contractor shall bear the risk of physical loss, damage or destruction until the earlier of Stage I Substantial Completion is achieved or termination of this Agreement; and (ii) with respect to the Work performed for Stage II, Contractor shall bear the risk of physical loss, damage or destruction until Stage II Substantial Completion is achieved, or termination of this Agreement if earlier; provided, that Owner shall bear the risk of such loss, damage or destruction to the extent such loss or damage or destruction is due to an Excepted Risk.

(b) Contractor shall promptly repair, reconstruct or replace the damaged Work for which it has the risk of loss pursuant to Section 11.3.1(a), including the removal of any debris, and shall accelerate or expedite such repair, reconstruction or replacement as necessary to minimize any impact on the Guaranteed Substantial Completion Dates to the greatest extent reasonably possible.

(c) If and to the extent Contractor bears the risk of physical loss, damage or destruction pursuant to Section 11.3.1(a), then unless Owner has instructed Contractor to not repair such physical loss, damage or destruction, Contractor shall repair such Work as

required under Section 11.3.1(b), and Owner as Contractor's sole compensation for its costs to repair such physical loss or damage, shall in accordance with Section 16.5, reimburse Contractor for the costs to perform such repairs, up to a maximum amount equal to the amount of proceeds that Owner receives under the insurance policies covering such physical loss, damage or destruction, less any such proceeds that are provided directly to Contractor from the applicable insurers. If and to the extent that Owner bears the risk of physical loss, damage or destruction pursuant to Section 11.3.1(a) and Owner has instructed Contractor to repair such physical loss, damage or destruction that occurs prior to Substantial Completion of the applicable Stage, then Owner shall reimburse Contractor for the costs to perform such repairs; PROVIDED, HOWEVER, WHERE THE PHYSICAL LOSS, DAMAGE OR DESTRUCTION IS CAUSED BY AN EXCEPTED RISK FOR WHICH THERE IS A SUBLIMIT IN THE CONSTRUCTION ALL-RISK PROPERTY OR THE MARINE CARGO INSURANCE COVERAGE FOR THE WORK AND THE LNG FACILITY AS OBTAINED BY CONTRACTOR PURSUANT TO APPENDIX MM, AS APPLICABLE, OWNER SHALL ONLY BE OBLIGATED TO REIMBURSE CONTRACTOR FOR COSTS TO PERFORM SUCH REPAIRS TO THE EXTENT SUCH COSTS EXCEED SUCH SUBLIMITS; PROVIDED, FURTHER, THAT THE FOREGOING SHALL NOT LIMIT THE APPLICATION OF SECTION 18.1.2 WITHOUT DUPLICATION.

(d) This Section 11.3.1 shall not be interpreted to relieve Contractor of any of its other obligations or liabilities under this Agreement, including its obligations with respect to Defective Work and Corrective Work, and nothing in this Section 11.3.1 shall be deemed or construed to give Contractor a right to recover costs related to Delay Liquidated Damages that Contractor may incur hereunder due to any such loss or damage as contemplated in this Section 11.3.1. An extension to the Key Date Schedule and the Guaranteed Substantial Completion Date as a result of damage or destruction to the Work shall be granted only to the extent provided in Section 8.3. Contractor expressly waives any compensation as a result of any damage or destruction to the Work other than as described in this Section 11.3.1 to the exclusion of other theories of recovery such as cumulative impact or loss of productivity.

11.3.2 After Substantial Completion. Owner shall bear the risk of physical loss, damage to or destruction of a Stage or a component thereof after the Substantial Completion Date of such Stage, or the earlier termination of this Agreement; provided, that: (a) Contractor shall be liable for and reimburse Owner for the amount of any deductibles under Owner's or Common Facilities Owner's applicable insurance policies, not to exceed up to [***] per occurrence, with respect to any physical loss or damage or destruction the extent due to the negligence or fault of a Contractor Group member that occurs after Substantial Completion of the applicable Stage, or the earlier termination of this Agreement; and (b) under no circumstances shall this Section 11.3.2 be interpreted to relieve Contractor of its other obligations or liabilities under this Agreement, including Contractor's obligations to remedy Defective Work under Article 10. OWNER AND THE COMMON FACILITIES OWNER HEREBY RELEASE CONTRACTOR FROM ALL COSTS AND LIABILITY FOR PHYSICAL LOSS, DAMAGE TO OR DESTRUCTION OF A STAGE OR A COMPONENT THEREOF AFTER THE SUBSTANTIAL COMPLETION DATE OF SUCH STAGE, OR THE

EARLIER TERMINATION OF THIS AGREEMENT, IN EXCESS OF CONTRACTOR'S RISK OF LOSS AS SPECIFICALLY STATED IN THIS SECTION 11.3.2.

ARTICLE 12

OWNERSHIP OF DOCUMENTATION AND INTELLECTUAL PROPERTY

12.1 Ownership of Work Product by Owner.

12.1.1 Work Product. Owner and Contractor acknowledge that during the course of, and as a result of, the performance of the Work, Contractor, its Affiliates, or its Suppliers will create or prepare or have created or prepared for the Liquefaction Project certain data, analyses, reports, plans, operating and maintenance procedures and manuals, Drawings, Specifications, calculations, or other technical tangible manifestations of Contractor's efforts (whether written or electronic), including a full and complete set of Drawings and technical documentation with respect to each Stage and the other Deliverables in accordance with the requirements of Appendix A, Attachment A-1 to Appendix A and Appendix U (hereinafter individually or collectively referred to as "**Work Product**"). Work Product prepared by Contractor, its Affiliates, or its Suppliers shall be "works made for hire," and subject to this Section 12.1.1 and Section 12.1.2, and to any Licensor's rights under Section 12.6, all rights, title and interest to the Work Product, including any and all copyrights in the Work Product, shall be owned by Owner irrespective of any copyright notices or confidentiality legends to the contrary which may have been placed in or on such Work Product by Contractor, its Affiliates, Suppliers or any other Person. If, for any reason, any part of or all of the Work Product is not considered a work made for hire for Owner or if ownership of all right, title and interest in the Work Product shall not otherwise vest in Owner, then Contractor agrees that such ownership and copyrights in the Work Product, whether or not such Work Product is fully or partially complete, shall be automatically assigned from Contractor to Owner without further consideration, and Owner shall thereafter own all right, title and interest in the Work Product, including all copyright interests.

12.1.2 Third Party Work Product. If Contractor, using commercially reasonable efforts, is unable to procure the ownership of Work Product prepared by Suppliers who are not Affiliates of Contractor (it being understood that any Supplier that is an Affiliate of Contractor shall comply with the requirements of Sections 12.1.1 and 12.2) for Owner as set forth in Section 12.1.1, or all of the rights to use or disclose such Work Product or the Third Party Proprietary Work Product embedded therein in accordance with Section 12.2, then, at a minimum, Contractor shall procure from such Supplier an irrevocable, perpetual and royalty-free license (including the right to assign its right without consent to any purchaser of an interest in the LNG Facility) granting to Owner the right to use, disclose and copy such Work Product and the Third Party Proprietary Work Product embedded therein for any purpose relating to the LNG Facility or the Liquefaction Project as described in Sections 12.2.2(a) and 12.2.2(b), or modify such Work Product for any purpose related to the scope of work performed by such Supplier. Upon Owner's request, Contractor shall provide Owner a list of the Suppliers to which this Section 12.1.2 applies and a copy of applicable provisions of the applicable Supply Contracts containing such restrictions.

12.1.3 Certain Exceptions. Notwithstanding anything to the contrary herein, Contractor shall not be required to obtain rights to Work Product as set forth in this Section 12.1 from Vendors providing bulk commodities or generic "off-the-shelf" Equipment.

12.1.4 Exclusions from Work Product. For the avoidance of doubt, any proprietary Intellectual Property rights owned by any Licensor or its Affiliates shall not constitute Work Product under this Agreement.

12.1.5 Contractor Rights to Work Product. Notwithstanding anything to the contrary in this Section 12.1: (a) Contractor may, subject to compliance with its confidentiality obligations under Section 14.1, retain one (1) record set of the Work Product, and Contractor's Suppliers that furnish any part of the Equipment may retain copies of any Work Product generated by such Supplier, subject to compliance with confidentiality obligations in accordance with Section 14.1; and (b) Contractor may use the Work Product as internal reference material in its general construction and engineering business; provided, that Contractor has delivered the Work Product to Owner in accordance with Section 12.2; provided, further, that Contractor shall not disclose any Work Product relating to the performance or operation of the LNG Facility to any third party without Owner's express prior written consent.

12.2 Delivery and Use of Work Product.

12.2.1 Delivery. Upon Substantial Completion of such Stage or the earlier termination or cancellation of this Agreement, Contractor shall deliver to Owner a full and complete set of all Work Product prepared or created with respect to each Stage in accordance with the requirements of Appendix U.

12.2.2 Use. Owner shall have the right to use all of the Work Product:

(a) in connection with the design, construction, licensing, commissioning, start-up, testing, operation, maintenance, modification or decommissioning of the LNG Facility;

(b) in connection with the proceedings of any Governmental Authorities with respect to the LNG Facility;

(c) as internal reference material by Owner or its Affiliates (including any individuals other than Competitors engaged by Owner as part of its staff augmentation plans, subject to such Persons entering into a confidentiality agreement with Owner with substantially similar terms to those stated in Section 14.2) in connection with the LNG Facility (including any expansion thereof) or any other project; and

shall have the right to use the engineering Deliverables for any purpose of Owner or its Affiliates as determined by Owner, including the expansion of the LNG Facility or any other project; provided, however, Owner shall not grant a Competitor a license to use the engineering Deliverables on any other project in which neither Owner nor an Affiliate of Owner has an ownership interest.

12.2.3 Limitations on Disclosure. Notwithstanding Owner's right to use the Work Product as described in the foregoing, Owner shall not disclose [***].

12.2.4 Release. Owner hereby releases Contractor from all liability arising out of Losses (including its indemnity obligations under Section 15.3) relating in any way to or arising out of the use by or on behalf of Owner, Common Facilities Owner or any other Affiliate of Owner or Common Facilities Owner of the Work Product: (a) for any purpose other than in connection with the design, construction, licensing, commissioning, start-up, testing, operation, maintenance, modification or decommissioning of the LNG Facility; and (b) in connection with the modification of the LNG Facility performed by Persons other than Contractor; provided, however, that the foregoing shall not apply to Contractor's warranty obligations, which shall be governed by and determined in accordance with Article 10.

12.3 Contractor Intellectual Property. Notwithstanding Section 12.1, as between Owner and Contractor, Contractor shall retain ownership of all proprietary Intellectual Property owned by Contractor or its Affiliates as of the Effective Date, or developed or improved by Contractor or its Affiliates in connection with Work or the Liquefaction Project or otherwise, including the Piping Special Supports (hereinafter referred to as "**Contractor Intellectual Property**"), regardless of whether such Contractor Intellectual Property is included in the Work Product, and nothing in Section 12.1 and this Section 12.3 shall result in a transfer of ownership of any Contractor Intellectual Property or the proprietary Intellectual Property owned and developed by Contractor's Suppliers for any project other than the LNG Facility and the Liquefaction Project ("**Third Party Proprietary Work Product**"). With respect to Contractor Intellectual Property embedded in the Work Product or the LNG Facility, and subject to Section 12.6.1, any Third Party Proprietary Work Product relating to the Work or the LNG Facility, Contractor hereby grants Owner, and Contractor shall cause the applicable Suppliers to grant Owner, an irrevocable, perpetual and royalty-free license (including the right to assign its rights without consent to any purchaser of an interest in all or part of the LNG Facility) to use, disclose, modify and copy such Contractor Intellectual Property and Third Party Proprietary Work Product for any permitted purpose as described in Section 12.2. Without limiting Contractor's obligations with respect to the Contractor Intellectual Property, all Supply Contracts (excluding Supply Contracts with Affiliates but including CIMTAS) shall contain provisions consistent with Section 12.1 and this Section 12.3 except as provided in Section 12.1.2, Section 12.1.3 and Section 12.6.1.

12.4 Owner Intellectual Property. All written materials, plans, drafts, Drawings, Specifications, computer files or other documents (if any) prepared or furnished by Owner, its Affiliates or Other Contractors ("**Owner Intellectual Property**") shall at all times remain the property of Owner (or such Affiliates or Other Contractors), and Contractor shall not make use of any Owner Intellectual Property for any other project or for any other purpose than as set forth herein. All Owner Intellectual Property, including all copies thereof, shall be returned to Owner upon the earlier of Final Completion of Stage II or the termination of this Agreement, except that Contractor may, subject to its confidentiality obligations as set forth in Article 14, retain one (1) record set of such documents.

12.5 Limited License to Contractor. With respect to Owner's Intellectual Property relating to the Work or the LNG Facility, until the earlier of Substantial Completion of Stage II or the cancellation or termination of this Agreement, Owner hereby grants Contractor a royalty-free license to use, disclose, modify and copy Owner's Intellectual Property for any purpose relating to the LNG Facility or the Liquefaction Project, and allow Suppliers to do the same to the extent necessary for such Suppliers to perform the Work, in all cases subject to Contractor's compliance with its confidentiality obligations as set forth in Article 14. Owner also hereby grants Contractor a royalty-free license to use the Intellectual Property embedded in the Work Product (to the extent such Intellectual Property is not Contractor Intellectual Property, Third Party Proprietary Work Product or Intellectual Property rights of a Licensor) in its general construction and engineering business subject to Contractor's compliant with its confidentiality obligations under Article 14.

12.6 Technology.

12.6.1 Intellectual Property of Licensors. All Intellectual Property rights in data or information derived in whole or in part from Technical Licensor Information, including Intellectual Property rights in Work Product prepared or developed by Contractor or the Licensor under or in connection with this Agreement where such Work Product is derived in whole or in part from the Technical Licensor Information, shall vest directly in the relevant Licensor that provides such information, data or Work Product. Notwithstanding the foregoing, the respective Licenses shall be the exclusive documents governing Intellectual Property rights as between Contractor and the relevant Licensor. The Licenses shall be the exclusive documents governing the licensing to Owner of Intellectual Property rights for the practice of the Technology.

12.6.2 Incorporation of Technology. Contractor shall familiarize itself with and incorporate the Technology in its construction of the LNG Facility in accordance with each applicable Licensor's guidelines. Pursuant to and in accordance with the Licenses, each Licensor has licensed or sublicensed, or shall license or sublicense, Owner to use its Technology in connection with the LNG Facility and Contractor has secured or will secure said licenses or sublicences from the Licensor as necessary. Subject to Section 15.3, Contractor agrees that notwithstanding, but without prejudice to Owner's rights under, each License, Contractor shall be responsible for:

(a) the incorporation of the Technology into the construction of the LNG Facility;

(b) the construction, commissioning, start-up, testing and completion of the LNG Facility incorporating the Technology;

(c) the provision of all work, services, information and documents to be supplied by each Licensor to Contractor in connection with the Work;

(d) the rectification of any Defect in the LNG Facility resulting from the Technology in accordance with Section 10.3;

(e) liaising with each Licensor and acting as a single point of responsibility for Owner in respect of the construction, commissioning, start-up, testing and completion of the LNG Facility (incorporating the Technology) in accordance with this Agreement, and Contractor affirms that it has the skills and experience necessary to review the Technology for sufficiency with the different aspects of the Work and shall be responsible to Owner for any and all damages arising from the acts, defaults and omissions of each Licensor, in connection with Sections 12.6.2(a) to 12.6.2(d) above, inclusive, as fully as if they were the acts, defaults or omissions of Contractor, its agents, employees or workmen.

12.6.3 License or Sub-License. To the extent necessary to allow Owner to use and sell LNG during any period prior to Substantial Completion of a Stage, Contractor shall as part of the Work obtain and grant to Owner a non-exclusive, royalty-free, irrevocable license (or sublicense) and right to use and sell products obtained by the use or operation of Equipment furnished by a Licensor and practice of the process furnished by a Licensor.

ARTICLE 13

REPRESENTATIONS AND WARRANTIES

13.1 Representations and Warranties of Contractor. Contractor covenants, represents, and warrants to Owner that:

13.1.1 Organization, Standing and Qualification. Contractor is a corporation, duly organized, validly existing, and in good standing under the laws of the State of Delaware, and has full power and authority to execute, deliver and perform its obligations hereunder and to engage in the business it presently conducts and contemplates conducting. Contractor is and during the term of this Agreement shall be duly licensed or qualified to do business and in good standing under the laws of the State of Texas and in each other jurisdiction wherein the nature of the business transacted by it makes such licensing or qualification necessary and where the failure to be licensed or qualified would have a material adverse effect on its ability to perform its obligations hereunder.

13.1.2 Enforceable Agreement. This Agreement has been duly authorized, executed, and delivered by or on behalf of Contractor and is, upon execution and delivery, the legal, valid, and binding obligation of Contractor, enforceable against Contractor in accordance with its terms, except as such enforceability may be limited by applicable bankruptcy, insolvency or similar laws affecting creditors' rights generally and by general equitable principles.

13.1.3 No Conflict. The execution, delivery and performance by Contractor of this Agreement: (a) will not conflict with or cause any default under: (i) its organizational documents; (ii) any indenture, mortgage, chattel mortgage, deed of trust, lease, conditional sales contract, loan or credit arrangement or other agreement or instrument to which Contractor is a party or by which it or its properties may be bound or affected; or (iii) any Applicable Laws; and (b) shall not subject the Liquefaction Project or the LNG Facility or any component part thereof, or the Site or any portion thereof, to any Lien other than as contemplated or permitted by this Agreement.

13.1.4 Government Approvals. The Contractor Permits either have been obtained by Contractor and are in full force and effect on the date hereof or shall be obtained by Contractor and shall be in full force and effect on or prior to the date on which they are required, under this Agreement and Applicable Laws, to be in full force and effect, so as to permit Contractor to commence and prosecute the Work to completion in accordance with the Project Execution Plan and the Project Schedule. Other than with respect to the Contractor Permits, none of the execution, delivery or performance by Contractor of this Agreement requires the consent or approval of, or the giving of notice to or registration with, or the taking of any other action in respect of, any Governmental Authority.

13.1.5 No Suits, Proceedings. There are no actions, suits, proceedings, patent or license infringements, or investigations pending or, to Contractor's knowledge, threatened against it at law or in equity before any court (U.S. or otherwise) or before any Governmental Authority (whether or not covered by insurance) that individually or in the aggregate could result in any material adverse effect on the business, properties, or assets or the condition, financial or otherwise, of Contractor or in any impairment of its ability to perform its obligations under this Agreement. Contractor has no knowledge of any violation or default with respect to any order, writ, injunction, or decree of any court or any Governmental Authority that may result in any such materially adverse effect or such impairment.

13.1.6 Patents. Contractor owns or has the right to use all Intellectual Property rights, other than Owner Intellectual Property, necessary to perform the Work without conflict with the rights of others.

13.1.7 No Hiring. To the fullest extent permitted by Applicable Laws, Contractor shall not, and shall not permit any of its Affiliates to, at any time during the performance of the Work and until the later of (a) thirty (30) Days after the Final Acceptance Date of Stage II; (b) six (6) Months after the date on which the last of any Disputes, if any, are finally resolved; and (c) one year after the termination of this Agreement for any reason, directly or indirectly, solicit for employment or hire any of those employees, members of management or individuals serving in a supervisory capacity for Owner or the Common Facilities Owner or any of their respective members or Affiliates who have or are currently working on, supervising or managing the Work, or served or are serving on corporate governance bodies of Owner or the Common Facilities Owner or their respective members or Affiliates; provided, however, that merely placing a general solicitation, advertisement or recruitment that is not directed specifically to any such employees or individuals shall not be a breach or violation of Contractor's obligations under this Section 13.1.7.

13.1.8 Financial Condition. Contractor is financially solvent, able to pay its debts as they mature, and possessed of sufficient working capital to complete its obligations under this Agreement.

13.1.9 Licenses. Contractor represents and warrants that it has a valid contractor's license in the appropriate category or specialty issued by the Texas Department of Licensing and Regulation, and that such license shall remain in full force and affect at all times during the performance of the Work. Contractor further represents and warrants that valid

engineering licenses have been issued by the Texas Board of Professional Engineers both to it as a firm and to the professionals designated to supervise the Work for which such licenses are required, and that such licenses shall remain in full force and affect at all times during the performance of the Work. All Persons who perform any portion of the Work have and shall at all times during the performance of the Work have all business and professional certifications required by Applicable Laws to perform such Work.

13.1.10 No Suspension or Debarment Actions. Contractor is not now, nor has Contractor ever been, suspended, debarred or proposed for suspension or debarment from bidding on any work offered by a Governmental Authority. No such suspension or debarment actions have been commenced or threatened against Contractor or any of its Affiliates or their respective officers, directors, shareholders, managers, agents, consultants or employees. There is no valid basis for the suspension or debarment of Contractor or such other Persons from bidding on contracts or subcontracts for or with any Governmental Authority. No cure notice or show cause notice has been issued by any Governmental Authority with respect to Contractor or such other Persons and remains outstanding.

13.2 Representations and Warranties of Owner and Common Facilities Owner. Owner and Common Facilities Owner each severally and not jointly covenants, represents, and warrants to Contractor that:

13.2.1 Organization, Standing and Qualification. Owner and Common Facilities Owner are each a limited liability company, duly formed, validly existing and in good standing under the laws of the State of Delaware, and each has full power and authority to execute, deliver and perform its obligations hereunder and to engage in the business such Party presently conducts and contemplates conducting. Each of Owner and Common Facilities Owner is and shall be duly licensed or qualified to do business and in good standing in each jurisdiction wherein the nature of the business transacted by it makes such licensing or qualification necessary and where the failure to be licensed or qualified would have a material adverse effect on its ability to perform its obligations hereunder.

13.2.2 Enforceable Agreement. This Agreement has been duly authorized, executed, and delivered by or on behalf of Owner and Common Facilities Owner and is, upon execution and delivery, the legal, valid, and binding obligation of Owner and Common Facilities Owner, enforceable against Owner and Common Facilities Owner in accordance with its terms, except as such enforceability may be limited by applicable bankruptcy, insolvency or similar laws affecting creditors' rights generally and by general equitable principles.

13.2.3 No Conflict. The execution, delivery and performance by Owner and Common Facilities Owner of this Agreement will not conflict with or cause any default under: (a) such Person's organizational documents; (b) any indenture, mortgage, chattel mortgage, deed of trust, lease, conditional sales contract, loan or credit arrangement or other agreement or instrument to which such Person is a party or by which it or its properties may be bound or affected; or (c) any Applicable Laws.

13.2.4 Governmental Approvals. No authorization, approval, exemption, or consent by any Governmental Authority is required in connection with the execution, delivery, and performance of this Agreement by Owner or Common Facilities Owner.

13.2.5 No Suits, Proceedings. There are no material actions, suits, proceedings, or investigations pending or, to Owner's or Common Facilities Owner's respective knowledge, threatened against it at law or in equity before any court (U.S. or otherwise) or before any Governmental Authority (whether or not covered by insurance) that individually or in the aggregate could result in any materially adverse effect on the business, properties, or assets or the condition, financial or otherwise, of Owner or Common Facilities Owner, as applicable, or in any impairment of its ability to perform such Party's obligations under this Agreement. Neither Owner or Common Facilities Owner has knowledge of any violation or default with respect to any order, writ, injunction, or any decree of any court or any Governmental Authority that may result in any such materially adverse effect or such impairment.

ARTICLE 14

CONFIDENTIALITY

14.1 Contractor's Obligations.

14.1.1 With respect to Owner Confidential Information. Contractor hereby agrees that Contractor and its Affiliates and their respective employees, officers, directors and agents shall not (without in each instance obtaining Owner's prior written consent) disclose, make commercial or other use of, or give or sell to any Person, any of the following information, whether disclosed prior to or after the Effective Date: (a) any Work Product, Owner-Furnished Information and other information of Owner Group members or Other Contractors, other than to Suppliers as necessary for such Supplier to perform any Work and subject to the restrictions set forth herein; or (b) any other information which is conspicuously marked and identified in writing as confidential and relates to the business, products, services, research or development, actual or potential clients or customers, financing of the LNG Facility, designs, methods, discoveries, trade secrets, research, development or finances of Owner or any Owner Affiliate, or relating to similar information of a third party who has entrusted such information to Owner or any Owner Affiliate (hereinafter individually or collectively, "**Owner Confidential Information**"); provided, however, nothing herein shall prohibit Contractor from using the Work Product, and Contractor shall be permitted to re-use the Work Product, in its general construction and engineering business, subject to Contractor first removing: (i) all references to Owner and the LNG Facility; (ii) any Owner-Furnished Information and other information of Owner Group members; and (iii) any information relating to the performance or operation of the LNG Facility. Prior to disclosing any Owner Confidential Information as permitted in subclause (i) of this Section 14.1.1 to any Supplier (excluding Affiliates of Contractor, but including CIMTAS), Contractor shall bind such Supplier to the confidentiality obligations contained in this Section 14.1. Contractor and Contractor Group shall not disclose to or discuss with a third party any affairs of any Owner Group member without specific authorization of Owner. The Parties agree that Contractor may disclose Owner Confidential Information without the consent of Owner to:

(a) Contractor's Affiliates and directors, officers, employees, consultants, accountants, auditors, insurance brokers and underwriters, and legal counsel of it and its Affiliates who need to know such Confidential Information for the performance of the Work and who have been informed of the confidential nature of the Confidential Information and, with respect to any such Persons that are not Affiliates of Contractor or directors, officers or employees of Contractor or its Affiliates, who have agreed to be bound by the confidentiality obligations as stated in this Section 14.1;

(b) any Governmental Authority when required by any Applicable Laws binding on Contractor; provided, that: (i) Contractor shall provide advance notice of such disclosure requirement to Owner; and (ii) such disclosure shall be subject where applicable to Section 14.5;

(c) any stock exchange on which the shares of Contractor or any of its Affiliates are listed or are in the process of being listed, where rules of the stock exchange require the disclosure be made; provided, that Contractor shall provide advance notice of such disclosure requirement to Owner and shall cooperate with Owner so that Owner may seek a protective order or other appropriate remedy; and

(d) any mediation or arbitration tribunal or court in a proceeding pursuant to Article 20,

provided, that Contractor shall be liable to Owner Group for any Claims and expenses (including court costs, attorneys' fees and disbursements, and other litigation costs) suffered or incurred by Owner Group arising out of any breach of Contractor's confidentiality obligations pursuant to this Section 14.1 by any Person to whom Owner Confidential Information was directly or indirectly disclosed by Contractor, pursuant to this Section 14.1, excluding any such disclosure by any Person to whom Owner Confidential Information has been disclosed in accordance with Section 14.1.1(b).

14.1.2 Other Agreements. The confidentiality obligations contained herein shall be in addition to, and not in lieu of, the confidentiality obligations contained in any other agreement governing the Owner Confidential Information, including the License(s). Contractor shall and shall cause all Contractor Group members to comply with the confidentiality restrictions contained in such other agreements where Owner has either: (a) provided or caused to be provided to Contractor a copy of such agreement; or (b) informed Contractor of the specific confidentiality obligations under such agreement. Contractor shall and shall cause all Suppliers to sign confidentiality agreements with such Other Contractors as Owner may reasonably request. Where Contractor has signed a separate License with a Licensor with respect to its Technology, the terms of that License shall apply as between Contractor and such Licensor as to the disclosure of such Technology and other Licensor information.

14.2 Owner's Obligations. For the sake of clarity, the terms and conditions in this Agreement shall not supersede in any manner the terms and conditions in any agreement between Owner and any Licensor or with or between any Affiliates thereof. The confidentiality provisions contained in the Licenses shall exclusively govern the disclosure by Owner of the

Technology and the matters covered by such confidentiality provisions. Except as otherwise expressly provided in this Section 14.2, Owner shall have no obligation of confidentiality with respect to any information disclosed to Owner by or on behalf of Contractor Group in connection with the performance of this Agreement. Owner shall maintain such Contractor Confidential Information strictly confidential and shall not disclose such Contractor Confidential Information, subject to the other terms of this Article 14.

14.2.1 Permitted Disclosure. The Parties agree that Owner may disclose Contractor Confidential Information without the consent of Contractor to the following Persons that are not Competitors:

(a) any member of the Owner Group and their respective accountants, auditors, insurance brokers and underwriters, and legal counsel who need to know such Confidential Information in connection with the Liquefaction Project, or to its Affiliates in connection with any other project in accordance with Section 12.2.2(c), and who have been informed of the confidential nature of the Confidential Information and, with respect to any such Persons that are not Affiliates of Owner or directors, officers or employees of Owner or its Affiliates, who have agreed to be bound in writing to confidentiality obligations substantially similar to those stated in this Section 14.2 or are otherwise subject to confidentiality obligations as a matter of law or professional practice;

(b) any Person when required by any Applicable Laws binding on Owner or a member of the Owner Group; provided, that: (i) the Person who is subject to such disclosure requirement shall provide advance notice of such disclosure requirement to Contractor; and (ii) such disclosure shall be subject where applicable to Section 14.5;

(c) any Person pursuant to the rules of any stock exchange on which the equity interests of Owner or any of its Affiliates are listed or are in the process of being listed, which rules require the disclosure be made; provided, that Owner shall provide advance notice of such disclosure requirement to Contractor and shall cooperate with Contractor so that Contractor may seek a protective order or other appropriate remedy;

(d) any Person: (i) that is an actual or prospective Lender and their respective agents, consultants and advisors; (ii) in connection with an offering memorandum, prospectus or similar sales document for a capital markets offering; and (iii) that is any rating agency, in each case for purposes of acquiring financing or other borrowed funds, subject in each case to the extent reasonably practicable (and reflecting standard policy and customary market practice of rating agencies and Lenders to execution of confidentiality agreements) to such Persons first agreeing in writing to hold such information or documents confidential under terms substantially similar to those stated in this Section 14.2 and Section 14.6, or are otherwise subject to confidentiality obligations as a matter of law or professional practice;

(e) bona fide transferees or prospective transferees of all or a portion of Owner's, Parent's or any member of Parent's direct or indirect interests in the LNG Facility or this Agreement, or of a direct or indirect interest in Owner; provided, that such Persons first agree in writing to hold such information or documents confidential under terms substantially

similar to those stated in this Section 14.2 and Section 14.6, and where applicable, comply with the requirements of Section 14.2.3;

(f) customers or potential customers of Owner; provided, that Owner first binds such Persons in writing to confidentiality obligations with substantially similar protections to those contained in this Article 14;

(g) potential equity investors in any future expansion of the Liquefaction Project, subject to such Persons first agreeing in writing to hold such information or documents confidential under terms substantially similar to those stated in this Section 14.2 and Section 14.6, and subject to Section 14.2.3;

(h) Other Contractors and other actual or prospective contractors and subcontractors engaged or proposed to be engaged by Owner or its Affiliates or any other member of the Owner Group, or by any Other Contractors, contractors or subcontractors in connection with the construction, operation, maintenance, repair or decommissioning of the LNG Facility, the Liquefaction Project, the Equipment or other operations at the LNG Facility, to the extent such disclosure is reasonably necessary to secure contracts with such Persons or for such Persons to fulfill their duties; provided, that Owner first binds such Persons in writing to confidentiality obligations with substantially similar protections to those contained in this Article 14 and in the case of Other Contractors or prospective contractors and subcontractors, Contractor's pricing and financial information shall not be disclosed; and

(i) any mediation or arbitration tribunal or court in any proceeding involving Contractor or any Supplier, including any proceeding with respect to a Dispute pursuant to Article 20;

provided, that Owner shall be liable to Contractor for any Claims and expenses (including court costs, attorneys' fees and disbursements, and other litigation costs) suffered or incurred by Contractor arising out of any breach of the provisions of this Section 14.2 by any Person (other than Contractor, other Contractor Group members or Persons to whom Contractor or Contractor Group members have disclosed such information) to whom Contractor Confidential Information has been directly or indirectly disclosed by Owner, pursuant to this Section 14.2, excluding any such disclosure by any Person to whom Contractor Confidential Information has been disclosed in accordance with Section 14.2.1(b). If any of the Persons described above in this Section 14.2.1 is a Competitor, Owner shall not disclose Contractor Confidential Information to such Competitor without Contractor's prior written consent.

14.2.2 No Limitation on Work Product. Notwithstanding the foregoing, but subject to Section 12.2.3 regarding disclosure to Competitors, [***].

14.2.3 Potential Equity Investors. Notwithstanding anything to the contrary in Section 14.2.1, Owner and the Common Facilities Owner shall not disclose Contractor Confidential Information to any potential equity investor except in accordance with the following:

(a) if the potential equity investor is not an "accredited investor" (as defined in the Securities Act of 1933, as amended), prior to disclosure of Contractor Confidential Information to such potential equity investor, such potential equity investor shall have executed a mutually agreeable reasonable confidentiality agreement [***];

(b) if the potential equity investor is an "accredited investor" (as defined in the Securities Act of 1933, as amended), then Owner and the Common Facilities Owner may disclose Contractor Confidential Information to such potential equity investor without that potential equity investor executing a confidentiality agreement and release directly with Contractor; [***]; and

(c) [***].

14.3 Exceptions. Notwithstanding Sections 14.1 and 14.2, Confidential Information shall not include: (a) information which at the time of disclosure or acquisition is in the public domain, or which after disclosure or acquisition becomes part of the public domain without violation of this Article 14; (b) information which at the time of disclosure or acquisition was already in the possession of the Receiving Party or its employees or agents and was not previously acquired from the Disclosing Party or any of its employees or agents directly or indirectly, other than directly or indirectly disclosed or acquired through any other agreements between the Parties related to the LNG Facility or the Liquefaction Project; (c) information which the Receiving Party can show was acquired by such Person from a third party without any confidentiality commitment, if, to the best of Receiving Party's or its employees' or agent's knowledge, such third party did not acquire it, directly or indirectly, from the Disclosing Party or any of its employees or agents under an obligation of confidentiality; or (d) information independently developed by the Receiving Party without benefit of the Confidential Information, but specifically excluding the Work Product.

14.4 Remedies. Without prejudice to the rights and remedies otherwise available to any Party, each Party agrees that money damages would not be an adequate remedy for any breach of Section 14.1 or Section 14.2 and that each Party shall be entitled to specific performance and other equitable relief by way of injunction if another Party or any of its Affiliates or any other Person to whom such Party directly or indirectly disclosed Owner Confidential Information or Contractor Confidential Information, as applicable, breaches or threatens to breach either such Section. Each Party further agrees to waive any requirement of the posting of a bond in connection with any such equitable relief. Each Party agrees to reimburse the other Party for all costs and expenses, including reasonable attorney's fees and disbursements, incurred by such Party in enforcing the terms of this Article 14. The remedies in this Section 14.4 shall not be deemed exclusive remedies for a breach of Section 14.1 or Section 14.2 but shall be in addition to all other remedies available at law or in equity to the non-breaching Party.

14.5 Legal Demand for Information. If a Party or any of its Affiliates or the representatives of such Party or any of its Affiliates, receives a request, through a subpoena or order issued by a court or by any Governmental Authority, to disclose all or any part of the

Owner Confidential Information or Contractor Confidential Information, as applicable, received by it, such Party shall:

14.5.1 notify the Person from whom such data or information was received promptly of the existence, terms, and circumstances surrounding such request;

14.5.2 cooperate where possible with such Person on the advisability of taking legally available steps to resist or narrow such request; and

14.5.3 if disclosure of such data or information is required to prevent the Person compelled to make disclosure from being held in contempt or subject to other penalty, furnish only such portion of the data or information as, in the opinion of such Person's counsel, it is legally compelled to disclose, and exercise commercially reasonable efforts to obtain an order or other reliable assurance that confidential treatment will be accorded to the disclosed data and information.

14.6 Term. The confidentiality obligations of the Parties under this Article 14 shall continue until the date that is: (a) five (5) years after the Substantial Completion Date of Stage II; or (b) if this Agreement is terminated prior to the Substantial Completion Date of Stage II, five (5) years after the date of termination of this Agreement.

ARTICLE 15

INDEMNIFICATION

15.1 Contractor Indemnity and Release.

15.1.1 Contractor Group Employees. Contractor shall, to the maximum extent allowed by Applicable Laws, release, and as a separate obligation, protect, defend, indemnify and hold harmless the Owner Indemnified Parties from and against any and all Losses arising from the bodily injury, illness or death of any Contractor Group member, due to, arising out or resulting from the performance of the Work or Contractor's obligations under this Agreement EVEN IF CAUSED OR ALLEGED TO BE CAUSED IN WHOLE OR IN PART BY THE NEGLIGENCE (WHETHER SOLE, JOINT OR CONCURRENT), FAULT, STRICT LIABILITY, GROSS NEGLIGENCE, WILLFUL MISCONDUCT, BREACH OF DUTY (STATUTORY OR OTHERWISE), THE BREACH OR VIOLATION OF ANY APPLICABLE LAWS, OR THE BREACH OF CONTRACT, OF OWNER OR ANY OTHER OWNER INDEMNIFIED PARTY.

15.1.2 Contractor Indemnities. Contractor shall, to the maximum extent allowed by Applicable Laws, protect, defend, indemnify and hold harmless the Owner Indemnified Parties from and against any and all Losses arising from:

(a) bodily injury, illness, or death of any Person other than a Contractor Group member or an Owner Indemnified Party, to the extent caused by the negligence or fault of a member of the Contractor Group;

(b) loss of, damage or destruction of any property that is owned or leased by any Person other any member of Contractor Group or an Owner Indemnified Party to the extent caused by the negligence or fault of a member of the Contractor Group;

(c) citations, notice of violations or complaints, assessments, fines, penalties or other sanctions (including costs incurred by Contractor or Owner to perform remedial action to address the violation of, or to make the Work conform with, Applicable Law; provided, that in the case of costs incurred by Owner, Owner has provided Contractor with notice of such costs and an opportunity to perform the remedial action to the extent allowed under Applicable Law) that may be assessed by any and all Governmental Authorities in connection with the Work due to violations of Applicable Laws by any member of the Contractor Group; provided, further, that, Contractor's indemnity obligations under this Section 15.1.2(c) shall exclude any portion of the amount of such fines, penalties, citations or sanctions attributable to (i) violations of Applicable Laws by any member of the Owner Indemnified Parties; or (ii) Pre-Existing Hazardous Materials except as otherwise set forth in Section 15.1.2(f);

(d) a breach by any member of Contractor Group of Contractor's confidentiality obligations towards any Licensor in connection with the Work;

(e) (i) pollution, contamination or Hazardous Material or the Release of Hazardous Materials which originates from items brought onto the Site by or on behalf of Contractor Group; (ii) any Release of Hazardous Materials, or solid waste, generated from the Hazardous Materials brought onto the Site by or on behalf of any member of Contractor Group; (iii) the use of Hazardous Materials by any member of the Contractor Group, in connection with the performance of the Work, which use includes the storage, transportation, processing or disposal of Hazardous Materials by any member of the Contractor Group; (iv) any enforcement or compliance proceeding commenced by or in the name of any Governmental Authority because of an alleged, threatened or actual violation of any Applicable Laws by any member of the Contractor Group with respect to Hazardous Materials that are referenced in subclause (i) through (iii) of this Section 15.1.2(e), in connection with the performance of the Work; and (v) the release of Hazardous Materials caused by a Defect in the Work; EXCEPT TO THE EXTENT THAT SUCH LOSSES ARISE FROM THE NEGLIGENCE (WHETHER SOLE, JOINT OR CONCURRENT), FAULT, STRICT LIABILITY, GROSS NEGLIGENCE, WILLFUL MISCONDUCT, BREACH OF DUTY (STATUTORY OR OTHERWISE), THE BREACH OR VIOLATION OF APPLICABLE LAWS OR THE BREACH OF CONTRACT OF OWNER, OR ANY OTHER OWNER INDEMNIFIED PARTY;

(f) Contractor's failure to avoid working in affected areas of the Site where there are known, to Contractor or Subcontractor, Archeological Finds or Pre-Existing Hazardous Materials, or stop working in accordance with and comply with its other obligations under Section 2.17.4 in the affected area on the Site where Contractor (or a Subcontractor) has encountered any previously unknown Archeological Find or Pre-Existing Hazardous Materials, to the extent the Losses of the Owner Indemnified Parties due to the Pre-Existing Hazardous Materials are exacerbated by such failure; PROVIDED, HOWEVER, THAT CONTRACTOR'S MAXIMUM OBLIGATION UNDER THIS SECTION 15.1.2(f) SHALL NOT EXCEED [***],

AND OWNER AND THE COMMON FACILITIES OWNER HEREBY RELEASE CONTRACTOR FROM ALL COSTS AND LIABILITY IN EXCESS THEREOF;

(g) Contractor's failure to prepare and file the affidavit of completion in accordance with the requirements of Section 2.9.4;

(h) Claims filed by any employee of Contractor, any Supplier (including Affiliates of Contractor), or any employee of any Supplier (including Affiliates of Contractor), in each case, for costs incurred or for compensation arising out of any such employee's or any such Supplier's performance of any part of the Work pursuant to (i) a Supply Contract or the performance of Work by an Affiliate of Contractor; or (ii) any employer-employee relationship (including independent contractor relationship) between, on the one hand, Contractor or any Supplier, and, on the other hand, any such employee (or independent contractor); provided that, with respect to claims filed by any Supplier that is not an Affiliate of Contractor, or an employee of a Supplier, where that Supplier is not an Affiliate of Contractor, Contractor has received payment from Owner of undisputed amounts owed in accordance with this Agreement;

(i) any insurance policy required to be provided by Contractor or a Subcontractor hereunder in accordance with Article 16, having been vitiated as a result of Contractor's failure to comply with any of the requirements set forth in such policy, or any other act or omission of Contractor or any Supplier that vitiates such insurance policy; and

(j) the failure of Contractor or any Supplier to pay Taxes for which Contractor is responsible under this Agreement, including any fines or penalties assessed as a result of Contractor's failure to timely pay such Taxes; provided, that the foregoing shall not limit Contractor's right to reimbursement of those Texas Sales and Use Taxes for which Contractor is entitled to reimbursement in accordance with Section 7.5.2 or to reimbursement of Customs Duties for which Contractor is entitled to reimbursement under Section 7.3.2;

in each case due to, arising out of or resulting from the performance of the Work, or Contractor's obligations under this Agreement.

15.1.3 Contractor Other Indemnities. Contractor shall, to the maximum extent allowed by Applicable Laws, protect, defend, indemnify and hold harmless the Owner Indemnified Parties from and against any and all Losses arising from loss of, damage or destruction of Construction Equipment or other property owned or leased by any member of Contractor Group, due to, arising out of or resulting from the performance of the Work, or Contractor's obligations under this Agreement EVEN IF CAUSED OR ALLEGED TO BE CAUSED IN WHOLE OR IN PART BY THE NEGLIGENCE (WHETHER SOLE, JOINT OR CONCURRENT), FAULT, STRICT LIABILITY, GROSS NEGLIGENCE, WILLFUL MISCONDUCT, BREACH OF DUTY (STATUTORY OR OTHERWISE), THE BREACH OR VIOLATION OF ANY APPLICABLE LAWS, OR THE BREACH OF CONTRACT, OF OWNER OR ANY OTHER OWNER INDEMNIFIED PARTY PROVIDED, HOWEVER, THAT IF A COURT OR OTHER FACT FINDER THAT HAS JURISDICTION DETERMINES THAT ANY OF THE INDEMNITIES PROVIDED IN THIS SECTION 15.1.3

DOES NOT COMPLY WITH APPLICABLE LAWS, SUCH INDEMNITY SHALL APPLY EXCEPT TO THE EXTENT THAT SUCH LOSSES ARISE FROM THE NEGLIGENCE (WHETHER SOLE, JOINT OR CONCURRENT), FAULT, STRICT LIABILITY, GROSS NEGLIGENCE, WILLFUL MISCONDUCT, BREACH OF DUTY (STATUTORY OR OTHERWISE), THE BREACH OR VIOLATION OF APPLICABLE LAWS OR THE BREACH OF CONTRACT OF OWNER, OR ANY OTHER OWNER INDEMNIFIED PARTY.

15.1.4 Contractor Release. CONTRACTOR HEREBY RELEASES THE OWNER INDEMNIFIED PARTIES FROM AND AGAINST ANY AND ALL LOSSES ARISING FROM THE CIRCUMSTANCES AND EVENTS DESCRIBED IN SECTION 15.1.2(a) THROUGH AND INCLUDING SECTION 15.1.2(j), AND SECTION 15.1.3, TO THE EXTENT OF THE INDEMNITY OBLIGATION DESCRIBED THEREIN, AND SUCH RELEASE SHALL APPLY EVEN IF THE UNDERLYING INDEMNITY OBLIGATION IS FOUND TO BE UNENFORCEABLE. CONTRACTOR ALSO HEREBY RELEASES THE OWNER INDEMNIFIED PARTIES FROM AND AGAINST ANY AND ALL LOSSES ARISING FROM THE CIRCUMSTANCES AND EVENTS DESCRIBED IN SECTION 15.1.3 EVEN IF SUCH LOSSES ARE CAUSED OR ALLEGED TO BE CAUSED IN WHOLE OR IN PART BY THE NEGLIGENCE (WHETHER SOLE, JOINT OR CONCURRENT), FAULT, STRICT LIABILITY, GROSS NEGLIGENCE, WILLFUL MISCONDUCT, BREACH OF DUTY (STATUTORY OR OTHERWISE), THE BREACH OR VIOLATION OF APPLICABLE LAWS OR THE BREACH OF CONTRACT OF OWNER, OR ANY OTHER OWNER INDEMNIFIED PARTY.

15.2 Owner Indemnity and Release.

15.2.1 Owner Employees. Owner shall, to the maximum extent allowed by Applicable Laws, release, and as a separate obligation, protect, defend, indemnify and hold harmless the Contractor Indemnified Parties from and against any and all Losses arising from the bodily injury, illness or death of any Owner Indemnified Party due to, arising out of or resulting from the performance of Owner's obligations under this Agreement, EVEN IF CAUSED OR ALLEGED TO BE CAUSED IN WHOLE OR IN PART BY THE NEGLIGENCE (WHETHER SOLE, JOINT OR CONCURRENT), FAULT, STRICT LIABILITY, GROSS NEGLIGENCE, WILLFUL MISCONDUCT, BREACH OF DUTY (STATUTORY OR OTHERWISE), THE BREACH OR VIOLATION OF ANY APPLICABLE LAWS, OR THE BREACH OF CONTRACT, OF CONTRACTOR OR ANY OTHER MEMBER OF THE CONTRACTOR GROUP.

15.2.2 Owner Indemnities. Owner shall, to the maximum extent allowed by Applicable Laws, protect, defend, indemnify and hold harmless the Contractor Indemnified Parties from and against any and all Losses arising from:

(a) bodily injury, illness, or death of any Person other than a Contractor Group member or an Owner Indemnified Party, to the extent such Losses: (i) are in excess of the coverage available with respect to such covered Loss under the insurance policies

provided by Contractor in accordance with Article 16 and Appendix MM; and (ii) are caused by the negligence or fault of an Owner Indemnified Party;

(b) loss of, damage or destruction of any property that is owned or leased by any Person other any member of Contractor Group or an Owner Indemnified Party, to the extent such Losses: (i) are in excess of the coverage available with respect to such covered Loss under the insurance policies provided by Contractor in accordance with Article 16 and Appendix MM; and (ii) are caused by the negligence or fault of an Owner Indemnified Party;

(c) due to any violations of Applicable Laws by any Owner Indemnified Party, including citations, notice of violations or complaints, Owner's obligations under the Tax Abatements (without limiting Contractor's obligations under Section 2.7.10), assessments, fines or penalties that may be assessed by any and all Governmental Authorities; provided, that Owner's indemnity obligations under this Section 15.2.2(c) shall exclude any portion of the amount of such fines, penalties, citations or sanctions attributable to (i) violations of Applicable Laws by any member of the Contractor Group; or (ii) Pre-Existing Hazardous Materials to the extent of Contractor's indemnity obligation under Section 15.1.2(f) applies;

(d) a breach by Owner of any confidentiality obligations of Owner towards any Licensor in connection with the Liquefaction Project; and

in each case due to, arising out of or resulting from the performance of Owner's obligations under this Agreement.

15.2.3 Owner Other Indemnities. Owner shall, to the maximum extent allowed by Applicable Laws, protect, defend, indemnify and hold harmless the Contractor Indemnified Parties from and against any and all Losses arising from:

(a) loss of, damage or destruction of any property that is owned or leased by any Owner Indemnified Party (other than the Work, a Stage or any component of the LNG Facility prior to Substantial Completion Date of a Stage, or the termination of this Agreement, if earlier);

(b) loss of, damage to or destruction of the Work, a Stage or any component of the LNG Facility after the Substantial Completion Date of a Stage, or the termination of this Agreement, if earlier; in excess of Contractor's liability under Section 11.3.2; and

(c) Pre-Existing Hazardous Materials that were present at the Site prior to Contractor's entry thereupon, Hazardous Materials or Archeological Finds, in each case other than to the extent of such Losses for which Contractor is responsible under Section 15.1.2(e) or 15.1.2(f);

(d) in each case due to, arising out of or resulting from the performance of the Owner's obligations under this Agreement EVEN IF CAUSED OR ALLEGED TO BE CAUSED IN WHOLE OR IN PART BY THE NEGLIGENCE (WHETHER

SOLE, JOINT OR CONCURRENT), FAULT, STRICT LIABILITY, GROSS NEGLIGENCE, WILLFUL MISCONDUCT, BREACH OF DUTY (STATUTORY OR OTHERWISE), THE BREACH OR VIOLATION OF ANY APPLICABLE LAWS, OR THE BREACH OF CONTRACT, OF CONTRACTOR OR ANY OTHER MEMBER OF THE CONTRACTOR GROUP; PROVIDED, HOWEVER, THAT IF A COURT OR OTHER FACT FINDER THAT HAS JURISDICTION DETERMINES THAT ANY OF THE INDEMNITIES PROVIDED IN THIS SECTION 15.2.3 DOES NOT COMPLY WITH APPLICABLE LAWS, SUCH INDEMNITY SHALL APPLY EXCEPT TO THE EXTENT THAT SUCH LOSSES ARISE FROM THE NEGLIGENCE (WHETHER SOLE, JOINT OR CONCURRENT), FAULT, STRICT LIABILITY, GROSS NEGLIGENCE, WILLFUL MISCONDUCT, BREACH OF DUTY (STATUTORY OR OTHERWISE), THE BREACH OR VIOLATION OF APPLICABLE LAWS OR THE BREACH OF CONTRACT OF CONTRACTOR OR ANY OTHER MEMBER OF THE CONTRACTOR GROUP.

15.2.4 Owner Release. OWNER HEREBY RELEASES THE CONTRACTOR INDEMNIFIED PARTIES FROM AND AGAINST ANY AND ALL LOSSES ARISING FROM THE CIRCUMSTANCES AND EVENTS DESCRIBED IN SECTION 15.2.2(a) THROUGH AND INCLUDING SECTION 15.2.2(d), AND SECTION 15.2.3(a) THROUGH AND INCLUDING SECTION 15.2.3(c), TO THE EXTENT OF THE INDEMNITY OBLIGATION DESCRIBED THEREIN, AND SUCH RELEASE SHALL APPLY EVEN IF THE UNDERLYING INDEMNITY OBLIGATION IS FOUND TO BE UNENFORCEABLE. OWNER ALSO HEREBY RELEASES THE CONTRACTOR INDEMNIFIED PARTIES FROM AND AGAINST ANY AND ALL LOSSES ARISING FROM THE CIRCUMSTANCES AND EVENTS DESCRIBED IN SECTION 15.2.3(a) THROUGH AND INCLUDING SECTION 15.2.3(c) EVEN IF SUCH LOSSES ARE CAUSED OR ALLEGED TO BE CAUSED IN WHOLE OR IN PART BY THE NEGLIGENCE (WHETHER SOLE, JOINT OR CONCURRENT), FAULT, STRICT LIABILITY, GROSS NEGLIGENCE, WILLFUL MISCONDUCT, BREACH OF DUTY (STATUTORY OR OTHERWISE), THE BREACH OR VIOLATION OF APPLICABLE LAWS OR THE BREACH OF CONTRACT OF CONTRACTOR, OR ANY OTHER CONTRACTOR INDEMNIFIED PARTY. NOTHING IN THIS SECTION 15.2.4 LIMITS THE RELEASE PROVIDED BY OWNER AND THE COMMON FACILITIES OWNER UNDER SECTION 11.3.2.

15.3 Intellectual Property Infringement.

15.3.1 Contractor Indemnity. Except as otherwise provided in Section 15.3.2, Contractor shall protect, defend, indemnify and hold harmless the Owner Indemnified Parties from and against any and all Losses on account of or by reason of any Claim or suit by a third party for alleged infringement or misappropriation of any Intellectual Property resulting from the design, the Contractor-Furnished Items or any other Work performed by Contractor pursuant to this Agreement, the EDSA or the SWSA; provided, that with respect to Intellectual Property provided by Contractor with respect to the Liquefaction Technology Licensor, Contractor's indemnity, defense and hold harmless obligations under this Section 15.3.1 shall not exceed the indemnity provided by the Liquefaction Technology Licensor. If, by reason of any such suit or threatened action concerning Intellectual Property, Owner is enjoined from using any Contractor-

Furnished Items or part thereof, or from conducting any operation, Contractor, at its own expense, shall:

(a) diligently procure the right to use such Contractor-Furnished Items or infringing or misappropriating operation;

(b) substitute equivalent but non-infringing or non-misappropriating Contractor-Furnished Items or operation; or

(c) modify the Contractor-Furnished Items or operation to make it or them non-infringing or non-misappropriating but at least equivalent to the infringing or misappropriating Equipment or operation in terms of quality and functionality;

provided, that any substitution or modification shall be acceptable to Owner.

15.3.2 Exclusions. The indemnity set forth in Section 15.3.1 shall not apply to Losses arising out of or in connection with alleged infringement or misappropriation of Intellectual Property based on or arising from any combination or unauthorized use of any of the Work by Owner or the Common Facilities Owner with any product not furnished hereunder where the infringement or misappropriation of Intellectual Property would not have arisen but for such combination or unauthorized use.

15.3.3 Technology. In the event of a Claim involving a License, Contractor agrees to provide all reasonable assistance to Owner through the provision of documents and technical expertise toward resolution of such Claim.

15.3.4 Owner's Use of Certain Intellectual Property. If Owner or the Common Facilities Owner uses Third Party Proprietary Work Product or Contractor Intellectual Property for purposes other than those relating to the LNG Facility, and Owner or the Common Facilities Owner, as applicable, does not engage Contractor to perform work related to such purposes, Owner shall indemnify, defend and hold harmless the Contractor Indemnified Parties with respect to any Claims arising from such use.

15.4 Notice of Claims. Contractor shall promptly give Owner notice of any Claim made or proceeding commenced against Contractor or, to Contractor's knowledge, another Contractor Indemnified Party, for which Contractor or such other Contractor Indemnified Party claims to be entitled to indemnification under this Agreement, including a copy of any documents served with respect to the Claim by a third party claimant. Contractor shall promptly give Owner notice of any loss or damage to the Work or Equipment and assist Owner with any potential Claim associated with such loss or damage. Owner shall promptly give Contractor notice of any Claim made or proceeding commenced against Owner or, to Owner's knowledge, another Owner Indemnified Party, for which Owner or such Owner Indemnified Party claims to be entitled to indemnification under this Agreement, including a copy of any documents served with respect to the Claim by a third party claimant. Failure to provide notice as required pursuant to this Section 15.4 in a timely manner shall not affect the indemnification obligations

provided hereunder except to the extent an Indemnitor shall have been actually and materially prejudiced as a result of such failure. Any Person indemnified under this Agreement shall use commercially reasonable efforts to mitigate the Losses for which it is indemnified.

15.5 Defense of Third Party Claims.

15.5.1 Notice of Third Party Claims. In the event a Claim is asserted or a proceeding is commenced against an Indemnitee by a Person that is not a party to this Agreement with respect to any matter that may give rise to a claim for indemnification against an Indemnitor (a "**Third Party Claim**"), the Indemnitee shall promptly give the Indemnitor notice of such Third Party Claim including a copy of any documents served with respect to the Third Party Claim, and thereafter, the Indemnitee shall promptly deliver to the Indemnitor copies of all material notices and documents (including court papers) received by the Indemnitee relating to the Third Party Claim; provided, that failure to provide such notice, or deliver copies of all notices and documents, in a timely manner shall not affect the indemnification provided hereunder except to the extent the Indemnitor shall have been actually and materially prejudiced as a result of such failure.

15.5.2 Participation in Defense. If a Third Party Claim is made against an Indemnitee, the Indemnitor shall be entitled to participate in the defense thereof and, if it so chooses and acknowledges its obligation to indemnify the Indemnitee therefor, to assume and control the defense thereof with counsel selected by the Indemnitor and reasonably satisfactory to the Indemnitee. Should the Indemnitor so elect to assume the defense of a Third Party Claim, the Indemnitor shall not be liable to the Indemnitee for legal expenses subsequently incurred by the Indemnitee in connection with the defense thereof, except to the extent that the Indemnitee is entitled to indemnification against such expenses pursuant to this Article 15. If the Indemnitor assumes such defense, the Indemnitee shall have the right to participate in the defense thereof and to employ counsel, at its own expense, separate from the counsel employed by the Indemnitor; provided, however, that the Indemnitor shall, except as otherwise provided in this Section 15.5, control such defense. The Indemnitor shall be liable for the fees and expenses of counsel employed by the Indemnitee for any period during which the Indemnitor has not assumed the defense thereof or fails to continue to defend against thereof. If the Indemnitor chooses to defend any Third Party Claim as set forth in the first sentence of this Section 15.5.2, the Indemnitor shall notify the Indemnitee of the agreement of the Indemnitor to do so; provided, that: (a) the Indemnitor shall keep the Indemnitee advised of all material events with respect to such Third Party Claim; and (b) the Indemnitor shall obtain the prior written approval of the Indemnitee before ceasing to defend against such Third Party Claim or entering into any settlement, adjustment or compromise of such Third Party Claim involving injunctive or similar equitable relief being asserted against any Indemnitee or any of its Affiliates (which approval shall not be unreasonably withheld, conditioned or delayed). The Indemnitee shall not admit any liability with respect to, or settle, compromise or discharge, such Third Party Claim without the Indemnitor's prior written consent (which consent shall not be unreasonably withheld, conditioned or delayed). No Indemnitor will, without the prior written consent of each Indemnitee, settle or compromise or consent to the entry of any judgment in any pending or threatened Third Party Claim in respect of which indemnification may be sought hereunder

(whether or not any such Indemnitee is a party to such action), unless such settlement, compromise or consent by its terms obligates the Indemnitor to pay the full amount of the liability in connection with such Third Party Claim and includes an unconditional release of all such Indemnified Parties from all liability arising out of such Third Party Claim.

15.5.3 Exceptions. Notwithstanding anything contained herein to the contrary, the Indemnitor shall not be entitled to have sole control over the defense, settlement, adjustment or compromise of: (a) any Third Party Claim (other than a Claim by a Supplier, but without limiting Section 15.3.1) that seeks an order in equity, injunction or other equitable relief against an Indemnitee or any of its Affiliates; (b) any Third Party Claim in which both the Indemnitor and the Indemnitee are named as parties and either the Indemnitor or the Indemnitee determines with advice of counsel that there may be one or more legal defenses available to it that are different from or additional to those available to the other party or that a conflict of interest between such parties may exist in respect thereof. Also notwithstanding anything contained herein to the contrary, the Indemnitor shall not be entitled to have sole control over (and if the Indemnitee so desires, the Indemnitee shall have sole control over) the defense, settlement, adjustment or compromise of any proceeding relating to an alleged criminal violation of Applicable Laws.

15.5.4 Failure to Assume Defense. If the Indemnitor elects not to assume the defense, settlement, adjustment or compromise of an asserted Third Party Claim, fails to timely and properly notify the Indemnitee of his, her or its election as herein provided, or, at any time after assuming such defense, fails to diligently defend against such Third Party Claim in good faith or if the Indemnitee is otherwise entitled pursuant to this Agreement to have control over the defense, settlement or compromise of any indemnification claim, the Indemnitee may pay, defend, settle, adjust or compromise such asserted Third Party Claim (but the Indemnitor shall nevertheless be required to pay all Losses reasonably incurred by the Indemnitee in connection with such payment, defense, settlement, adjustment or compromise to the extent required in accordance with this Agreement).

15.6 Enforceability. To the maximum extent allowed by Applicable Laws, each Party hereby irrevocably waives any right to contend that any of the indemnities set forth in this Article 15 are unenforceable under the Texas anti-indemnity statute (Title 2 Texas Insurance Code §151.102, *et. seq.*) or any other Applicable Law.

15.7 [***].

ARTICLE 16

INSURANCE

16.1 Contractor Insurance Requirements. By no later than the FNTP Date, Contractor shall obtain the lines of insurance, the insurance coverages and limits of liability as set forth in Appendix MM. Prior to the FNTP Date, Contractor shall obtain the insurance as may be required under the LNTP, as applicable, if and when issued. Contractor shall, and shall cause each Supplier, as applicable, to enroll in Contractor’s insurance program and, as applicable, to

maintain all such lines of insurance, insurance coverages and limits of liability as set forth in Appendix MM, without interruption through the earlier of the date on which each such Person's final portion of the Work is performed, including any Corrective Work, or the termination of all of the Work; provided, that Contractor and each Supplier shall maintain such lines of insurance and insurance coverages during any period of extended coverage as described in Appendix MM. With respect to any Supplier not performing any of the Work as of such date, Contractor shall cause such Supplier to, as applicable, enroll in Contractor's insurance program and, as applicable, obtain the lines of insurance, the insurance coverages and limits of liability as set forth in Appendix MM by no later than the date on which such Supplier first performs any portion of the Work. Contractor shall have the sole responsibility for determining the lines of insurance, the insurance coverages and limits of liability required to be obtained by the Suppliers in accordance with reasonably prudent business practices. Notwithstanding that the Subcontractors may provide certain insurance coverages, Contractor shall be fully responsible for any Losses arising out of or resulting from the Work performed by the Subcontractors and any other Person performing any of the Work on behalf of Contractor.

16.2 Costs. Contractor acknowledges and agrees that the cost of obtaining the insurance coverage required under this Article 16 that is obtained by Contractor or any Supplier, is included in the Contract Price. Contractor shall exclude from the Contract Price, and shall require such Supplier to exclude from the contract price of the applicable Supply Contracts, and in each case from the hourly or unit rates of such Person if used in connection with the performance of any of the Work on a time and materials basis in accordance with this Agreement, the cost of maintaining any duplicative insurance coverage with respect to such Person's activities at the Site.

16.3 Rating and Form. Contractor shall, and shall require all Suppliers to, purchase and maintain the insurance required under Appendix MM from an insurance company or companies qualified to do business and duly authorized or licensed in the State of Texas, and in the applicable jurisdictions at locations where Work is performed that are outside of the State of Texas. All such insurance coverages obtained by Contractor shall be written by an insurance company or companies with a minimum credit rating of A from Standard & Poor's or A-, VIII from A.M. Best, or an equivalent credit rating from another internationally recognized credit rating agency reasonably acceptable to Owner; provided, that state run agencies that provide any such insurance shall not have to satisfy such credit rating requirements.

16.4 Waiver and Subrogation. Contractor shall, and shall require all Suppliers to, waive all rights of recovery, including subrogation, and whether because of deductible or self-insured retention clauses, inadequacy of limits of any insurance policy, insolvency of any insurer, limitation or exclusions of coverage, and all insurance policies obtained by Contractor or any Supplier under Appendix MM, shall include a waiver of subrogation in favor of Owner, the Common Facilities Owner and the other members of the Owner Indemnified Parties. Such waiver of subrogation shall include any and all rights of recovery whether based in equity, common law or by contract, and shall provide that it shall be effective to the maximum extent allowed by Applicable Laws as to any Person, even if such Person: (a) would otherwise have a duty of indemnification, contractual or otherwise; (b) did not pay the insurance premium directly

or indirectly; or (c) does not have an insurable interest in the property damaged. Without limiting the foregoing, Contractor shall require all insurance policies (including policies of Contractor and all Suppliers) in any way relating to the Construction Equipment to include all such waivers as described in this Section 16.4.

16.5 Loss Payees. Notwithstanding that Contractor shall obtain the construction all-risk property and marine cargo insurance coverage for the Work and the LNG Facility pursuant to Appendix MM, Owner, the Common Facilities Owner, the Lenders and Contractor shall be loss payees under such policies. Contractor shall prepare and submit any claims, "proof of loss" and other statements or certifications required by the insurers, and work with the insurers to maximize recovery under such policies. At Owner's written request, Contractor shall provide Owner with copies of such claims, "proof of loss" and other statements or certifications required by the insurers. Payment of proceeds from such insurance policies shall be made as follows as respects any one occurrence:

16.5.1 Payment of Proceeds from Insurer. The first proceeds paid by insurers, whether interim payments or final settlement payment, under the construction all-risk insurance or marine cargo insurance for property damage to the Work, not to exceed the lesser of the amount of the claim or [***] per claim, shall be paid by such insurers directly to Contractor, which shall only be used by Contractor for the repair, replacement or other necessary Work in connection with repairing or replacing the lost or damaged Work. Contractor's receipt of proceeds shall be subject to Contractor having prepared and submitted a restoration plan to Owner and the Lenders, as applicable, and Owner's approval of such restoration plan, not to be unreasonably withheld or delayed. Any proceeds paid in excess of [***] per claim, whether interim payments or final settlement payment, shall be paid to Owner or its designee (or collateral agent). Contractor shall include its costs for the repair, replacement or other necessary Work completed by Contractor that are in excess of [***] per claim, on Invoices submitted by Contractor under this Agreement for such repair, replacement or other necessary Work, together with supporting documentation reasonably demonstrating the claims for such costs have been submitted to its insurers, and, subject to Section 11.3.1(c), Owner shall release proceeds received from the insurers to Contractor to pay for such costs, in accordance with Section 16.5.2.

16.5.2 Owner's Release of Proceeds to Contractor.

(a) Subject to receipt of Invoices and supporting documentation as described in Section 16.5.1, Owner will release proceeds from the construction all-risk insurance or marine cargo insurance that have been paid to Owner, whether interim payments or final settlement payments, for the completion of repairs, replacement or other necessary Work by Contractor in accordance with the approved restoration plan, as follows: (i) for the first [***] of such proceeds received by Owner or its designee (or collateral agent), Owner shall pay such proceeds to Contractor within ten (10) Business Days after Owner's (or its designee's or collateral agent's) receipt of such proceeds from the insurers; (ii) for the next [***] of such proceeds received by Owner or its designee (or collateral agent), Owner shall pay such proceeds, or shall cause such proceeds to be paid, to Contractor within fifteen (15) Business Days after Owner's or its designee's (or collateral agent's) receipt of such proceeds from the insurers;

(iii) for any such proceeds in excess of [***] received by Owner or its designee (or collateral agent), Owner shall pay such proceeds, or shall cause such proceeds to be paid, to Contractor within thirty (30) Business Days after Owner's or its designee's (or collateral agent's) receipt of such proceeds from the insurers. Without limiting the provisions of Section 11.3.1(c), in no case shall Owner pay any proceeds to Contractor in excess of costs incurred by Contractor for such repair, replacement or restoration, less the amount of proceeds that Contractor received directly from the insurers, and in no case, other than with respect to the risk of physical loss or damage to the Work for which Owner bears the risk of loss pursuant to Section 11.3.1(a), shall Owner be obligated to pay Contractor any amount in excess of the proceeds that Owner receives from the insurers, notwithstanding that Contractor's costs may exceed the amount of such proceeds. Notwithstanding the foregoing, under no circumstances shall Owner be required to pay any such proceeds to Contractor if Owner or its Lender elects not to repair or rebuild the Work.

(b) If Owner does not release the proceeds it has received from insurers to Contractor in accordance with this Section 16.5.2, Contractor shall have the right to not commence, or if the Work to repair or restore the damaged Work has already commenced, to suspend, the repair or restoration of the Work to which such proceeds apply upon ten (10) Business Days prior notice to Owner. Contractor shall commence, or recommence, as applicable, such repair or restoration Work upon receipt of such proceeds, subject to Contractor's right to receive a Change Order pursuant to Section 8.3.1(n) in connection with any such delay or suspension of such repair or restoration Work, to the extent that such delay or suspension adversely impacts Contractor's cost or schedule to perform the Work as determined in accordance with Section 8.4.

16.6 Determination of Insurance Coverages. Contractor acknowledges and agrees that the insurance coverages required to be provided by Contractor and the Suppliers pursuant to this Article 16 and Appendix MM, are intended to, and Contractor agrees that such coverages do, provide coverage for Contractor's indemnification obligations under this Agreement to the extent such obligations are insurable. Contractor and all Suppliers shall each be solely responsible for determining the appropriate amount of insurance, if any, that Contractor or such Supplier desires or determines is appropriate that is in excess of or in addition to the insurance coverages set forth on Appendix MM, and the cost of all such excess coverage shall be at Contractor's or such Subcontractor's or Supplier's cost and expense, including types of coverage, limits of liability and costs of such excess coverage. To the maximum extent permitted by Applicable Laws, the extent of coverage or limits of liability otherwise required under this Article 16 shall not be construed as a limitation on the nature or extent of Contractor's or any Subcontractor's or Supplier's obligations under this Agreement or with respect to the Work, as applicable.

16.7 Additional Insured Coverage. To the maximum extent permitted by Applicable Law, Owner, the Common Facilities Owner and such other Persons as described on Appendix MM shall be named as additional insureds on the policies required under Appendix MM (but not including any Workers' Compensation, Employer's Liability, Contractor's Equipment or Professional Liability policies), carried and maintained by Contractor and its Suppliers, to the extent of Contractor's or such Supplier's liability under this Agreement or the applicable Supply Contract.

16.8 Deductibles. To the maximum extent permitted under Applicable Law and as required pursuant to and in accordance with Article 15, Contractor shall, and shall require all Suppliers to, be responsible for and pay any deductibles or self-insured retentions in connection with the insurance policies and coverages required to be maintained by Contractor or such Supplier under Appendix MM.

16.9 Certificate of Insurance.

(a) On or before the date that Contractor is required to obtain the insurance coverage as required under this Article 16, Contractor shall provide certificates of insurance and any endorsements required under Appendix MM to Owner. Contractor shall not commence performance of any portion of the Work on the Site, or of the applicable portion of the Work, for which insurance coverage is required to be provided under this Article 16 until such certificates have been provided to Owner. If Owner does not allow Contractor to commence performance of the applicable Work due to Contractor's failure to provide such certificates of insurance, such action by Owner shall not constitute an Owner-Caused Delay. Upon Owner's written request, Contractor shall provide Owner with copies of certificates of insurance coverage provided by Suppliers under this Article 16 and this Appendix MM. All certificates of insurance, endorsements and insurance policy copies required to be provided pursuant to this Section 16.1 shall be submitted to:

Sempra LNG
Supply Management
488 8th Avenue
San Diego, CA 92101
E-mail: [###]@sempraglobal.com

with a copy to: Sempra Energy
Insurance & Risk Advisory
488 8th Avenue
San Diego, CA 92101
E-mail: [###]@sempra.com

(b) If any of the insurance coverages are required to remain in force after Final Completion, an additional certificate of insurance evidencing continuation of such coverage shall be submitted with the Final Invoice, and upon renewal of such insurance coverages during the duration of the required period.

(c) All certificates of insurance required to be provided pursuant to this Article 16 shall include the following:

(i) Owner and any other Person required pursuant to this Agreement shall be identified as certificate holders, with correct mailing addresses;

(ii) Identification on the certificate of insurance of the named insured, which must match that on this Agreement or the relevant Supply Contract;

(iii) Insurers affording each coverage, policy dates of each coverage, all coverages and limits required under Appendix MM and signatures of authorized representatives of the insurance company or broker issuing said policy of insurance;

(iv) A list of all endorsements attached to the policies of insurance required hereunder, in which endorsement forms are to be identified, as applicable; and

(v) Producer of the certificate, with correct address and phone.

16.10 Dividends and Refunds. All dividends, premium refunds, return premiums, premium discounts, retentions, or credits payable or available under any of the insurance policies maintained by Contractor or any Supplier shall belong to Contractor or such Supplier, as the case may be, and are hereby assigned to Contractor or such Supplier. At the request of Contractor or such Supplier, Owner shall execute and deliver to Contractor or such Supplier any waiver, release, assignment, direction, or authorization, which Contractor, such Supplier, any insurer or underwriter may require for such purpose, for the benefit of Contractor.

16.11 No Waiver. Failure of Contractor or any Supplier to provide insurance as required hereunder, or Owner's failure to require evidence of insurance, or to notify Contractor of any breach by Contractor or any Supplier of these requirements, shall not be deemed to be a waiver by Owner of any of the terms and conditions of this Agreement, nor shall those actions be deemed to be a waiver of the obligations of Contractor to defend, indemnify, and hold harmless the Owner Indemnified Parties as required under this Agreement.

16.12 No Limitation. None of the requirements contained herein as to types or limits of insurance coverages to be maintained by Contractor or any Suppliers are intended to, and to the maximum extent permitted by Applicable Laws shall not, in any manner limit, qualify or quantify the liabilities and obligations of Contractor under this Agreement, or of Contractor or any Supplier as otherwise provided by Applicable Laws.

16.13 Owner's Property Insurance. If and to the extent that Owner maintains property insurance following Substantial Completion of a Stage, Owner shall procure, pay the premiums for and maintain all risk property insurance covering such Stage. Such insurance coverage shall be provided on an "all risk" replacement cost basis and shall not contain an exclusion for resultant damage caused by faulty workmanship, design or materials. The insurance policy, if any, obtained by Owner pursuant to this Section 16.13 shall provide for a waiver by the insurance carrier of all rights of subrogation, including any and all rights of recovery whether based in equity, common law or by contract, against the members of the Contractor Group in respect of loss or damage to such Stage.

16.14 Territorial Limits. All policies required to be carried under this Agreement shall be valid in the U.S. and have such additional territorial and navigational limits as are necessary for the various locations of the Work.

16.15 Failure of Contractor to Maintain Policies. If at any time the insurance provided by Contractor hereunder is reduced or is not renewed or maintained in full force and effect, then

(without limiting the rights of Owner in respect of any default that arises as a result of such failure) Owner may at its option maintain the insurance required hereby. In such event Owner may withhold the cost of insurance premiums expended for such replacement insurance from any payments to be made to Contractor. Anything in this Agreement to the contrary notwithstanding, the occurrence of any of the following shall in no way relieve Contractor from any of its obligations under this Agreement: (a) failure by Contractor to secure or maintain the insurance coverage required hereunder; (b) failure by Contractor to comply fully with any of the insurance provisions of this Agreement; (c) failure by Contractor to secure such endorsements on the policies as may be necessary to carry out the terms and provisions of this Agreement; (d) the insolvency, bankruptcy or failure of any insurance company providing insurance to Contractor; (e) failure of any insurance company to pay any claim accruing under its policy; or (f) losses by Contractor or any of its Subcontractors not covered by insurance policies.

16.16 Unavailability of Insurance. If any insurance (including the limits, coverage, endorsements, policy terms, conditions or deductibles thereof) hereby required to be maintained, other than insurance required by Applicable Laws, shall not be available in the market on commercially reasonable terms, including price, Owner and Contractor shall not unreasonably withhold their agreement to waive such requirement to the extent that maintenance thereof is not so available; provided, however, that the Party seeking the waiver shall request any such waiver in writing from the other Party, together with reasonable documentation supporting the need for the waiver, and it shall not be unreasonable for Owner to withhold such waiver if a waiver is subject to Lender approval but is not agreed to by the Lenders. Any such waiver shall be effective only so long as such insurance shall not be available in the market on commercially reasonable terms, including price. Notwithstanding anything to the contrary in this Article 16, including this Section 16.16, Contractor will not be excused from its obligations to provide insurance under this Agreement as a result of increased costs of such insurance arising out of or related to Contractor's negligence or failure to perform its obligations under this Agreement.

16.17 Contractor's Insurance is Primary. The insurance policies of Contractor and its Suppliers shall state that such coverage is primary and non-contributory to any other insurance or self-insurance available to or provided by Owner or the other members of the Owner Indemnified Parties.

16.18 Severability. All policies (other than the Worker's Compensation insurance) shall insure the interests of the Owner and the other members of the Owner Indemnified Parties regardless of any breach or violation by Contractor or any other Contractor Group member of warranties, declarations or conditions contained in such policies, any action or inaction of Owner or others, any foreclosure relating to the Liquefaction Project or any change in ownership of all or any portion of the Liquefaction Project.

16.19 Copy of Policy. Following the issuance of a LNTP (if Owner issues the same) or the Full Notice Proceed, as applicable, and the inception of the respective insurance policies required in accordance with such LNTP, or Appendix MM following the Full Notice to Proceed, as applicable, Contractor shall promptly provide Owner certified copies of each of the insurance policies of Contractor required by the LNTP or Appendix MM, as applicable, or if the policies

have not yet been received by Contractor, then with binders of insurance, duly executed by the insurance agent, broker or underwriter fully describing the insurance coverages effected.

16.20 Reports. Contractor will advise Owner and Lenders in writing promptly of (a) any material changes in the coverage or limits provided under any policy required by this Article 16 and Appendix MM; and (b) any default in the payment of any premium and of any other act or omission on the part of Contractor or its Suppliers which may invalidate or render unenforceable, in whole or in part, any insurance being maintained by Contractor or its Suppliers pursuant to this this Article 16 and Appendix MM.

16.21 Control of Loss. If commercially feasible, all policies of insurance required to be maintained pursuant to this Article 16 and Appendix MM wherein more than one insurer provides the coverage on any single policy, shall have a clause (or a separate agreement among the insurers) wherein all insurers have agreed that the lead insurers shall have full settlement authority on behalf of the other insurers.

16.22 Loss Survey. All policies of insurance required to be maintained to this Appendix MM wherein more than one insurer provides the coverage on any single policy, shall have a clause (or a separate agreement among the insurers) wherein all insurers have agreed upon the employment of a single firm to survey and investigate all losses on behalf of the insurers.

16.23 Miscellaneous Policy Provisions. All insurance policies providing Construction All Risk and Marine Cargo shall: (a) not include any annual or term aggregate limits of liability except as expressly stated in Appendix MM; (b) not have any aggregate limits of liability apply separately with respect to the Liquefaction Project; (c) have aggregate limits for Named Windstorms and Storm Surge, Flood and Earth Movement; and (d) if commercially feasible, not include a clause requiring the payment of additional premium to reinstate the limits after loss except for insurance covering the perils of Named Windstorms and Storm Surge, Flood and Earth Movement; provided that the resulting initial premium is agreed by Owner and Contractor.

16.24 Lender Requirements. Contractor agrees to cooperate with Owner and as to any commercially feasible, reasonable changes in or additions to the foregoing insurance provisions made necessary by requirements imposed by Lender (including additional named insured status, additional insured status, notice of cancellation, certificates of insurance); provided that any resulting costs of increased coverage shall be reimbursed by Owner; provided, further, that no such requirements shall materially adversely affect Contractor's risk exposure. All policies of insurance required to be maintained pursuant to this Article 16 and Appendix MM shall contain terms and conditions reasonably acceptable to Owner after consultation with the Lenders and the Lenders' insurance advisor. Contractor shall cause its insurance broker(s) to provide Broker(s) Letters of Undertaking to Owner and its Lenders, in a form acceptable to Owner, Lenders, and Contractor's insurance brokers, in respect of the insurances specified in Sections 2, 3, 5, 11 and 12 of Appendix MM. Contractor shall also require its insurance brokers to assist Owner, Contractor and the respective insurers with the potential assignment of the insurances specified in Sections 2, 3, 5, 11 and 12 of Appendix MM to Owner and the Common Facilities Owner, as Owner requests, in the event of a termination of this Agreement pursuant to Section 19.1 or 19.3;

provided, however, that Contractor does not make any representation as to whether the insurers will accept an assignment of such insurances.

16.25 No Limitation of Requirements. Nothing in this Article 16 or Appendix MM shall be construed to limit the requirements or obligations of Contractor under this Agreement, including the waivers of subrogation and waivers of claims contained in this Article 16 or Appendix MM.

ARTICLE 17

FINANCIAL SECURITY

17.1 Contractor Guarantee. Simultaneously with the execution of this Agreement, Contractor shall deliver to Owner the Contractor Guarantee in the form set forth in Appendix Y whereby Contractor Guarantor shall guarantee the full and punctual payment and performance of all obligations of Contractor under this Agreement. Contractor shall cause the Contractor Guarantor to maintain its corporate existence. Contractor acknowledges and agrees that any assignment of the Contractor Guarantee by the Contractor Guarantor, including by operation of law, without the prior written consent of Owner, shall be a material breach of Contractor's obligations under this Section 17.1.

17.2 Contractor Letter of Credit.

17.2.1 Generally. Within three (3) Business Days after the FNTP Date, and as a condition precedent to Owner's obligation to make payments under this Agreement on and after such date, Contractor shall deliver to Owner, and maintain in existence throughout the term of this Agreement as set forth in this Section 17.2, an irrevocable stand-by letter of credit in the form of Appendix X, naming Owner and the Common Facilities Owner as beneficiary, in an amount equal to the greater of: (a) [***] of the Contract Price as of such date; or (b) the total amount of the Contract Price paid to Contractor to date, but in any event not to exceed [***] of the Contract Price as of such date, issued by a Creditworthy Bank in the United States of America and that may be drawn upon presentation in New York, New York ("**Letter of Credit**"). Within ten (10) Business Days after the date that is twelve (12) Months after the FNTP Date, Contractor shall, to the extent it has not otherwise done so, increase such Letter of Credit to an amount equal to [***] of the Contract Price as of such date. If at any time the bank issuing the Letter of Credit ceases to be a Creditworthy Bank or ceases to have a branch in New York, New York where the Letter of Credit may be drawn upon presentation, Contractor shall replace the Letter of Credit within ten (10) Days with an equivalent instrument issued by a Creditworthy Bank in the United States of America.

17.2.2 Owner's Right to Draw. Owner shall have the right to draw down on or collect against such Letter of Credit upon Owner's demand in the event of the following: (a) as provided under Section 9.9.4; (b) monies owed from Contractor to Owner under this Agreement for which Owner has invoiced Contractor and Contractor has failed to pay within the period required; (c) the occurrence of a Contractor Event of Default, including a failure by Contractor to pay any amount owing to Owner for Delay Liquidated Damages or Performance Liquidated

Damages when due; or (d) any breach by Contractor of its obligations under this Agreement which has not arisen to a Contractor Event of Default, [***]. The amount drawn on the Letter of Credit shall not be greater than the amount that Owner, at the time of the drawing, reasonably estimates is owed it under this Agreement. In addition, if at any time the bank issuing the Letter of Credit ceases to be a Creditworthy Bank, or the issuing bank notifies Owner pursuant to the terms of the Letter of Credit that the issuing bank has decided not to extend the Letter of Credit beyond the then current expiration date and Contractor has not, at least thirty (30) Days before the then current expiration date, delivered to Owner a replacement letter of credit substantially identical to the Letter of Credit from a Creditworthy Bank meeting the requirements in this Section 17.2, Owner shall have the right to draw or collect against the Letter of Credit for all remaining funds and hold them as security in lieu of the Letter of Credit until Contractor replaces the Letter of Credit with an equivalent instrument issued by a Creditworthy Bank in the U.S. that has a branch in New York, New York where the Letter of Credit may be drawn upon presentation. Partial drawings shall be permitted under the Letter of Credit.

17.2.3 Increases. In addition to the increases contemplated in Section 17.2.1, Contractor shall, if the Contract Price is increased by [***] or more, increase the amount of the Letter of Credit issued to Owner within ten (10) Days after acceptance of the relevant Change Order (which shall include the cost to increase the Letter of Credit) which causes the Contract Price to exceed such [***] threshold. In connection with any such increase, Owner shall return the Letter of Credit then held by Owner to Contractor upon Owner's receipt of a replacement Letter of Credit that complies with the requirements of this Section 17.2. If Contractor increases the Letter of Credit by amendment, Owner shall retain the original Letter of Credit and the amendments thereto.

17.2.4 Reductions. Upon the achievement of Substantial Completion and payment of all Delay Liquidated Damages owing with respect to Stage I and, if applicable, increasing the amount of the Letter of Credit or posting of a separate Letter of Credit with respect to Performance Liquidated Damages in accordance with Section 9.10.1, and provided that no Contractor Event of Default has occurred that is then continuing, Contractor may decrease the amount of the Letter of Credit to an amount equal to the sum of: (a) [***] of the Contract Price; plus (b) an amount equal to damages claimed under any Disputes then pending hereunder; plus (c) unless Contractor has posted a separate Letter of Credit with respect to Performance Liquidated Damages in accordance with Section 9.10.1, an amount equal to the increase to the amount of the Letter of Credit that Contractor is required to provide pursuant to Section 9.10.1. Upon the achievement of Substantial Completion and payment of all Delay Liquidated Damages owing with respect to Stage II and, if applicable, increasing the amount of the Letter of Credit or posting of a separate Letter of Credit with respect to Performance Liquidated Damages in accordance with Section 9.10.1, Contractor may decrease the amount of the Letter of Credit so that the stated amount of such Letter of Credit is equal to the sum of: (a) [***] of the Contract Price; plus (b) an amount equal to damages claimed under any Disputes then pending hereunder; plus (c) unless Contractor has posted a separate Letter of Credit with respect to Performance Liquidated Damages in accordance with Section 9.10.1, an amount equal to the increase to the amount of the Letter of Credit that Contractor is required to provide pursuant to Section 9.10.1. Subject to Substantial Completion of Stage II having occurred, upon the expiration of the

Warranty Period for Stage I, Contractor may decrease the amount of the Letter of Credit so that the stated amount of such Letter of Credit is equal to the sum of: (a) [***] of the Contract Price; plus (b) an amount equal to damages claimed under any Disputes then pending hereunder; plus (c) unless Contractor has posted a separate Letter of Credit with respect to Performance Liquidated Damages in accordance with Section 9.10.1, an amount equal to the amount of the Letter of Credit that Contractor is required to provide pursuant to Section 9.10.1. To obtain any such decrease, Contractor must submit to the issuing bank a certificate, in the form attached to the Letter of Credit as Annex 1 to Appendix X, jointly signed by Contractor and Owner confirming that the relevant conditions for reducing the amount of the Letter of Credit have been satisfied, and setting forth the amount of the reduction. Owner shall promptly execute such a certificate tendered by Contractor when all of the relevant conditions for reducing the amount of the Letter of Credit have been satisfied. Upon the expiration of the Warranty Period for Stage II, Owner shall return the Letter of Credit and any amendments thereto to Contractor.

17.3 Further Assurances. Prior to the FNTP Date, Contractor shall review the most recent audited financial statements for Contractor and Contractor Guarantor with Owner's chief financial officer and Parent's chief financial officer (or their respective designees) at a location of Owner's option. Owner shall not have any right to make copies or to retain such financial statements that are provided for review. The information made available to Owner during this review shall be considered Contractor's Confidential Information; provided, however, that notwithstanding anything to the contrary in Section 14.2, in no event shall Owner or the Common Facilities Owner or any of its Affiliates, including Parent, disclose any information made available to Owner during such reviews to any other Person without Contractor's prior written consent. Thereafter, as soon as practicable, but in no event later than one hundred eighty (180) Days after the end of each fiscal year of Contractor, Contractor shall provide Owner with the most recent annual "general fact statement" of Contractor and Contractor Guarantor, together with (a) a cover letter from Contractor and Contractor Guarantor's external auditor confirming that (i) such general fact statement is a true and accurate extract from the Contractor Guarantor's audited financial statements for the previous fiscal year; and (ii) that the financial statements from which such general fact statement were taken were prepared in accordance with U.S. GAAP consistently applied; and (b) a letter from Contractor Guarantor's controller representing and warranting that there has not been a Material Adverse Change to the financial condition of the Contractor or Contractor Guarantor in the prior fiscal year. The information made available for Owner's review and/or provided to Owner under this Section 17.3 shall be considered Contractor's Confidential Information (provided however, Owner shall not disclosure such information without Contractor's prior written consent). If at any time during the term of this Agreement, a Material Adverse Change of the Contractor Guarantor occurs and Owner requests that Contractor provide additional financial assurance, then Contractor shall immediately, at its option, provide additional security to Owner by doing any of the following: (1) providing a guarantee to Owner for the benefit of Owner that is in the form as set forth in Appendix Y (other than for conforming changes) from an Affiliate of Contractor (and from no other Person) that directly or indirectly wholly owns the equity interests of the Contractor, is domiciled in the U.S. and that meets the "**Contractor Guarantor Minimum Net Worth**" of [***]; (2) restoring the Contractor's Guarantor's net worth to at least equal Contractor Guarantor Minimum Net Worth; or (3) delivering to Owner an additional Letter of Credit that is in the form of Appendix X (other

than for conforming changes, including consistent with the draw conditions set forth below) in an amount equal to the difference between the Contractor Guarantor Minimum Net Worth and the then-current net worth of Guarantor (the "**Contractor Guarantor Letter of Credit**"). Owner shall only be able to draw upon the Contractor Guarantor Letter of Credit in the event (a) in full, if the letter of credit will expire within thirty (30) Days and has not been extended; (b) in full, if there has been a Contractor Event of Default in accordance with Section 19.3.1(k); and (c) in full or in part, up to the amount of Contractor Guarantor's liability to Owner, if a judgment has been rendered against the Contractor Guarantor and Owner has fully drawn, or concurrently fully draws, the Letter of Credit. Such Contractor Guarantor Letter of Credit (or proceeds from a draw thereon pursuant to subclause (a) above in this Section 17.3 that have not otherwise been applied against Contractor Guarantor's liability to Owner or the Common Facilities Owner) shall be returned to Contractor once there is no longer a Material Adverse Change of Contractor Guarantor (specifically, a Contractor Guarantee provided by a Contractor Guarantor that meets the Contractor Guarantor Minimum Net Worth is provided). For the purposes of this Section 17.3, a "**Material Adverse Change**" means (i) adverse changes, events or effects that have occurred, which could reasonably be likely to materially adversely affect the business, operations, properties, condition (financial or otherwise), net worth, assets or liabilities of Contractor Guarantor, such that Contractor Guarantor no longer has adequate liquidity, nor access to additional liquidity, in order to perform its obligations under the Contractor Guarantee should Owner make a claim thereunder due to the occurrence of a Contractor Event of Default; or (ii) the net worth of Contractor Guarantor falls below the Contractor Guarantor Minimum Net Worth. For purposes of clarity, notwithstanding the foregoing provisions, [***].

ARTICLE 18

FORCE MAJEURE; EXCUSABLE EVENTS; COVID-19 EVENTS

18.1 Effect of Force Majeure, Excusable Event or COVID-19 Event.

18.1.1 Event of Force Majeure Not a Default. Any delays in or failure of performance by the affected Party, other than the obligation to pay monies or post security hereunder, shall not constitute a default (or an Event of Default) hereunder if and to the extent such delays or failures of performance are demonstrably caused by Force Majeure events or a COVID-19 Event.

18.1.2 Relief for Force Majeure; Excusable Event; COVID-19 Event.

(a) Remedies. Subject to Section 18.1.3 and Section 18.1.4, Contractor's sole remedy for the occurrence of a Force Majeure event, Excusable Event or a COVID-19 Event affecting Contractor, including delays in the commencement, prosecution or completion of the Work, shall be:

(i) an extension to the applicable Guaranteed Substantial Completion Dates and changes to the Key Date Schedule if and to the extent Contractor is actually and demonstrably delayed in the performance of Critical Path Items as a result of such Force Majeure event, Excusable Event or COVID-19 Event, such that, based on the CPM

Schedule and using critical path analysis, Contractor will fail to achieve Substantial Completion by the then-current Target Substantial Completion Date; provided, that the Guaranteed Substantial Completion Date shall only be adjusted on a day-for-day basis as such demonstrated delay to the Target Substantial Completion Date; provided, further, that such adjustment shall be limited by the following: (A) to the extent that Contractor has failed to comply with the mitigation requirements in Section 18.2.4; (B) in the case of (1) any change to Import Laws with respect to the importation into the United States or other procurement of Equipment from the country of Turkey or (2) any change to the Applicable Laws of the country of Turkey, extensions to applicable Guaranteed Substantial Completion Dates and changes to the Key Day Schedule shall be limited to the extent Contractor has failed to comply with the Contractor Mitigation Plan and, such failure directly resulted in the schedule impact for which relief from the change to Import Laws or Applicable Laws in (1) and (2), respectively, is sought; or (3) any event which would otherwise qualify as a Force Majeure Event if such event occurs in, or affects a Supplier located in, the country of Turkey, then in each such case, to the extent that Contractor has failed to comply with the Contractor Mitigation Plan (and Contractor shall in no event be entitled to any such extension or changes to the extent Contractor's failure to comply causes delays which would reasonably not be expected to have occurred had Contractor complied with the Contractor Mitigation Plan); and (C) in the case of a Force Majeure event, to the extent that Contractor has failed to comply with its obligations with respect to hurricane preparedness and other emergency responses, as applicable, as described in the Plans (and Contractor shall in no event be entitled to any such extension or changes to the extent Contractor's failure to comply causes delays which would reasonably not be expected to have occurred had Contractor complied with the Plans);

(ii) if Contractor's reasonable costs to perform the Work as a result of an event of Force Majeure, an Excusable Event or a COVID-19 Event actually and demonstrably increase despite Contractor's commercially reasonable efforts to mitigate any such increases in accordance with Section 18.2.4, then, subject to Sections 18.1.2(a)(iii), 18.1.2(a)(iv), 18.1.2(a)(v), 18.1.2(a)(vi) and 18.1.2(a)(viii), the Contract Price shall be adjusted by the sum of: (A) the increase in the actual costs (without limiting Section 8.4.2(m) or Section 8.4.1(b)(iv), without contingency, overhead, margin, fees or profit) [***] incurred by Contractor because of such event of Force Majeure, Excusable Event or COVID-19 Event in accordance with Section 8.4.1(b); less (B) any savings or costs not incurred because of such event of Force Majeure, Excusable Event or COVID-19 Event; less (C) costs incurred due to the failure to take the remedial actions required pursuant to Section 18.2.4.

(iii) with respect to an event of Force Majeure, Contractor shall not be entitled to or receive any adjustment to the Contract Price for costs incurred due to delay caused by the event of Force Majeure unless the delay in the Work resulting from such event of Force Majeure, alone or in conjunction with other events of Force Majeure that have previously occurred, continues for a period of at least [***] Days; once delays in the Work resulting from events of Force Majeure exceed [***] Days of delay, Contractor may include costs incurred due to delay caused by the event of Force Majeure on Change Orders requested under Section 8.3.1, subject to the following Sections 18.1.2(a)(iii)(A) and 18.1.2(a)(iii)(B);

(A) Owner's total liability under this Agreement for any Contract Price adjustments or payment of costs for all events of Force Majeure occurring during the term of this Agreement (other than with respect to Contract Price adjustments solely for the costs of repairing or replacing damaged or destroyed Work arising from an Excepted Risk) shall not exceed [***] in the aggregate, except:

(1) in the case of costs to repair or replace damaged or destroyed Work arising from an Excepted Risk, for which such [***] cap shall not apply; and

(2) if both of the following are satisfied: (I) delays in the Work resulting from events of Force Majeure have exceeded [***] Days; and (II) Contract Price adjustments or Owner's payment of costs resulting from Force Majeure events have reached [***], then once further delays in the Work resulting from Named Windstorms or other Excepted Risks (alone or in conjunction with other Excepted Risks that have previously occurred after the [***] Day period described in Section 18.1.2(a)(iii)) exceed [***] Days, Contractor shall have the right to an adjustment to the Contract Price equal to [***] of delay costs related to any such further delays in the Work incurred beginning on Day [***] and thereafter;

(B) notwithstanding anything to the contrary in this Agreement, if the construction all risk property insurance obtained by Contractor pursuant to Article 16 and Appendix MM allows for recovery of any costs for delay caused by an event of Force Majeure, Contractor shall first seek recovery of such costs under such insurance and shall not be entitled to include such costs on any Change Order request made hereunder unless and until such costs are not recoverable under such insurance;

(iv) adjustments to the Contract Price in the case of (A) any change to Import Laws with respect to the importation into the United States or other procurement of Equipment from the country of Turkey or (B) any change to the Applicable Laws of the country of Turkey, adjustment to the Contract Price shall be limited to the extent Contractor has failed to comply with the Contractor Mitigation Plan and such failure directly resulted in the cost impact for which relief from the change to Import Laws or Applicable Laws in (A) and (B), respectively, is sought; or (C) any event which would otherwise qualify as a Force Majeure Event if such event occurs in, or affects a Supplier located in, the country of Turkey, shall be limited in each such case if Contractor has failed to comply with the Contractor Mitigation Plan such that Contractor shall not receive an adjustment to the Contract Price to the extent that Contractor has failed to comply with the Contractor Mitigation Plan;

(v) with respect to a COVID-19 Applicable Law Issuance, [***] for an additional COVID-19 Type A Counter-Measure to the extent that such COVID-19 Type A Counter-Measure was actually required under Applicable Law to have been implemented prior to the COVID-19 Applicable Law Issuance, but Contractor had either wholly or materially failed to do so, and in such case Contractor's relief for such additional COVID-19 Type A Counter-Measure [***] (had Contractor properly adopted the required COVID-19 Type A Counter-Measure prior to the applicable COVID-19 Applicable Law Issuance), and the new requirements imposed by the new or revised COVID-19 Type A Counter-Measure;

(vi) [***];

(vii) [***];

(viii) if an Excusable Event consisting of a Change in Law occurs, then the provisions of Section 8.4.1(c) shall also apply;

(ix) if a COVID-19 Event occurs other than a COVID-19 PCSC Event, then the provisions of Section 8.4.2(j) shall also apply; and

(x) if a COVID-19 PCSC Event occurs, then the provisions of Section 8.4.2(k) shall also apply.

(b) Requirement for Change Order. Any adjustment to any of the Guaranteed Substantial Completion Dates, the Key Date Schedule or the Contract Price (with corresponding adjustments to the Milestones and the Payment Schedule) made in accordance with Section 18.1.2(a) shall be recorded in a Change Order.

18.1.3 Concurrent Delay. Notwithstanding the provisions of Article 8 or this Article 18, to the extent that Contractor would otherwise be entitled to an extension of the Key Date Schedule and the Guaranteed Substantial Completion Date for either or both Stage I and Stage II under Section 18.1.2 due to the occurrence of a Claim Submission Event, but the performance of the Work was or would have been suspended, delayed or interrupted by any cause event, condition or circumstance which does not constitute a Claim Submission Event, [***].

18.1.4 Other Limitations. Notwithstanding anything to the contrary herein, the Parties understand and agree that regardless of how, if at all, Contractor compensates its Suppliers with respect to the occurrence of an event of Force Majeure, Excusable Event or COVID-19 Event (whether by direct cost, extension of schedule, or otherwise), Contractor's sole remedies and rights hereunder for adjustments to the Key Date Schedule or the Guaranteed Substantial Completion Dates, or for changes to the Contract Price, shall only be as set forth in this Section 18.1. Contractor acknowledges and agrees that Contractor bears the risk that any adjustments to the price or schedule that Contractor grants any of its Suppliers as a result of the occurrence of an event of Force Majeure, Excusable Event or COVID-19 Event, if any, shall be different than the adjustments made pursuant to any Change Order that the Parties agree to pursuant to this Section 18.1. Line items on any Supply Contract change order which purport to set forth an adjustment as a result of an event of Force Majeure, Excusable Event or COVID-19 Event shall not be deemed conclusive evidence that the event of Force Majeure, Excusable Event or COVID-19 Event actually caused such delay or increase in cost. Prior to submitting any Claim from any Supplier to Owner, either as incorporated into a Claim from Contractor to Owner or otherwise, Contractor shall review such Supplier Claim for entitlement, accuracy and completeness (including the provision of appropriate back-up documentation).

18.1.5 Owner Relief. Owner's obligations under this Agreement shall be suspended to the extent that performance of such obligations is prevented by Force Majeure.

18.1.6 Payment Obligations. Notwithstanding Section 18.1.5, no obligation of a Party to pay moneys under or pursuant to this Agreement shall be suspended or excused by reason of Force Majeure.

18.2 Notice of Occurrence and Contractor Notice Regarding Impact.

18.2.1 Notice of Occurrence. Any Party claiming that a Claim Submission Event has occurred that is reasonably anticipated to affect such Party's ability to perform its obligations hereunder shall, within [***] Business Days after such Party becomes aware or reasonably should have become aware of the event of Claim Submission Event, give notice to the other Party of the occurrence of such event. Failure to provide such notice within such [***] Business Day period shall reduce such Party's claim for which such notice was required if such Party acted in bad faith in not submitting such notice or the other Party is prejudiced as a result of not getting such notice within such period.

18.2.2 Notice of Impact. In addition to its obligations under Section 18.2.1, if Contractor claims there is a Claim Submission Event, Contractor shall: (a) within thirty (30) Business Days after it becomes aware or reasonably should have become aware of such condition, notify Owner in writing of the nature and cause of such event, its anticipated duration and effect upon the performance of such Party's obligations, and the estimated cost (if eligible) of such Claim Submission Event, and state any action being taken to avoid or minimize its effect; (b) state whether and to what extent the condition is reasonably expected to delay the Substantial Completion Date for a Stage or any other Key Date Items as set forth on the Key Date Schedule; and (c) state whether Contractor requests a Change Order pursuant to Article 8 with respect thereto (an "**Impact Notice**"). Failure to provide an Impact Notice within such [***] Business Day period shall reduce Contractor's claim for which such notice was required if Contractor acted in bad faith in not submitting such Impact Notice or Owner is prejudiced as a result of not getting the Impact Notice within such period. The Party claiming that a Claim Submission Event occurred shall have a continuing obligation to deliver to the other Party additional documentation or analysis supporting its claim regarding the occurrence of such Claim Submission Event promptly after such information is available to the Party claiming such Claim Submission Event. The burden of proof shall be on the Party claiming to be affected by such Claim Submission Event (which burden of proof also extends to all of claiming Party's claims for relief hereunder). All costs incurred by a Party to document the existence of the Claim Submission Event, including such costs necessary to document the impact (whether cost or schedule related) of such events, shall be borne exclusively by the Party which makes such claim and shall not be subject to reimbursement hereunder.

18.2.3 Claim Submission. By the applicable Claim Submission Deadline, the Party that was affected by such Claim Submission Event shall give written notice to the other Party of (in accordance with the provisions of Section 8.9): (a) all Claims hereunder for relief as a result thereof; (b) the length of time such Claim Submission Event was in effect; (c) the effect such Party claims the Claim Submission Event had on the Contract Price (if eligible), as applicable; and (d) the effect such Party claims such Claim Submission Event had on the Guaranteed Substantial Completion Dates and the other Key Date Items (if eligible). If

Contractor submits a preliminary Claim by the initial Claim Submission Deadline and the Claim Submission Deadline is extended, Owner shall be under no obligation to review or respond to the preliminary Claim and the Owner Change Order Review Period shall not commence until the final Claim has been submitted. Because a delay in issuing its claim beyond the Claim Submission Deadline will prejudice Owner's ability to reasonably verify whether the cost or schedule extension claimed by Contractor were actually and demonstrably incurred by Contractor as a result of such Claim Submission Event, Contractor and Owner have agreed that a failure to deliver such notice (with such Claim, if any) by the Claim Submission Deadline is a reasonable and enforceable basis to deny relief hereunder as a result of the occurrence of such event (whether the claim for such relief is Contract Price related, Project Schedule related, or both). Oral notice, shortness of time or Owner's actual knowledge of a particular circumstance shall not waiver, satisfy, discharge or otherwise excuse Contractor's compliance with the requirements of this Section 18.2.

18.2.4 Scope of Suspension; Duty to Mitigate. The Party affected by an event of Claim Submission Event shall act diligently to overcome, remove or mitigate the effects of the event of Claim Submission Event, including mitigating the duration, costs and impacts arising from such Claim Submission Event. Among other things, the Party affected by such event of Claim Submission Event shall, as reasonably practicable under the given circumstances, adopt measures in anticipation of the occurrence of a Claim Submission Event in an effort to mitigate potential damage.

18.2.5 [***].

18.2.6 No Claims if LNTP or Full Notice to Proceed Not Issued. Notwithstanding [***], or the provisions of Section 18.2.5, in no event will Contractor be entitled to any relief hereunder for any Claim Submission Event, or any other act or omission for which Contractor would otherwise be entitled to a Change Order hereunder, which occurs prior to the earlier to occur of the LNTP Date or the FNTP Date, if this Agreement is terminated for any reason prior to such date.

18.3 Suspension and Evacuation Due to Named Windstorms. Where a Force Majeure event consisting of a Named Windstorm poses a substantial degree of risk to the Site, Contractor shall be entitled to suspend the Work occurring at the Site, and evacuate its and its Subcontractors' staff and labor from the Site to the extent that Contractor, after direct consultation with Owner, reasonably considers to be necessary as a result of such actual or threatened event. Upon the passing of the Force Majeure event consisting of a Named Windstorm, Contractor shall resume Work at the Site and cause its and its Subcontractors' applicable staff and labor to return to the Site. Contractor shall be entitled to a Change Order in respect of any such evacuation from the Site in accordance with the agreed evacuation plan. Such Change Order shall (a) include the reasonable costs necessarily incurred by Contractor as a result of the suspension and evacuation to the extent directly incurred: (i) in preparing the Work on the Site to safely weather such Named Windstorm; (ii) as a result of demobilization of Contractor's personnel and Construction Equipment from the Site, to a safe location prior to the Named Windstorm; or (iii) as a result of remobilization of Contractor's personnel and applicable

Construction Equipment from the off-Site to the Site after the Named Windstorm; and (b) adjustments to the Guaranteed Substantial Completion Dates and the other Key Date Items as determined in accordance with Section 8.4.1(a).

18.4 Labor Impacts. Where a Named Windstorm that impacts the Port Arthur region results in a shortage or unavailability of craft or labor to perform the Work, despite Contractor's attempts to mitigate the impacts of such Force Majeure event on the Work in accordance with Section 18.2.4, Contractor shall consult with Owner as to the actions that Contractor will take to overcome such shortage or unavailability, including short-term incentives, accommodations, per diems and other actions reasonably designed to overcome such shortage or unavailability. Contractor may request a Change Order in accordance with Section 8.3.1(h) with respect to the cost of any such actions to overcome such shortage or unavailability of craft or labor to perform the Work taken by Contractor that have been agreed in writing by Owner; provided, that any Change Order requested by Contractor in connection with the foregoing shall only provide for payment of costs incurred by Contractor to overcome such unavailability of craft or labor delays (or an adjustment to the Contract Price), and Owner shall have the right hereunder to accept or reject such Change Order in its sole and absolute discretion. If Owner accepts such Change Order, then Contractor shall not have any right under this Agreement to any extension to the Guaranteed Substantial Completion Dates and the other Key Date Schedule as a result of any shortage or unavailability of craft or labor as a result of such Named Windstorm, except to the extent agreed in such Change Order. If Owner exercises its rights to reject such Change Order request, then, if such shortage or unavailability of craft or labor delays Contractor in the performance of Critical Path Items such that, based on the CPM Schedule and using critical path analysis, Contractor will fail to achieve Substantial Completion by the Target Substantial Completion Date, then, subject to Contractor's compliance with its duty to mitigate in accordance with Section 18.2.4 and Contractor's having implemented and followed the actions agreed with Owner pursuant to this Section 18.4, Contractor may, as its sole and exclusive remedy hereunder resulting from such shortage or unavailability of craft or labor caused by such Named Windstorm, request a Change Order in accordance with Section 8.3.1(h) with respect to adjustments to the Guaranteed Substantial Completion Dates and the other Key Date Items as determined in accordance with Section 8.4.1(a), but Contractor shall not otherwise be entitled to any adjustment to the Contract Price as a result of such shortage or unavailability. Contractor shall include all Change Order claims allowed pursuant to this Section 18.4 by the Claim Submission Deadline with respect to the Named Windstorm.

ARTICLE 19

TERMINATION AND SUSPENSION

19.1 Owner's Termination for Convenience. Owner shall have the right to terminate this Agreement or Contractor's performance of all of the Work without any cause and providing any reason, by providing Contractor with a written notice of termination, to be effective upon receipt by Contractor.

19.1.1 Payment for Termination for Convenience.

(a) Upon any termination for convenience by Owner pursuant to this Section 19.1, Contractor shall, subject to the remaining provisions of this Section 19.1.1, be paid the sum of: (i) with respect to Work for which Contractor is to be paid based on the completion of Milestones, the reasonable value of the Work performed prior to termination as determined in accordance with Section 19.1.1(d), but in no event more than the Milestone Payment Amount for the Milestone to which such Work relates; plus (ii) with respect to Work for which Contractor is to be paid based on progress or on a time and materials basis, the reasonable value of the Work performed prior to termination determined in accordance with Section 6.2.4 and the Payment Schedule, or in accordance with Section 6.3.4 and Appendix KK, as applicable; plus (iii) costs incurred to perform Work for which a Change Order is pending that is not disputed by Owner at the time of termination, to the extent such costs are actually incurred prior to the date of termination; (iv) reasonable demobilization costs incurred by Contractor, submitted in accordance with this Section 19.1.1; plus (v) reasonable and prudent cancellation fees or charges under any Supply Contracts (not including any Supply Contracts with Affiliates) imposing a contractual obligation on Contractor with respect to such cancellation costs, that are not assigned to Owner pursuant to Section 19.7; less (vi) that portion of the Contract Price previously paid to Contractor.

(b) If, at the date of such termination, Contractor has purchased, prepared or fabricated any Equipment or other component of the LNG Facility off the Site for subsequent incorporation into the LNG Facility, and: (i) Contractor delivers such Equipment, portion of Equipment or such component to the Site as directed by Owner, or to such other place as Owner shall reasonably direct; (ii) title to such Equipment, portion of Equipment or such component is transferred to Owner or the Common Facilities Owner, as applicable, free and clear of all Liens, charges or encumbrances; and (iii) the Supply Contract for the procurement of such Equipment is assigned to Owner or the Common Facilities Owner, as applicable, the Equipment and such component of the LNG Facility shall be included in the Work for which Contractor shall be paid.

(c) Contractor shall submit all of its close-out and demobilization costs, including any cancellation fees or charges that it has submitted to Owner for payment, to Owner for verification and audit within [***] Days following the effective date of termination.

(d) With respect to payments made for reaching Milestones, the Parties recognize and agree that the amount and timing of the Milestone Payments have been determined in part to provide a mutually agreeable cash flow to Contractor and do not necessarily represent the value of the Work performed under the Milestones. As such, in the event of a termination for convenience, Contractor shall not be entitled to the full compensation for such Milestones performed but instead shall be entitled to the reasonable value of the Work actually performed without Defects. Contractor shall provide Owner with full documentation to support any claim for payment pursuant to this Section 19.1.1.

(e) In no event shall: (i) Contractor be entitled to receive payment for Work performed to repair or replace loss or damage to the Work if Contractor has received

proceeds from insurance policies obtained under Article 16 in connection with such loss or damage; (ii) Contractor be entitled to receive any amount for overhead, contingency or risk on Work not performed, or anticipatory profit; or (iii) the amount to be paid to Contractor pursuant to this Section 19.1.1, together with all other amounts previously paid to Contractor under this Agreement, exceed the Contract Price.

(f) Notwithstanding anything to the contrary herein, if this Agreement is terminated prior to the FNTP Date but after issuance of a LNTP, the maximum amount paid to Contractor under this Section 19.1.1 shall not exceed the aggregate amount of the Maximum Ramp-Up Payment Amounts as set forth in such LNTP.

19.1.2 SOLE AND EXCLUSIVE REMEDY. NOTWITHSTANDING ANYTHING TO THE CONTRARY IN THIS AGREEMENT, IN THE CASE OF A TERMINATION OF THIS AGREEMENT PURSUANT TO WHICH THIS SECTION 19.1 SHALL OR WILL APPLY PURSUANT TO THE TERMS OF THIS AGREEMENT, CONTRACTOR'S SOLE AND EXCLUSIVE REMEDIES, WHETHER IN TORT, CONTRACT OR OTHERWISE AGAINST OWNER OR THE COMMON FACILITIES OWNER, AS APPLICABLE, SHALL BE STRICTLY LIMITED TO THE RIGHT TO PAYMENT IN ACCORDANCE WITH THIS SECTION 19.1. NOTHING IN THIS SECTION 19.1.2 SHALL PRECLUDE CONTRACTOR FROM PURSUING DISPUTES UNDER ARTICLE 20 FOR DISPUTED CHANGE ORDERS PENDING AT THE TIME OF TERMINATION.

19.2 Owner Suspension for Convenience. Owner may, for any reason and in its sole and absolute discretion, at any time and from time to time, by written notice to Contractor, suspend the carrying out the Work or any part thereof, whereupon Contractor shall suspend the carrying out of such suspended Work for such time or times and in such manner as Owner may require, and shall take reasonable steps to minimize any costs associated with such suspension and shall take such further actions as are described in Section 19.6. Upon Owner's notice of termination of such suspension, Contractor shall promptly recommence the Work under the same terms and conditions and, to the extent possible, with the same materials, Equipment, Construction Equipment, labor and other resources that were employed prior to the suspension.

19.3 Default by Contractor.

19.3.1 Contractor Events of Default. Each of the following shall constitute a "**Contractor Event of Default**":

(a) Contractor shall fail to pay or cause to be paid when due any amount payable by Contractor to Owner in accordance with the terms and conditions of this Agreement, and such failure continues and is not cured within [***] Business Days after written notice from Owner regarding such failure;

(b) Contractor shall fail to provide or maintain in effect a Letter of Credit required to be provided by Contractor after Contractor has initially provided such Letter of Credit, or Contractor shall fail to provide additional assurances in accordance with

Section 17.3, and such failure continues and is not cured within [***] Business Days after written notice from Owner regarding such failure;

(c) Contractor shall fail to provide or maintain in effect the Contractor Guarantee required to be provided by Contractor, or Contractor Guarantor breaches, defaults or fails to comply with any material covenant or material obligation of Contractor Guarantor under the Contractor Guarantee, and such failure, breach, failure to comply or event of default continues and is not cured within [***] Business Days after written notice from Owner regarding such failure, which cure in the case of a breach, default or failure to comply by Contractor Guarantor may include Contractor's delivery of a replacement Contractor Guarantee that cures such failure, breach or event of default from a Person acceptable to Owner in Owner's sole discretion; provided, however, that if such replacement Contractor Guarantor satisfies the requirements of Section 17.3, Owner's acceptance of such Person shall not be unreasonably withheld;

(d) Contractor's Abandonment of the Work;

(e) Contractor shall fail to perform any material covenant or material obligation hereunder not otherwise addressed in this Section 19.3.1, and Contractor shall fail to commence the cure of such failure within [***] Days after receipt of notice from Owner identifying such failure, or if, having commenced the cure within such period, Contractor shall fail (i) to diligently pursue such cure in a manner in compliance with this Agreement; (ii) to cure such failure within [***] Days after Contractor's receipt of such notice, or such longer period of time as Contractor and Owner agree is reasonably necessary to complete such cure; or (iii) provided that Contractor has ordered the Equipment necessary to effectuate such cure within [***] Days of receipt of Owner's notice of Contractor's failure to perform such material covenant or obligation, if it is not reasonably possible to cure such failure to perform within such [***] Day period due to extended delivery times of Equipment necessary to effectuate such cure, then Contractor shall be afforded an extended cure period (reflecting the delivery time for such Equipment and a reasonable period of time for installation) to enable Contractor to cure such failure while at all times exercising all practicable diligence and expediting the delivery of the long lead Equipment;

(f) Contractor shall fail to provide or maintain the insurance coverage as required under this Agreement, and such failure continues and is not cured within [***] Business Days after written notice from Owner regarding such failure;

(g) subject to Owner having paid undisputed amounts owed to Contractor in accordance with this Agreement, Contractor shall fail to discharge or bond Liens filed by any Subcontractor as required under this Agreement;

(h) subject to Owner having paid undisputed amounts owed to Contractor in accordance with this Agreement, Contractor shall fail to make undisputed payments to Subcontractors for labor or materials owed in accordance with the respective Subcontracts, and such failure continues and is not cured within [***] Business Days after written notice from Owner regarding such failure;

(i) any representation or warranty under Article 13 made by Contractor hereunder shall prove to be incorrect (and, with respect to those contained in Section 13.1.5, shall have been incorrect as of the Effective Date), such failure continues and is not cured within [***] Days after written notice from Owner regarding such failure, and such failure has a material adverse effect upon the Liquefaction Project or Contractor's ability to perform its obligations under this Agreement;

(j) Contractor shall: (i) generally not, or shall be unable to, or shall declare in writing its inability to, pay its debts as such debts become due and such failure is not cured by Contractor within [***] Business Days; (ii) file or have filed against it a petition in bankruptcy; or (iii) have a trustee or receiver appointed with respect to all or a portion of its properties or affairs;

(k) the Contractor Guarantor shall: (i) generally not, or shall be unable to, or shall declare in writing its inability to, pay its debts as such debts become due; (ii) file or have filed against it a petition in bankruptcy; or (iii) have a trustee or receiver appointed with respect to all or a portion of its properties or affairs, and such failure continues and is not cured by Contractor within ten (10) Business Days, which cure may include Contractor's delivery of a replacement Contractor Guarantee from a Person acceptable to Owner in Owner's sole discretion;

(l) Contractor incurs Delay Liquidated Damages equal to the Delay LD Cap, without regard to whether such Liquidated Damages have actually been paid;

(m) (i) Contractor fails to propose a reasonable Recovery Plan in accordance with Section 4.4.2 (without regard as to whether or not Owner has approved the proposed Recovery Plan, but without limiting Owner's right to challenge the reasonableness of such plan); or (ii) Contractor provides a Recovery Plan but fails to materially comply with that Recovery Plan, and in either case such failure continues and is not cured within [***] Business Days after written notice from Owner regarding such failure;

(n) if at any time prior to the Guaranteed Substantial Completion Date for a Stage, Contractor's performance of the Work is delayed such that such Stage is not projected to achieve Substantial Completion until after the Guaranteed Substantial Completion Date for such Stage to such an extent that the Delay LD Cap for such Stage would be met, and either: [***].

(o) Contractor is required pursuant to Section 17.3 to provide either an alternative parent company guarantee or an additional letter of credit to Owner as set forth in Section 17.3, and Contractor fails to provide such parent company guarantee or additional letter of credit within [***] Business Days following Owner's request for such assurance.

Contractor's attempt to cure any failures as described in any of the foregoing shall not restrict or prohibit Owner from exercising its rights under Section 19.3.2 with respect to any other Contractor Event of Default that may occur during such cure period.

19.3.2 Owner's Remedies.

(a) Upon the occurrence of a Contractor Event of Default, Owner may, at its option, undertake any one (1) or more of the following:

(i) cure the same and recover from Contractor or offset against amounts otherwise owing to Contractor or draw from the Letter of Credit the reasonable and substantiated amounts expended by Owner in effecting the cure;

(ii) suspend performance of Contractor's obligations hereunder;

(iii) terminate this Agreement; provided, however, that in the case of a Contractor Event of Default as described in Section 19.3.1(n) with respect to a Stage, Owner may only terminate this Agreement prior to the Guaranteed Substantial Completion Date for such Stage; or

(iv) subject to the provisions of Sections 4.3.2(d), 5.2.2(c) and 19.3.1(n), Article 15, Article 20 and Article 21, including the exclusions, apportionment and limitations of liability and the Parties' mutual waiver of any right of equitable rescission therein, exercise any other rights available to Owner at law or in equity.

(b) In addition, Owner shall be entitled to suspend performance of Contractor's obligations hereunder immediately upon written notice to Contractor (without waiting for the expiration of the cure periods specified in this Section 19.3.2) for such period and to such extent as may be reasonable in the circumstances in a case where the Contractor Event of Default gives rise to an emergency with respect to the safety of Persons or property, including the Work. All remedies for a Contractor Event of Default shall be cumulative and the exercise of one (1) shall not preclude the exercise of another.

19.3.3 Additional Owner Rights Upon Termination for Contractor Event of Default.

(a) If Owner terminates this Agreement for a Contractor Event of Default, then Owner may in its sole and absolute discretion: (i) enter onto the Site and take possession of all equipment, tools, supplies, scaffolding and machinery rented by Contractor for purposes of completing the Work (but not including any equipment, tools, supplies, scaffolding and machinery owned by Contractor or its Affiliates), and all Equipment and Work Product; (ii) take assignment of any or all of the Supply Contracts (excluding Affiliates of Contractor but including CIMTAS and any other Affiliate of Contractor that is no longer wholly directly or indirectly owned by Contractor, the Contractor Guarantor or any Person that directly or indirectly owns the equity interests of Contractor Guarantor); and (iii) complete the Work either itself or through others.

(b) Upon termination of this Agreement by Owner for a Contractor Event of Default, Contractor shall not be entitled to any further payments of the Contract Price

except for Work previously performed and such other amounts as calculated using the principles in Section 19.1.1, less that portion of the Contract Price previously paid to Contractor (and subject to Owner's right to withhold payments under this Agreement). In no event shall the amount paid to Contractor pursuant to this Section 19.3, together with all other amounts previously paid to Contractor under this Agreement, exceed the Contract Price, nor shall Contractor be entitled to payment of any such amounts until Contractor's liability for damages hereunder has been determined in accordance with Section 19.3.3(c).

(c) In the event of a termination of this Agreement for a Contractor Event of Default pursuant to this Section 19.3.3, the Parties agree that Owner shall be entitled to all damages, losses and actual and reasonable costs and expenses incurred by Owner arising out of or resulting from such Contractor Event of Default, including: (i) any and all Delay Liquidated Damages that have accrued in accordance with Section 4.3.1 prior to the date of termination, subject to the termination date having occurred after the Guaranteed Substantial Completion Date of a Stage; and (ii) Owner's actual and reasonable costs (at fully burdened rates for internal personnel costs) of replacing Contractor and mobilizing one (1) or more other contractors in order to complete the Work above the remaining unpaid portion of the Contract Price, including: (A) all actual and reasonable costs of preparing requests for proposals, soliciting and negotiating with contractors; (B) all actual and reasonable costs for the replacement contractors to mobilize, review and understand the LNG Facility, the Liquefaction Project and related documents, and meet with the Liquefaction Project participants in order to get to substantially the same position as Contractor was at the point of termination; and (C) all actual and reasonable costs for the replacement contractors to complete the Work as soon as reasonably practicable and to warrant all Work otherwise completed by Contractor. Upon determination of the total cost of the Work, Owner shall notify Contractor in writing of the amount, if any, that Contractor shall pay Owner or Owner shall pay Contractor. Contractor acknowledges that in the event of such a termination, Owner may enter into a fixed price contract for the completion of the LNG Facility and that the cost to complete the LNG Facility in such event may greatly exceed the cost hereunder.

(d) IF IT IS DETERMINED FOR ANY REASON THAT A CONTRACTOR EVENT OF DEFAULT HAD NOT OCCURRED OR THAT OWNER WAS NOT ENTITLED TO TERMINATE THIS AGREEMENT PURSUANT TO THIS SECTION 19.3, SUCH TERMINATION WILL BE DEEMED TO BE A TERMINATION FOR CONVENIENCE PURSUANT TO SECTION 19.1 AND CONTRACTOR'S SOLE AND EXCLUSIVE REMEDIES WHETHER IN TORT, CONTRACT OR OTHERWISE AGAINST OWNER OR THE COMMON FACILITIES OWNER, AS APPLICABLE, SHALL BE STRICTLY LIMITED TO THE RIGHT TO PAYMENT AS PROVIDED IN SECTION 19.1.1.

19.4 Default by Owner.

19.4.1 Owner Events of Default. Each of the following shall constitute an "**Owner Event of Default**":

(a) Owner shall fail to pay or cause to be paid any amount payable by Owner to Contractor when due in accordance with the terms and conditions of this Agreement, except for any sum that (i) Owner has Disputed in accordance with Section 6.4; or (ii) Owner has

the right to withhold or offset payment thereof under Section 6.5, and such failure shall continue and is not cured within ten (10) Business Days after written notice from Contractor regarding such failure;

(b) any representation or warranty made by Owner hereunder shall prove to be false or incorrect, such failure shall continue and is not cured within [***] Days after written notice from Contractor regarding such failure, and such defect shall have a material adverse effect upon Owner's ability to perform its obligations under this Agreement; or

(c) Owner: (i) shall generally not, or shall be unable to, or shall declare in writing its inability to, pay its debts as such debts become due; or (ii) shall file or have filed against it a petition in bankruptcy; or (iii) shall have a trustee or receiver appointed with respect to all or a portion of its properties or affairs, and such failure shall continue and is not cured within [***] Business Days after written notice from Contractor regarding such failure.

19.4.2 Contractor's Remedies. Upon the occurrence of an Owner Event of Default specified in Section 19.4.1:

(a) Contractor may serve Owner with a notice of intent to suspend the Work (a "**Suspension Notice**") on or after [***] Days after the occurrence of an Owner Event of Default that is continuing as of the date of such Suspension Notice, effective immediately or on such later date as Contractor indicates in the date of the Suspension Notice, and may thereafter suspend the Work; and

(b) on or after [***] Days after the suspension of the Work in accordance with Section 19.4.2(a) and provided that the Owner Event of Default is continuing as of such date, Contractor may serve Owner with a notice of intent to terminate this Agreement (a "**Termination Notice**") effective immediately or within [***] Days thereafter, and if the Owner Event of Default has not cured by the termination date indicated in the Termination Notice, this Agreement shall terminate in accordance with the Termination Notice;

provided, that in either case upon cure of such Owner Event of Default by Owner, the aforementioned rights shall no longer be applicable.

19.4.3 Mitigation. After Contractor shall have suspended the Work under Section 19.4.2, Contractor shall take reasonable steps towards mitigating the costs and expenses it incurs hereunder.

19.4.4 Termination due to Suspension or Force Majeure. If on or after the FNTP Date, all or a substantial portion of the Work is suspended by Owner pursuant to Section 19.2 for [***] consecutive Days or [***] Days in the aggregate, or is stopped due to one (1) or more Force Majeure events or COVID-19 Events for [***] Days in the aggregate, Contractor may terminate this Agreement upon [***] Days prior written notice to Owner; provided, however, in the case of Force Majeure events, if Owner agrees to pay delay costs in accordance with Section 18.1.2(a)(ii) beginning on Day [***], without applying the [***] Day threshold or the [***] limitation on Owner's liability as set forth in Section 18.1.2(a)(ii), Contractor shall not

have the right to terminate this Agreement under this Section in connection with such Force Majeure events.

(a) IF THIS AGREEMENT IS TERMINATED PURSUANT TO SECTION 19.4.2 OR SECTION 19.4.4, CONTRACTOR'S SOLE AND EXCLUSIVE REMEDY SHALL BE PAYMENT OF THE AMOUNTS THAT WOULD BE OWING PURSUANT TO SECTION 19.1.1, AND CONTRACTOR:

(i) AGREES THAT SUCH PAYMENT SHALL BE THE SOLE AND EXCLUSIVE REMEDY OF CONTRACTOR, WHETHER IN TORT, CONTRACT OR OTHERWISE, WITH RESPECT TO THE TERMINATION OF THIS AGREEMENT; AND

(ii) HEREBY WAIVES AND RELEASES (AND SHALL CAUSE THE OTHER MEMBERS OF THE CONTRACTOR GROUP TO WAIVE AND RELEASE) THE OWNER GROUP FROM LIABILITY FOR ANY CLAIMS AND EXPENSES (INCLUDING COURT COSTS, ATTORNEYS' FEES AND DISBURSEMENTS, AND OTHER LITIGATION COSTS) SUFFERED BY ANY CONTRACTOR GROUP MEMBER IN CONNECTION WITH SUCH TERMINATION.

19.5 Cure Rights of Lenders.

19.5.1 Right to Cure. Each Lender shall have the right to cure any Owner Event of Default or other breach of this Agreement, which shall include reasonable rights of access, if requested by such Lender, and the right to receive reasonably requested information, if either is necessary for such Lender to cure such Owner Event of Default or other breach; provided, that such Lender shall not receive any right of access or information beyond that to which Owner is entitled to hereunder.

19.5.2 Notices. If Owner provides Contractor with the identity and contact information of any Lender, Contractor shall provide such Lender with a copy of each notice by Contractor of an Owner Event of Default, Suspension Notice, Termination Notice, notice terminating this Agreement, notice of Force Majeure, Impact Notice and written amendment to or waiver of rights under this Agreement proposed by Contractor to Owner (other than a Change Order) with respect to this Agreement at the same time, and in the same manner, as Contractor furnishes such notice to Owner.

19.6 Contractor General Obligations Upon Suspension. During any suspension of the Work, Contractor shall properly protect and secure such suspended Work in such manner as Owner may reasonably require. Unless otherwise instructed by Owner, Contractor shall during any suspension, subject to Owner making the undisputed payments due to Contractor during such suspension, including pursuant to Change Orders issued under Section 8.3.1 as a result of such suspension, maintain its staff and labor on or near the Site and otherwise be ready to proceed expeditiously with the Work upon receipt of Owner's further instructions; provided, that after a period of thirty (30) Days, Contractor may fully demobilize the Work; provided, further, that, during any suspension of the Work, notwithstanding any demobilization, and until

termination of this Agreement, Contractor shall maintain, at a minimum, Site management and security (the cost of which shall be included in the Change Order, if any, issued pursuant to Section 8.3.1(e) or 8.3.1(i), as applicable).

19.7 Contractor General Obligations Upon Termination. Upon termination of this Agreement under this Article 19, Contractor shall, using GECP: (a) discontinue the Work on the date and to the extent specified in the notice of termination; (b) place no further orders under Supply Contracts, or any other items or services except as may be necessary for completion of such portion of the Work as is not discontinued; (c) unless Owner elects to take assignment of a Supply Contract, promptly make commercially reasonable efforts to cancel the Supply Contracts on terms reasonably satisfactory to Owner; (d) assist Owner in the maintenance, protection, and disposition of Work in progress; (e) cooperate with Owner in the efficient transition of the Work; (f) cooperate with Owner in the transfer of the Work Product, including Drawings and Specifications, Permits, Licenses; and (g) thereafter execute only that portion of the Work as may be necessary to preserve and protect Work already in progress and to protect Equipment at the Site, or in storage off-Site or while in transit, and to comply with any Applicable Laws. Owner may, at its sole option, take assignment of any or all of the Supply Contracts, including Supply Contracts with CIMTAS but excluding other Affiliates of Contractor.

19.8 Termination for Delay in FNTP Date. If the FNTP Date does not occur on or before the date that is [***] Years after December 11, 2020 and the Parties have not reached agreement as to how to proceed with the Agreement on or before such date, either Party may terminate this Agreement in its sole discretion at any time after such date by providing the other Party with a written notice of termination, to be effective upon receipt by the receiving Party. Notwithstanding anything to the contrary herein, if this Agreement is terminated pursuant to this Section 19.8, except in connection with a LNTP (if issued) and subject to Section 19.1.1(f), Contractor shall not have any right to receive any payment hereunder, and Owner shall have no obligation to make any payment to Contractor hereunder, in connection with the termination of this Agreement.

19.9 WAIVER OF CERTAIN RIGHTS. CONTRACTOR waives any right it may have under any Applicable Laws or EQUITABLE PRINCIPLES to suspend performance of the Work or terminate this Agreement, except as expressly authorized by this Article 19.

ARTICLE 20

DISPUTE RESOLUTION

Any disputes, controversies or claims between Owner and Common Facilities Owner on the one hand, and Contractor on the other hand (the "**Disputing Parties**") arising under or related to this Agreement (a "**Dispute**"), including the construction, validity, enforceability, breach, termination of this Agreement, that is not resolved in the ordinary course by the Parties, shall be resolved in accordance with the procedures established in this Article 20. References to Owner in this Article 20 shall be read and understood to include a reference to Common Facilities Owner. Common Facilities Owner hereby agrees and appoints Owner as its attorney-

in-fact to pursue any Claims or Disputes that Common Facilities Owner may have against Contractor hereunder or in connection with this Agreement or the Work.

20.1 Notice of Dispute. Either Disputing Party shall give notice to the other Party in writing that a Dispute has arisen ("**Dispute Notice**").

20.2 Informal Dispute Resolution.

20.2.1 Executive Officer Negotiation. If the Disputing Parties have failed to resolve the Dispute within [***] Business Days after the Dispute Notice was given, the Disputing Parties shall seek to resolve the Dispute by negotiation between the executive officers of each Disputing Party. Such executive officers shall endeavor to meet and attempt to amicably resolve the Dispute. If the Disputing Parties are unable to resolve the Dispute for any reason through negotiation within [***] Business Days after the Dispute Notice was given, then the Dispute shall be finally resolved in accordance with the following provisions of this Article 20.

20.2.2 Designated Claims. If (a) the executive officers of each Disputing Party have met and the Disputing Parties are unable to resolve a Dispute or Disputes in accordance with Section 20.2.1 through negotiation within thirty (30) Business Days after the applicable Dispute Notice was given; and (b) such Dispute is a Designated Claim (as defined in Appendix XX), the Disputing Parties shall be entitled to inspect and copy the documents in accordance with Appendix XX to the extent permitted therein.

20.2.3 Early Arbitration. Notwithstanding anything to the contrary in Section 20.2 or Section 20.3, arbitration may be initiated before completion of negotiation or mediation pursuant to Section 20.2 or Section 20.3, if necessary, and only to the extent necessary, to preserve a Party's rights or to avoid irreparable harm pending resolution of the Dispute, but any such proceedings shall be limited to those purposes until the negotiation or mediation is completed or the time for negotiation has expired.

20.3 Mediation.

20.3.1 Initiation of Mediation. If a Dispute is not resolved by the negotiations described in Section 20.2, either Party may initiate mediation; provided, however, that if Owner has exercised its copy and inspection rights under Appendix XX, and subject to Section 20.3.3, such mediation shall not commence until Owner has had a reasonable opportunity to review the Books and Records and other documents produced or required to be produced pursuant to Appendix XX. The Parties shall work together for period of [***] Days to jointly choose a mediator, but if the Parties cannot agree on a mediator, then the mediation and the identification of the mediator shall be initiated by the method prescribed in the AAA Rules in effect at the time the Dispute arises. The mediation shall be attended by representatives of Owner and Contractor that have sufficient authority to resolve the Dispute or have ready access to persons with such authority.

20.3.2 Conduct of Mediation. Unless Owner and Contractor otherwise agree, the mediation shall be administered by the AAA and conducted by an independent mediator and in

accordance with the AAA Rules in effect at the time of the Dispute Notice. The mediation shall be conducted in Houston, Texas, and the Parties shall endeavor to conduct the mediation within [***] Days after the notice initiating mediation is delivered, unless a different time is agreed to by the Parties or the Parties have not provided all of the documents required under Appendix XX.

20.3.3 Mandatory Mediation. Subject to Section 20.2.3, completion of the negotiations and mediation is a condition precedent to the initiation of arbitration and no Dispute shall be brought either separately or together with other claims or disputes, unless such Dispute first has been the subject of negotiations and mediation; provided, however, that with respect to a Designated Claim, Owner and Contractor shall each have the right to immediately commence an arbitration pursuant to Section 20.4 with respect to any such claim at any time after the end of the negotiating period in Section 20.2.2.

20.4 Arbitration and Arbitration Procedures. Any Dispute that is not settled pursuant to Section 20.2 or Section 20.3 shall be finally settled by arbitration in accordance with the AAA Rules in effect at the time of the Dispute Notice (except as they may be modified herein or by mutual agreement of the Disputing Parties), as follows:

20.4.1 Location; Arbitration Request. The place of arbitration shall be Houston, Texas, and the language of the arbitration shall be English. The Disputing Party initiating recourse to arbitration shall submit a request for arbitration ("**Request for Arbitration**") as provided under the AAA Rules. Any questions regarding the enforceability of the arbitration requirements set forth herein, or the arbitration of claims arising out of or relating to the Work or this Agreement shall be resolved by an arbitration tribunal selected in accordance with this Agreement.

20.4.2 Arbitration Tribunal. The arbitration proceeding shall be conducted by a tribunal (the "**Tribunal**") comprised of three (3) neutral and impartial arbitrators selected in accordance with the process and each having the qualifications set forth in this Section 20.4. Each of the Disputing Parties shall nominate one (1) arbitrator by filing a notice of appointment of such arbitrator with the AAA in accordance with the AAA Rules. If a Party fails to nominate an arbitrator in accordance with this Section 20.4.2, the AAA shall appoint an arbitrator in accordance with this Section 20.4 and the AAA Rules. Within [***] Days after the nomination or appointment of the second arbitrator, the two (2) party-nominated or appointed arbitrators shall nominate the third arbitrator to serve as chairperson of the Tribunal. In the event that the party-nominated or appointed arbitrators are unable to agree on the third arbitrator within the time provided by this Section 20.4.2, any arbitrators or the chairperson of the Tribunal shall, as necessary, be appointed by the AAA in accordance with the AAA Rules.

20.4.3 Qualifications of Arbitrators. Each of the three (3) arbitrators is to be experienced with the engineering and construction industry or disputes on large construction projects. At least two (2) of the arbitrators, including the chairperson, shall be attorneys with at least fifteen (15) years of legal experience relating to the engineering and construction industry, or retired judges with experience in disputes with respect to large construction projects. A non-lawyer arbitrator, if any, shall have at least twenty (20) years of experience in the engineering

and construction industry and shall be trained and have served as an arbitrator. All arbitrators shall be fluent in English.

20.4.4 Discovery. Each Disputing Party shall have the right to request the other Disputing Party and any nonparties to produce documents and to request depositions of the other Disputing Party and other Persons. In making any determination regarding the scope of production, including the production of documents and depositions, the arbitration tribunal selected under Section 20.4.2 shall be guided by the Federal Rules of Civil Procedure as applied by the United States District Court for the Southern District of Texas.

20.4.5 Expedited Procedures. In the event that Owner and Contractor do not agree upon whether Mechanical Completion for a Stage, Ready for Start-Up for a Stage, or Substantial Completion of a Stage has been achieved pursuant to Section 9.2.2, 9.4.2 or 9.8, respectively, either Party may initiate an expedited arbitration process pursuant to this Section 20.4.5 by delivering a notice of such expedited arbitration to the other Party. In the case of any such expedited arbitration: (a) the provisions of Section 20.3 shall not be applicable; (b) the thirty (30) Business Day period referred to in Section 20.4.2 shall be reduced to a ten (10) Day period; (c) the Parties shall use good faith efforts to promptly resolve any Disputes regarding discovery; (d) the arbitration hearing shall be commenced as promptly as possible, giving due consideration to the nature and complexity of the Dispute; and (e) the Parties shall request that the arbitration tribunal issue its final award or awards within twenty (20) Days after the conclusion of the arbitration hearings. In no event shall the provisions of this Section 20.4.5 be construed or be deemed to limit or modify Owner's right to conduct audits pursuant to this Agreement.

20.5 Entry of Judgment. The award of the Tribunal shall be final and binding upon the Parties as from the date the Parties are notified of the award by the Tribunal, and shall be the sole and exclusive remedy between the Parties regarding any Disputes, issues or accounting presented to the Tribunal. Judgment upon any award may be entered and enforced in any court having jurisdiction over a Party or any of its assets. To the extent permitted by Applicable Laws, the Parties hereby waive any right to appeal from or challenge any arbitral decision or award, or to oppose enforcement of any such decision or award before a court or any Governmental Authority, except with respect to the limited grounds for modification or non-enforcement provided by any applicable arbitration statute or treaty. For the purpose of the enforcement of an award, the Parties irrevocably and unconditionally submit to the jurisdiction of a competent court in any jurisdiction in which a Party may have assets and waive any defenses to such enforcement based on lack of personal jurisdiction or inconvenient forum.

20.6 Fees and Expenses. Each Party shall bear its own costs, expenses and attorney's fees, including any disbursements and costs of arbitration, associated with the resolution of Disputes in accordance with this Article 20, and shall share equally the costs of mediation and arbitration, as applicable. Notwithstanding anything to the contrary herein or in the AAA Rules, none of the mediators or the arbitrators shall have the authority to allocate the costs or expenses of the Dispute resolution proceedings.

20.7 Joinder; Consolidation. In order to facilitate the comprehensive resolution of related Disputes, all Disputes between the Parties arising under or related to this Agreement and all Disputes between Owner, Contractor and any of Owner's or Contractor's respective Suppliers may be brought in a single arbitration.

20.7.1 Joinder. The Parties to this Agreement are bound, each to each other, by the arbitration provisions in this Agreement. Each Party to this Agreement agrees, and Owner and Contractor, as applicable, shall use commercially reasonable efforts to cause each of Owner's or Contractor's respective Other Contractors and Suppliers that are Affiliates of Contractor or that have entered into a Supply Contract directly with Contractor, to agree to be joined as an additional party to any arbitration begun under this Agreement or any other agreement related to the LNG Facility between Owner, Contractor or any of Owner's or Contractor's respective Other Contractors and Suppliers, and each Party to this Agreement consents to the joinder of any Other Contractors or Suppliers, in accordance with AAA Rules. Neither Owner nor Contractor shall object to the joinder of any Supplier or Other Contractor that has agreed to be joined as an additional party.

20.7.2 Consolidation. Upon the request of any Party to an arbitration proceeding constituted under this Agreement, the AAA may consolidate such arbitration proceeding with any other arbitration proceeding arising under or related to this Agreement and other agreement related to the LNG Facility between Owner, Operator or Owner's or Contractor's respective Other Contractors and Suppliers, as provided in the AAA Rules. In deciding whether to consolidate, the AAA may take into account any circumstances it considers to be appropriate including whether (a) there are issues of fact or law common to the proceedings so that a consolidated proceeding would be more efficient than separate proceedings; and (b) any Party would be prejudiced by consolidation due to undue delay or otherwise. If the parties to the arbitrations to be consolidated are not the same, then the Parties shall have fifteen (15) Days from receipt of the order of consolidation to nominate a three (3) member tribunal to serve as arbitrators for the consolidated arbitration, and if no such agreement is reached, all three (3) arbitrators shall be appointed by the AAA. The Parties waive any right they may have to appeal or to seek interpretation, revision or annulment of such order of consolidation under the AAA Rules or in any court. The Parties agree that upon such an order of consolidation, they will promptly withdraw their claims and any counterclaims and terminate any arbitration brought under this Article 20, the subject of which has been consolidated into another arbitral proceeding under this Section 20.7.2.

20.8 Confidentiality. Any Dispute Notice pursuant to Section 20.1, informal Dispute resolution pursuant to Section 20.2, mediation pursuant to Section 20.3, or arbitration pursuant to Section 20.4 relating to a Dispute (including a settlement resulting from an arbitral award, documents exchanged or produced during an arbitration proceeding, and memorials, briefs or other documents prepared for the arbitration) shall be confidential and may not be disclosed by the Parties, their employees, officers, directors, counsel, consultants, and expert witnesses, except (a) (in accordance with Article 14) to the extent necessary to enforce this Article 20, including the consolidation of related Disputes as set forth in Section 20.7, or any arbitration award; (b) to enforce other rights of a party to the Dispute; (c) to the Lenders and the

Independent Engineer, and their respective employees, officers, directors, counsel and consultants, in accordance with and subject to the provisions of Article 14; or (d) as required by Applicable Laws or the rules of any stock exchange applicable to the Person making such disclosure; provided, however, that breach of this confidentiality provision shall not void any settlement, expert determination or award.

20.9 Continuation of Work During Dispute. Notwithstanding any Dispute, Contractor shall continue to prosecute all of the Work diligently and in a good and workmanlike manner in conformity with this Agreement. Except to the extent provided in Section 19.4, Contractor shall not cease performance of the Work or its obligations hereunder, or permit the performance of the Work to be delayed. Owner shall, subject to its right to withhold or offset amounts pursuant to this Agreement, continue to pay Contractor amounts not in Dispute in accordance with this Agreement; provided, however, that in no event shall the occurrence of any negotiation or litigation prevent or affect Owner from exercising its rights under this Agreement, including Owner's right to terminate pursuant to Article 19.

ARTICLE 21

LIMITATION ON LIABILITY

21.1 CONTRACTOR OVERALL LIMIT OF LIABILITY. NOTWITHSTANDING ANY OTHER PROVISIONS OF THE AGREEMENT TO THE CONTRARY, EXCEPT AS EXPRESSLY DESCRIBED IN THIS SECTION 21.1, CONTRACTOR SHALL NOT BE LIABLE TO EITHER OR BOTH OWNER AND THE COMMON FACILITIES OWNER UNDER THIS AGREEMENT, OR ANY CAUSE OF ACTION RELATED TO THE SUBJECT MATTER OF THIS AGREEMENT, WHETHER IN CONTRACT, TORT OR OTHERWISE, FOR CUMULATIVE AGGREGATE AMOUNTS IN EXCESS OF THE MAXIMUM LIABILITY CAP, AND, SUBJECT TO THE FOLLOWING PROVISIONS OF THIS SECTION 21.1, OWNER AND THE COMMON FACILITIES OWNER HEREBY RELEASE CONTRACTOR FROM ANY LIABILITY IN EXCESS OF THE MAXIMUM LIABILITY CAP; PROVIDED, THAT, NOTWITHSTANDING THE FOREGOING, BUT IN ANY EVENT SUBJECT TO SECTION 21.2, THE LIMITATION OF LIABILITY SET FORTH IN THIS SECTION 21.1 SHALL NOT APPLY TO: (A) CONTRACTOR'S OBLIGATION TO PERFORM AND COMPLETE THE WORK NECESSARY TO ACHIEVE SUBSTANTIAL COMPLETION FOR EACH STAGE OF THE LNG FACILITY (SUBJECT TO CONTRACTOR'S RIGHT TO PAY PERFORMANCE LIQUIDATED DAMAGES WITH RESPECT TO A GUARANTEED PERFORMANCE LEVEL TO WHICH A MINIMUM PERFORMANCE STANDARD APPLIES IN ACCORDANCE WITH SECTION 9.10); (B) CONTRACTOR'S OBLIGATIONS UNDER ARTICLE 15; AND (C) CONTRACTOR'S OBLIGATION TO DELIVER TO OWNER FULL LEGAL TITLE TO AND OWNERSHIP OF ALL OR ANY PORTION OF THE WORK AND THE LNG FACILITY FREE AND CLEAR OF ANY LIENS OR OTHER ENCUMBRANCE IN ACCORDANCE WITH THIS AGREEMENT; IN ALL CASES EVEN IF THIS AGREEMENT IS TERMINATED FOR A CONTRACTOR EVENT OF DEFAULT. IN NO EVENT SHALL AMOUNTS INCURRED BY CONTRACTOR TO PERFORM THE WORK, INCLUDING TO REPAIR OR REPLACE

DEFECTIVE WORK, PRIOR TO SUBSTANTIAL COMPLETION OF A STAGE, OR TO PERFORM ITS OBLIGATIONS HEREUNDER THAT ARE COVERED BY PROCEEDS RECEIVED FROM INSURANCE COVERAGE OBTAINED BY CONTRACTOR PURSUANT TO ARTICLE 16, BE COUNTED AGAINST THE LIMITATION OF LIABILITY SET FORTH IN THIS SECTION 21.1.

21.2 LIMITATION ON CONSEQUENTIAL, PUNITIVE AND OTHER DAMAGES. NOTWITHSTANDING ANY OTHER PROVISIONS OF THIS AGREEMENT TO THE CONTRARY, NEITHER OWNER NOR THE COMMON FACILITIES OWNER, NOR CONTRACTOR, SHALL BE LIABLE TO THE OTHER (OR TO ANY OTHER PERSON CLAIMING THROUGH THEM OR UNDER THIS AGREEMENT) PURSUANT TO THIS AGREEMENT OR UNDER ANY CAUSE OF ACTION RELATED TO THE SUBJECT MATTER OF THIS AGREEMENT, WHETHER IN CONTRACT, TORT (INCLUDING NEGLIGENCE), STRICT LIABILITY, PRODUCTS LIABILITY, PROFESSIONAL LIABILITY, INDEMNITY, CONTRIBUTION, OR ANY OTHER CAUSE OF ACTION FOR (A) SPECIAL, INDIRECT, INCIDENTAL, PUNITIVE OR CONSEQUENTIAL LOSSES OR DAMAGES; OR (B) LOSS OF PROFITS, LOSS OF USE, LOSS OF PRODUCT, LOSS OF PRODUCTIVITY, LOSS OF OPPORTUNITY, LOSS OF REVENUES, LOSS OR COST OF OBTAINING OR MAINTAINING FINANCING, COST OF CAPITAL, LOSS OF OR REDUCTION IN BONDING CAPACITY, LOSS OF GOODWILL, BUSINESS INTERRUPTION OR CLAIMS BY OWNER'S CUSTOMERS, WHETHER OR NOT ANY OF THE FOREGOING ARE CONSIDERED OR CLASSIFIED AS DIRECT, SPECIAL, INDIRECT, INCIDENTAL OR CONSEQUENTIAL DAMAGES, AND OWNER, THE COMMON FACILITIES OWNER AND CONTRACTOR ON BEHALF OF THEMSELVES AND ANY OTHER PERSON CLAIMING THROUGH THEM OR UNDER THIS AGREEMENT, HEREBY WAIVE AND RELEASE EACH OTHER FROM ALL SUCH LOSSES AND DAMAGES. THE WAIVER, RELEASE AND LIMITATION OF LIABILITY SET FORTH IN THIS SECTION 21.2 SHALL NOT APPLY TO THE DELAY LIQUIDATED DAMAGES SET OUT IN SECTION 4.3 OR THE PERFORMANCE LIQUIDATED DAMAGES SET OUT IN SECTION 5.2, OR, IF SUCH LIQUIDATED DAMAGES AMOUNTS ARE FOUND TO BE UNENFORCEABLE DUE TO A CHALLENGE BY CONTRACTOR OR CONTRACTOR'S GUARANTOR, TO ANY ACTUAL DAMAGES PAYABLE IN LIEU OF SUCH LIQUIDATED DAMAGES AMOUNTS. IF CONTRACTOR OR CONTRACTOR GUARANTOR SEEKS AN ORDER FROM A COURT OR A FINDING BY AN ARBITRATOR TO INVALIDATE OR REDUCE ANY OF THE LIQUIDATED DAMAGES AMOUNTS SET FORTH IN THIS AGREEMENT, CONTRACTOR SPECIFICALLY AGREES TO PAY OWNER ALL ACTUAL DAMAGES INCURRED BY OWNER IN CONNECTION WITH THE FAILURE TO ACHIEVE THE APPLICABLE GUARANTEED SUBSTANTIAL COMPLETION DATE OR GUARANTEED PERFORMANCE LEVELS, AS APPLICABLE; PROVIDED, THAT THE FOREGOING SHALL NOT LIMIT CONTRACTOR'S RIGHTS TO DISPUTE WHETHER OR NOT LIQUIDATED DAMAGES ARE ACTUALLY OWED. DAMAGES CLAIMED BY THIRD PARTIES (BUT NOT INCLUDING ANY OWNER INDEMNIFIED PARTIES OR CONTRACTOR INDEMNIFIED PARTIES) FOR WHICH CONTRACTOR OR OWNER HAVE A DUTY TO INDEMNIFY THE OTHER PARTY PURSUANT TO THIS

AGREEMENT, SHALL NOT BE SUBJECT TO THE LIMITATIONS SET FORTH IN THIS SECTION 21.2. THE LIMITATIONS SET FORTH IN THIS SECTION 21.2 SHALL APPLY TO ANY SUPPLIER THAT INCLUDES A SIMILAR WAIVER AND LIMITATION ON LIABILITY IN FAVOR OF OWNER IN THE SUPPLY CONTRACTS SUCH SUPPLIER ENTERS INTO WITH RESPECT TO THE WORK.

21.3 APPLICABILITY OF LIABILITY LIMITATIONS. EXCEPT TO THE EXTENT PROHIBITED BY APPLICABLE LAWS, OR AS OTHERWISE STATED IN THIS AGREEMENT TO THE CONTRARY, THE WAIVERS, RELEASES, EXCLUSIVE REMEDY PROVISIONS, DISCLAIMERS OF LIABILITY, LIMITATIONS AND APPORTIONMENTS OF LIABILITY SET FORTH IN THIS AGREEMENT SHALL APPLY EVEN IN THE EVENT OF THE NEGLIGENCE (WHETHER SOLE, JOINT OR CONCURRENT), GROSS NEGLIGENCE, WILLFUL MISCONDUCT, STRICT LIABILITY, BREACH OF DUTY (STATUTORY OR OTHERWISE), BREACH OF CONTRACT, VIOLATION OF LAW OR OTHER LEGAL FAULT OF THE PERSON WHOSE LIABILITY IS WAIVED, DISCLAIMED, LIMITED OR FIXED, A PRE-EXISTING DEFECT, OR ANY OTHER CAUSE WHATSOEVER, AND SHALL EXTEND TO A PARTY'S AFFILIATES AND ITS AND THEIR DIRECTORS, OFFICERS, EMPLOYEES AND AGENTS. [***].

21.4 EXCLUSIVE REMEDIES. IT IS THE INTENT OF THE PARTIES THAT TO THE EXTENT THAT THERE ARE SPECIFIC REMEDIES SET OUT IN THIS AGREEMENT THAT ARE IDENTIFIED AS THE SOLE AND EXCLUSIVE REMEDIES, SUCH REMEDIES SHALL BE THE SOLE AND EXCLUSIVE RIGHTS AND REMEDIES OF THE PARTIES FOR THE OBLIGATIONS AND LIABILITIES TO WHICH SUCH REMEDIES ARE EXPRESSLY STATED TO APPLY, NOTWITHSTANDING ANY OTHER REMEDIES THAT MAY OTHERWISE BE AVAILABLE AT LAW OR IN EQUITY. NOTWITHSTANDING THE FOREGOING, TO THE EXTENT THIS AGREEMENT DOES NOT SET FORTH A SPECIFIC REMEDY, THE PARTIES MAY EXERCISE ANY RIGHTS AND OBTAIN ANY REMEDIES AVAILABLE AT LAW OR IN EQUITY, OTHER THAN RESCISSION, AND EACH PARTY EXPRESSLY WAIVES ANY RIGHT OF RESCISSION THAT MAY OTHERWISE BE APPLICABLE.

ARTICLE 22

NOTICES

22.1 Address Information. Any notices and communications required or permitted to be given hereunder shall be sufficient in all respects if given in writing and delivered personally or sent by bonded overnight courier, or mailed by U.S. Express Mail or by certified or registered United States Mail with postage fully prepaid, or sent by facsimile transmission or other electronic transmission (provided that any such facsimile or other electronic transmission is confirmed either orally or by written confirmation), addressed to the appropriate Party at the address for such Party shown below or at other such address as such Party shall have designated by written notice delivered to the Party giving such notice:

If to Contractor:	Bechtel Oil, Gas and Chemicals, Inc. 3000 Post Oak Blvd. Houston, TX 77056 E-mail: [###]@bechtel.com Attn: Walker Kimball
With a copy to:	Bechtel Oil, Gas and Chemicals, Inc. 3000 Post Oak Blvd. Houston, TX 77056 E-mail: [###]@bechtel.com Attn: Manager of Legal
If to Owner:	Port Arthur LNG, LLC 1500 Post Oak Blvd., Suite 1000 Houston, TX 77056 E-mail: [###]@sempraglobal.com Attn: Karim El Kheiashy
With a copy to:	Sempra Energy LNG 488 8th Avenue San Diego, CA 92101 E-mail: [###]@sempraglobal.com Attn: Martin Hupka
If to Common Facilities Owner:	PALNG Common Facilities Company, LLC 1500 Post Oak Blvd., Suite 1000 Houston, TX 77056 E-mail: [###]@sempraglobal.com Attn: Karim El Kheiashy
With a copy to:	Sempra Energy LNG 488 8th Avenue San Diego, CA 92101 E-mail: [###]@sempraglobal.com Attn: Martin Hupka

Whenever any notice is required to be given by Applicable Laws or this Agreement, a written waiver thereof, signed by the Person entitled to notice, whether before or after the time stated therein, shall be deemed equivalent to the giving of such notice.

22.2 Deliveries of Notices; Revised Notice Information. Unless otherwise provided herein, any notice given in accordance with this Agreement shall be deemed to have been given: (a) when delivered to the addressee in person or by courier; (b) when transmitted by electronic transmission during normal business hours, or if not transmitted during normal business hours, at the commencement of normal business hours on the next Business Day; or (c) upon actual receipt by the addressee after such notice has either been delivered to an overnight courier or deposited in the United States Mail, as the case may be. A Party may change the address and address for electronic transmissions to which such communications are to be addressed, by giving written notice to the other Party in the manner provided in Section 22.1.

22.3 Routine/Technical Correspondence. Owner and Contractor shall establish channels of communication for routine and technical correspondence pursuant to Appendix S that do not comply with this Article 22. Notwithstanding establishment and use of such alternate channels of communication, any notices of an Event of Default, claims, Disputes and similar communication and correspondence shall not be effective unless and until delivered pursuant to and in accordance with this Article 22.

ARTICLE 23

MISCELLANEOUS

23.1 Entire Agreement. This Agreement, together with the Contractor Guarantee and the Direct Agreements, sets forth all of the understandings and agreements between the Parties solely with respect to the subject matter hereof and supersede all prior agreements, including the February 2020 Agreement, negotiations, understandings and representations, whether written or oral, between the Parties with respect to the subject matter hereof. Each Party represents and warrants to the other that it has not relied on any information or representations, express or implied, provided by the other Party or any promises made by the other than as expressly contained in this Agreement.

23.2 Amendments. This Agreement may not be amended, modified, varied or supplemented except by an instrument in writing signed by Owner and Contractor.

23.3 Waiver. Unless otherwise specifically indicated herein, any waiver, consent or acceptance or rejection of any kind or character by any Party of any term or condition set forth in this Agreement, or of any breach or default hereunder, shall be given or withheld in the sole and absolute discretion of the waiving, consenting, accepting or rejecting Party and all such waivers, consents, acceptances and rejections shall be in writing. No delay or omission to exercise any right, power or remedy accruing to any Party as the result of any breach or default hereunder shall impair any such right, power or remedy, nor shall it be construed to be a waiver of any such breach or default, or an acquiescence therein, or of or in any similar breach or default thereafter occurring, nor shall any waiver of any single breach or default be deemed or otherwise constitute a waiver of any other breach or default theretofore or thereafter occurring.

23.4 Effect of Review, Acceptance and Inspection. No acceptance or rejection of, inspection of or failure to inspect, review or non-review of, or rejection of or failure to reject, nor

any comments with respect to any of the Work by Owner pursuant to this Agreement shall relieve Contractor of any of its obligations, guarantees or warranties hereunder.

23.5 Governing Law. This Agreement shall be governed by, and construed in accordance with, the laws of the State of Texas, without giving effect to its principles of conflicts of laws. The United Nations Convention on Contracts for the International Sale of Goods shall not apply to this Agreement and shall be disclaimed in and excluded from any Supply Contracts entered into by Contractor in connection with the Work or the LNG Facility.

23.6 Severability. If any provision of this Agreement or the application thereof to any Party or circumstance is held invalid or unenforceable to any extent: (a) the remainder of this Agreement and the application of that provision to the other Party or other circumstances is not affected thereby; and (b) the Parties shall negotiate in good faith to replace that provision with a new provision that is valid and enforceable and that effects the intent of the Parties in such original provision.

23.7 Assignment and Assumption of Obligations.

23.7.1 Assignment. This Agreement may be assigned to other Persons only upon the prior written consent of the non-assigning Party hereto, except Owner may, upon notice to Contractor, assign this Agreement, in whole or part, to any of its Affiliates or any of its co-venturers or to any Person who acquires an ownership interest in Owner or the LNG Facility; provided, however, that if this Agreement is assigned in part to any Person, that Owner shall remain fully liable for the performance of Owner's obligations hereunder; provided, further, that if this Agreement is assigned in its entirety to any such Person, that such assignee provides Contractor with a statement signed by a duly authorized officer of such assignee confirming that such assignee has sufficient funds, which may be through financing, to fulfill its monetary obligations under this Agreement, and in either case, the assignment would not violate any Applicable Law. Furthermore, Owner may assign, pledge or grant a security interest in this Agreement and any form of security provided by Contractor hereunder, and all claims resulting from any failure of performance with any provision of this Agreement, to any Lender without Contractor's consent. When duly assigned in accordance with the foregoing, this Agreement shall be binding upon and shall inure to the benefit of the assignee; provided, that any assignment by Contractor pursuant to this Section 23.7 shall not relieve Contractor of any of its obligations or liabilities under this Agreement. Any assignment not in accordance with this Section 23.7 shall be void and without force or effect, and any attempt to assign this Agreement in violation of this provision shall grant the non-assigning Party the right, but not the obligation, to terminate this Agreement at its option for Default.

23.7.2 Successors and Assigns. This Agreement shall be binding upon and inure to the benefit of the Parties, their successor and permitted assigns.

23.8 Further Assurances. Contractor and Owner agree to provide such information, execute and deliver any such instruments and documents and to take such other actions as may be necessary or reasonably requested by the other Party that are not inconsistent with the provisions of this Agreement and that do not involve the assumptions of obligations greater than

those provided for in this Agreement, in order to give full effect to this Agreement and to carry out the intent of this Agreement. In addition, Contractor agrees to cooperate with any Lender: (a) to supply such information and documentation; (b) to grant such written consents to the assignment of this Agreement; (c) to execute such amendments to this Agreement as any Lender may require to the extent that the requested changes do not adversely affect the rights, obligations and liability limitations of Contractor hereunder and Contractor's entitlement to payment in accordance with this Agreement; and (d) to take such action or execute such documentation as any Lender shall reasonably require.

23.9 No Third Party Beneficiaries. This Agreement is entered into for the benefit of the Parties only, and except as may be specifically set forth herein, no other Person shall be entitled to enforce any provision hereof or otherwise be a third party beneficiary hereunder; provided, that the Lenders shall be third party beneficiaries of Section 2.29, Section 19.5 and Section 23.7. Nothing in this Agreement shall otherwise be construed to create any duty to, or standard of care with reference to, or any liability to, any Person other than a Party.

23.10 Excluded Interests. The execution of this Agreement shall not be deemed to convey any estate or legal title in the Site or the LNG Facility. Each Party expressly acknowledges that it has not relied on any representation or warranty of the other Party in relation to this Agreement except for any representation or warranty expressly set out or referred to in this Agreement; provided, that nothing in this Section 23.10 shall operate so as to exclude or prevent a claim for fraudulent misrepresentation.

23.11 No Advertising.

23.11.1 No Signage. Contractor shall have no right, without the express prior written consent of Owner, to erect or otherwise display any type of advertising upon or adjacent to the Site or the LNG Facility.

23.11.2 No Advertisements. Without Owner's express prior written consent, Contractor shall not publish or permit to be published or supplied to the press or other news media (excluding in-house magazines and speeches) any photographs of or information regarding the Work, including the award of this Agreement or Owner's business or business activities.

23.12 Survivability. All representations, warranties, covenants and agreements made herein shall be considered to have been relied upon by the Parties and shall survive the execution and delivery of this Agreement. Notwithstanding anything in this Agreement or implied by law to the contrary, each provision of this Agreement which by its nature is intended to survive the termination, cancellation, completion or expiration of this Agreement, including any express limitations of or releases from liability shall continue as a valid and enforceable obligation of the Party notwithstanding any such termination, cancellation, completion or expiration.

23.13 Ethical Business Considerations.

23.13.1 Obligations of the Parties. In connection with each Party's activities with respect to this Agreement, the LNG Facility and the Liquefaction Project, each of the Parties hereby agrees that:

(a) without limiting Section 13.1.7, such Party shall not enter into any business arrangement with any director, employee or agent of the other Party without prior written notification to such other Party;

(b) such Party shall comply with all Applicable Laws, and such Party has not and shall not engage in any activity that would cause such Party to be in violation of any Applicable Laws;

(c) such Party shall comply with the U.S. Foreign Corrupt Practices Act and all other applicable U.S. anti-bribery anti-money laundering, anti-terrorism and economic sanctions laws and regulations; these obligations include not making payments directly or indirectly that are prohibited by the U.S. Foreign Corrupt Practices Act and not dealing with Persons designated by the U.S. Department of Treasury as "specially designated nationals" or "blocked persons", or by the U.S. Department of State as "foreign terrorist organizations"; each Party covenants that neither it nor any of its Affiliates is or has been designated by the U.S. Government as "a specially designated national", "blocked person" or "foreign terrorist organization", or similarly designated by the United Nations;

(d) such Party represents and warrants that, as of the Effective Date, except by virtue of ownership of publicly-traded securities, no Government Official owns any interest in such Party, whether directly or indirectly through Affiliates, or has any right to any revenues or dividends or other distributions of such Party; no Party nor any of its direct or indirect parent companies shall assign or transfer any interest in such Party or such direct or indirect parent company or any right to any revenues or dividends or other distributions of such Party or such direct or indirect parent company to any Government Official, except as a consequence of such Government Official's purchase of publicly-traded securities; and

(e) such Party has not, nor shall such Party, pay or give, offer to pay or give, promise to pay or give, or authorize the payment of giving of, money or any other thing of value to:

(i) a Government Official; or

(ii) to any other Person while knowing, or being aware of a high probability, that all, or a portion, of such money or thing of value will be offered, given, or promised, directly or indirectly, to a Government Official, in violation of the U.S. Foreign Corrupt Practices Act or any Applicable Laws, or in order to influence an act or decision of a Government Official in his official capacity (including a decision to fail to perform his official functions) or cause a Government Official to influence an act or decision of a Governmental

Authority or instrumentality thereof for the purpose of assisting either Party to obtain or retain business.

23.13.2 Suppliers. If any Supplier or any Supplier's employees or agents violates the provisions of this Section 23.13, as it applies to such Supplier and its employees and agents pursuant to this Section 23.13.2, Contractor shall, if so required by Owner, terminate the relevant Subcontract with immediate effect and thereafter shall not permit or allow such Supplier or its Affiliates to perform any of the Work or any other services with respect to the Work, the LNG Facility or the Liquefaction Project after the date of termination. Contractor shall require, and shall require all Suppliers (excluding Affiliates of Contractor but including CIMTAS) to require, in all agreements in connection with the Work, their agreement to the provisions of this Section 23.13, including:

(a) that the Suppliers and its employees and agents shall comply with the provisions of Section 23.13.1 in relation to themselves;

(b) an express obligation to notify Contractor immediately of any such violation or of such Supplier's having reasonable grounds for suspecting that such violation has occurred; and

(c) if such violation has occurred:

(i) an express obligation to immediately reimburse Contractor, out of any and all monies paid to such Supplier, an amount equal to the amount of the payment or the value of the gift to a Government Official that gives rises to such violation, which amount Contractor agrees in turn to reimburse to Owner immediately on receipt;

(ii) an express obligation to reimburse each Owner Group member and Contractor for all reasonable legal and investigatory expenses directly incurred by it arising out of such violation; and

(iii) an express right in favor of Contractor to terminate the relevant Supply Contract effective upon notice, and thereafter Contractor shall not permit or allow such Supplier or its Affiliates to perform any of the Work or any other services with respect to the Work, the LNG Facility or the Liquefaction Project after the date of termination.

(d) Contractor shall notify Owner immediately on receipt of notification or otherwise becoming aware of any such violation.

23.13.3 Audit. A representative authorized by Owner (and, if such representative is a Third Party, subject to such Person entering into a mutually agreeable non-disclosure agreement with Contractor with customary terms covering such Books and Records of Contractor and its Suppliers, as applicable) may, subject to any applicable data privacy laws and the attorney-client privilege or work product privilege (as defined by Texas rules of civil procedure rule 192.5) and upon reasonable notice, audit relevant Books and Records of Contractor and any Supplier related to the Work and all transactions or matters related to this

Agreement or any Supply Contract for the purpose of determining compliance with this Section 23.13; provided, that such audits shall not be conducted with respect to Contractor or a given Supplier more than once in a six (6) Month period.

23.14 Counterpart Execution. This Agreement may be executed in any number of counterparts and each such counterpart shall be deemed an original Agreement for all purposes. A signature delivered by facsimile or other electronic means shall be deemed to be an original signature for purposes of this Agreement.

23.15 Expenses. Each Party shall be responsible for and bear all of its own costs and expenses incurred in connection with the preparation and negotiation of this Agreement.

23.16 Relationship of Parties. The rights, duties, obligations and liabilities of the Parties under this Agreement shall be individual, not joint or collective. It is not the intention of the Parties to create, nor shall this Agreement be deemed or construed to create, a partnership, joint venture or other association or a trust. This Agreement shall not be deemed or construed to authorize any Party to act as an agent or employee for the other Party for any purpose whatsoever except as explicitly set forth in this Agreement. In their relations with each other under this Agreement, the Parties shall not be considered fiduciaries.

23.17 Drafting. Each provision of this Agreement shall be construed with the recognition that both Parties participated in the drafting of the same. Thus, any rule of construction that requires this Agreement to be construed against the drafting Party shall not be applicable.

[*Remainder of page intentionally left blank*]

IN WITNESS WHEREOF, the Parties have caused this Agreement to be executed by their duly authorized officers as of the date and year first above written.

OWNER:
PORT ARTHUR LNG, LLC

By: /s/ Lisa Glatch
Name: Lisa Glatch
Title: President and Chief Operating Officer

CONTRACTOR:
BECHTEL OIL, GAS AND CHEMICALS, INC.

By: /s/ Bhupesh Thakkar
Name: Bhupesh Thakkar
Title: Senior Vice President

And only for the purposes of Sections 4.3.2(d), 5.2.2(c), 10.6, 11.1, 11.3.2, 12.2, 13.2, 14.2, 15.1.2(f) and 15.3, the opening paragraph of Article 20, Article 21, and the waivers and releases, disclaimers of liability, and limitations and apportionments of liability set forth herein:

COMMON FACILITIES OWNER:
PALNG COMMON FACILITIES COMPANY, LLC

By: /s/ Lisa Glatch
Name: Lisa Glatch
Title: President and Chief Operating Officer

APPENDIX A

SCOPE OF WORK

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APPENDIX A

SCOPE OF WORK

1.0 INTRODUCTION

This Appendix A is the Scope of Work referenced in the Agreement. This Appendix A is comprised of this main document, all referenced documents, and includes all of the attachments to this Appendix A, which are hereby incorporated by reference. Capitalized terms used but not defined in this Appendix A have the meanings given to those terms in the Agreement. Acronyms, terms and symbols have the meaning set forth in Appendix K to the Agreement.

Prior to the Full Notice to Proceed, during the EDSA (Engineering Design Services Agreement) Contractor performed certain front-end engineering design work under the EDSA. The related Deliverables generated by the Contractor under the EDSA are listed in the master document index included as Attachment A-3. The Contractor shall progress the engineering and design for the LNG Facility as per the design requirements listed in the Basis of Design, design criteria,

Specifications, Drawings, engineering calculations supporting the design, plans and ancillary documents that establish the scope of the LNG Facility and associated facilities that are to be further engineered (detailed design) and constructed in accordance with the Agreement and this Appendix A.

Any changes to the documents issued under the EDSA, as listed in Attachment A-3, shall be considered part of the engineering and design progression of the Work and are included in the Scope of Work of the Contractor.

Contractor shall complete all aspects of the LNG Facility design, including any that was not completed under the EDSA or the SWSA. In the performance of the Work, Contractor may modify certain aspects of the Deliverables as necessary to meet the requirements of the Agreement subject to Contractor's compliance with the requirements in Sections 2.4.6 and 2.25.4 of the Agreement. Notwithstanding, Contractor shall not make modifications that would adversely impact the safety or operability of the LNG Facility.

Contractor shall perform all engineering and design required to meet its obligation under the Agreement. This includes engineered Drawings, data sheets, associated engineering documents, procurement inspections, expediting, testing for all the systems, and commissioning.

2.0 LIQUEFACTION PROJECT OVERVIEW

The Port Arthur LNG Facility is to be located on a tract of land owned by Port Arthur LNG, LLC on the Sabine-Neches Waterway.

Feed gas for liquefaction will be supplied through a high-pressure feed line with pipeline quality gas in accordance with Basis of Design.

2.1 THE LNG FACILITY

The LNG Facility, will include two (2) identical LNG Trains each capable of producing a loaded capacity of 5.84 million tonnes per annum (MTPA) (6.195 MTPA net in LNG Tank), two (2) full

containment 160,000 m^3 LNG Tanks, one (1) marine LNG carrier Berth with associated loading facilities, NGL extraction, storage and delivery facilities, piping and infrastructure, utilities, and all other facilities.

More specifically, the LNG Facility shall consist of the systems and facilities outlined below. The LNG Facility description and design requirements are as set forth in the Basis of Design, Appendix B to the Agreement:

- Process Facilities separate for each LNG Train
  - Inlet Gas Receiving
  - Mercury Removal
  - Acid Gas Removal Unit (AGRU)
  - Gas Dehydration
  - NGL Extraction / condensate stabilization
  - Liquefaction (MR and Propane Refrigeration and End Flash Gas System)
- Process Facilities Common for both LNG Trains
  - Ground and Marine Flare Systems
  - LNG Storage and Loading
  - Condensate Storage and truck loading
  - Refrigerant Unloading and storage
  - Boil-off Gas System
  - Start-up Fuel Gas System
  - Amine Storage
  - Feed gas distribution pipelines including takeoffs to both LNG trains.
- Utilities and Support Facilities Separate for each LNG Train
  - Amine drains
  - Hot oil system
  - Waste Heat Recovery Unit (WHRU)
  - Fuel gas system
  - Defrost gas system
  - H2S scavenger beds
  - Thermal oxidizer system
  - Utility cooling (Tempered Water)
  - ISBL powerhouses and analyzer shelters

- Utilities and Support Facilities Common for both LNG Trains
  - Utility and Instrument Air
  - Nitrogen system
  - Fresh Water (Potable) System
  - Demineralized Water System
  - Firewater System
  - Spill containment system for each LNG Train into a common containment sump
  - Fire and gas detection system
  - Wastewater Collection and Disposal
  - Stormwater Collection and Disposal
  - Sanitary Sewer System
  - Marine Facilities
    - Ø LNG Loading Berth and Access Trestle
    - Ø LNG Berth Shore protection and navigational aids
    - Ø Ship Turning Basin and Berthing Pocket
    - Ø Material Off-Loading Facility (MOF)
    - Ø Pioneer Docks
    - Ø Pre-turnover dredging of shoaling and maintenance dredging
  - OSBL Powerhouses, GIS Substation and Analyzer Shelters
  - Other plant infrastructure such as plant roads, berm, fencing, gates etc.
  - LNG impoundment basins
  - Essential power generation system
  - Security, control, and telecommunication (including communication tower) systems
- Permanent Plant Buildings
  - Jetty control building (South)
  - Main control building
  - Administration and Maintenance shop
  - Emergency response / first aid building
  - Laboratory building
  - Entrance guardhouses (North and South)
  - Hazardous chemical storage building
  - Prefabricated Electrical powerhouses with the instrument I/O rooms

  - Prefabricated main substation
  - Prefabricated Analyzer Shelters
- On-Site Roads
  - Heavy haul road (inclusive of Oilfield Rd. bridge crossing)
  - Primary and access roads within the LNG Facility
- Storm protection perimeter Berm
- Fencing
  - Perimeter security fence
  - Permanent fencing
- Entergy substation pad and access road
- Nitrogen metering station support structure
- Future Train 3 & 4 pre-investment as defined herein

3.0 KEY PROJECT DOCUMENTS

The Work is governed by the Agreement, including this Appendix A and its attachments hereto, and the Basis of Design as set forth in Appendix B.

The Scope of Work in this Appendix A shall be executed in accordance with the plans set forth and referenced in the Project Execution Plan, Appendix W to the Agreement.

Document numbering shall be in accordance with the requirements in Attachment U-1 to Appendix U to the Agreement and in the Document Management Plan as referenced in Appendix W to the Agreement.

4.0 ENGINEERING

This section outlines Contractor's engineering Scope of Work under the Agreement.

4.1 PROCESS ENGINEERING

As part of the process engineering Scope of Work, Contractor shall develop and/or progress Drawings, calculations, datasheets, and other associated engineering documents in order to bring them to their final issue status in accordance to Attachment A-1.

The following documents listed in Attachment A-3 shall be reissued if there is a scope change or a Defect that requires it:

- Process Basis of Design;
- Process and utility flow diagrams;
- Heat and material balances for all design cases;

- Material selection diagrams;
- Process datasheets for Equipment
- Steady state process models;

The following documents will be issued per Attachment A-1.

- Utility summaries
- Datasheets for instruments including all control valves, safety valves, on/off valves, RO, flow meter, analyzers, etc.
- Piping and instrumentation diagrams
- Flare Load Summary
- Design calculations and development of:
  - System hydraulics;
  - Surge analysis;
  - Line sizing;
  - Sizing of the relief system, including relief valves;
  - Insulation system for cryogenic services, material selection, thickness;
  - First fill volume for refrigerant, hot oil, amine;
  - Emergency depressurization calculations;
- Cause and effect diagrams (CED)
- HAZOP and LOPA for vendor packages
- Lists:
  - Equipment list
  - Line designation tables (LDTs);
  - Line Case Summaries (LCSs);
  - List of chemicals & catalysts

4.1.1 Process Design Documents

Attachment A-1 lists the required process design documents and Contractor design Deliverables. Contractor has developed process and mechanical data sheets for Equipment under the EDSA which shall be deemed incorporated herein, as listed in Attachment A-3. Any updates to the process design shall be marked on a new revision of the existing datasheets and other documents in accordance with the final version of the Heat & Material Balances for the various operating cases.

4.1.2 Equipment List

Contractor shall maintain and issue a sized Equipment list, inclusive of Equipment weights, based upon the final Equipment design.

4.1.3 Process Flow Diagrams (PFD) and Utility Flow Diagrams (UFD)

Contractor shall update and maintain the Process Flow Diagrams and Utility Flow Diagrams as required during the performance of the Work until the Substantial Completion Date of Stage II.

4.1.4 Process and Utility Summaries

Contractor shall maintain the process utility and emissions summaries during the performance of the Work until the Substantial Completion Date of Stage II.

4.1.5 Piping and Instrumentation Diagrams (P&IDs)

Contractor shall develop and maintain all P&IDs, including all utility, auxiliary, interconnecting P&IDs, through commissioning and start-up of each Stage and until the Substantial Completion Date of Stage II.

P&IDs shall comply with the requirements of 49 CFR 193 and NFPA 59A.

HAZOP and LOPA reviews have been completed in the EDSA and recommendations resulting from those reviews have been implemented into the design of the LNG Facility. Any changes to the P&IDs shall be managed under management of change protocol and an MOC HAZOP performed, where required by the procedure.

Contractor shall redraw P&IDs provided by Vendors using AutoCAD after the Vendors' final submittal of P&IDs so that a full set of P&IDs for the LNG Facility are available using common symbology.

4.1.6 Line Lists

Contractor has developed LDTs for all lines shown on the Contractor developed P&IDs as listed in Attachment A-3. Line calculation summaries will be used by Contractor in determining the final line sizes on the LDTs and shall provide information for instrumentation and pipe stress calculations. The final line size will be documented in the LDTs during the detailed engineering phase in accordance with Contractor's process design guidelines, and Contractor's heat and material balances. Updates to the LDTs shall be made for subsequent revisions of P&IDs.

4.1.7 Simulation

Contractor shall utilize Equipment Supplier data to develop a dynamic simulation model, as further detailed in Appendix B and the Specifications, for the main units of the LNG Facility, and shall utilize these models to confirm the control philosophy of major Equipment including the anti-surge control system of the compressors, MCHE operation, and mitigation of the relief

scenarios and flare loads. Contractor shall include control logic and details for such Equipment included in the design. Contractor shall also use the dynamic simulation model to demonstrate that during the transient scenarios, the design temperatures and pressures of such Equipment will not be exceeded.

Contractor shall make the latest version of the dynamic and steady simulation models available to Owner.

4.1.8 Relief Valves and Flare System Design

Contractor shall develop potential flaring scenarios and determine the relief loads as per the Relief Design Basis in Appendix B.

Contractor shall generate a hydraulic model of each flare system.

4.1.9 Flare Relief and Liquid Disposal System

The flare will be designed as a multi-point ground flare system. The ground flare will be designed in a [***] configuration. Each [***] flare cell will contain a wet flare and dry flare runners. A radiation fence will be provided to separate each flare cell.

4.1.10 Marine Flare System

Contractor shall provide a marine flare system for the purpose of collecting and processing the boil-off gas from the LNG Tanks and return vapor from the LNG loading facilities, which will include the vapor return from ship loading operations and also the gas-up and warm ship cooldown operations on the south Berth.

4.1.11 Nitrogen Supply System

4.1.11.1 Primary Supply

Gaseous nitrogen will be imported through a pipeline routed adjacent to the Site. A metering station for the imported nitrogen will be located on a skid placed on top of a raised platform outside of the perimeter fence around the LNG Facility.

Contractor shall interface with the third-party supplier, Air Liquide, throughout the design, construction, and commissioning phases. Contractor shall also be responsible for construction of the raised platform, procurement and installation of permanent fencing around the nitrogen metering station, and the design, procurement and construction of the nitrogen distribution system, including pressure let down regulator station, and connection to the interface point, which is the metering station check valve outlet.

Contractor shall provide the nitrogen supplier, Air Liquide, with access to the raised platform for metering station construction, routine check-ups and maintenance of instruments and valves located on the skid.

4.1.11.2 Back-up Supply

Back-up nitrogen Equipment, consisting of two (2) leased liquid nitrogen dewars and associated vaporizers inside the utilities area, shall be provided by Airgas, an Air Liquide company, for use when gaseous nitrogen may not be available from the pipeline, under a lease and maintenance agreement with Contractor. The lease shall be assigned to Owner upon Substantial Completion of Stage I.

The lease agreement shall include the supply of liquid nitrogen dewars and associated vaporizers in accordance with the requirements defined in Appendix B. For clarity, Contractor shall be responsible for the installation of the leased liquid nitrogen Equipment, commissioning and startup in accordance with Appendix W.

4.1.12 Demineralized Water System

Contractor shall engage a Supplier to provide a leased demineralized water system in accordance with the requirements defined in Appendix B. The lease shall be assigned to Owner upon Substantial Completion of Stage I.

For clarity, Contractor shall be responsible for the design, lease, installation and construction of the demineralized water system, including connection to the interface point. Contractor shall also be responsible for the commissioning and start-up in accordance with Appendix W.

4.1.13 High Feed Gas Nitrogen Study Implementation

Contractor shall implement the additional work recommended in the High Feed Gas Nitrogen Study PAL-PJT-PRO-RPT-00-GEN-0011 (26196-100-M0R-1TDK-00011) conducted during the EDSA as follows:

- Inclusion of the high nitrogen feed gas defined in PAL-PJT-PRO-RPT-00-GEN-0011 as an additional case for gas turbine fuel variability, without change to the design and rating cases defined in the Process Design Basis (PAL-PJT-PRO-BOD-00-GEN-0002)

- Update the Baker-Hughes gas turbine data sheet for the additional fuel gas composition defined in PAL-PJT-PRO-RPT-00-GEN-0011

- Further assessment by Baker-Hughes with a study report defining any required changes to the instrumentation, controls, etc. (implementation of any recommendations resulting from such study report are not included in the Work)

- Definition of the required operational adjustments required to manage this infrequent, short-term event

4.2 ROTATING AND PACKAGED EQUIPMENT

Contractor shall be responsible for the engineering and procurement of all rotating Equipment for the facility and shall conduct reviews for packaged Equipment details provided by Equipment Suppliers. This includes progression and finalization of datasheets, material requisitions, bid evaluation and review of vendor engineering documents and Drawings. Contractor's responsibilities also include the inspections, expediting, testing (per Appendices T-1 and T-2), and the installation and commissioning of such Equipment packages.

4.2.1 General Requirements

Rotating and packaged Equipment shall be capable of unattended outdoor operation (unless indoor installation is required by design), and shall be engineered, designed, fabricated, inspected, tested and delivered in accordance with the Agreement.

All Equipment and materials for construction shall meet the applicable Specifications and suitably designed for its intended electrical area location and hazardous area classifications.

Rotating and packaged Equipment shall be pre-assembled, pre-piped and pre-wired skid mounted units, to the extent possible. All necessary interconnecting piping, interconnecting wiring, cabinets, loose materials and hook-up valves / piping shall be supplied with the packaged units or by Contractor to provide the complete unit assembly. Equipment and skids shall be appropriately designed and packaged for conditions customarily encountered during shipping and handling.

Suppliers shall conduct special studies for Equipment, such as finite element analysis and computational fluid dynamics, etc., where required by Contractor or recommended by the Supplier. Contractor shall work with the Equipment Suppliers to identify the specific testing requirements, obtain recommendations for lubricants to be used, and identify spare parts required for the continuous operation for the life of the Equipment package.

The following packages are being supplied with ABB motor rotor removal tool for removal of the rotor in a maintenance shop, but permanent structure or means will not be provided for the motor rotor removal in the field.

- EFG compressor
- BOG compressor
- Booster compressor

4.2.2 Refrigeration Compression Trains

Baker Hughes, (BH) has been selected as the Supplier for the propane, HP MR, LP MR, & MP MR refrigeration compression trains. [***].

Contractor shall be responsible for the procurement (manufacture), proper design, inspection, testing, supply, installation, preservation, site testing and performance of such Equipment, as well as, the interface with the LNG Facility integrated control and safety system (ICSS).

4.3 VESSELS, TANKS & COLUMNS

All vessels, tanks, columns and towers shall be designed, fabricated, inspected, tested, and installed, in compliance with the requirements specified on the engineering Drawings, mechanical data sheets, Specifications, and Applicable Codes and Standards.

Contractor, and selected Vendors, shall be responsible for supplying and installing all appurtenances including nozzles, man-ways, davits and/or hinges, ladders and platforms as required for the vessels, tanks, columns and towers.

All shop fabricated vessels, tanks, columns and towers shall be pressure tested at the fabrication facilities and painted in accordance with the specifications provided prior to release from the Supplier's facilities. All Equipment shall be packaged in accordance with the mode of transportation and adequately protected for shipping and transportation prior to release from the Supplier's facilities and preservation procedures implemented for field storage and after installation prior to operation and referenced in Appendix B.

Contractor shall issue the required Drawings and specifications for erection, inspection, testing, external painting and internal lining if applicable.

4.4 LNG TANKS

Contractor shall perform all engineering activities required for the design of full containment LNG Tanks to meet its obligation under the Agreement. This includes development of engineering Drawings and supporting calculations, data sheets, procurement documentation, inspections / testing / expediting reports and schedules for Factory and Site Acceptance Tests (FAT / SAT).

The Contractor shall also be responsible for the development of documentation required for the testing, pre-commissioning, commissioning and cooldown of the LNG Tank(s) and associated piping systems in accordance with the Specifications in Appendix B.

Contractor shall be responsible for sourcing water of adequate quantity and quality for hydro-testing and disposal purposes in compliance with the applicable regulatory requirements.

Each LNG Tank shall include three (3) in-tank pumps and one (1) spare pump column, in accordance with Specification for LNG Tanks as shown in Appendix B. The LNG Tank scope does not include logos or elevators.

4.5 HEAT EXCHANGERS

The Work includes preparation of data sheets, material requisitions, bid evaluation and review of Supplier engineering documents and Drawings for the heat exchangers.

The liquefaction unit is designed around the Main Cryogenic Heat Exchanger (MCHE), which is designed and fabricated by Air Products and Chemicals, Inc. (APCI). Contractor shall coordinate activities with APCI for the design reviews and testing of the MCHE. In addition to the above, the Contractor shall also be responsible for the interface, coordination, transportation, installation, and insulation of the MCHE. The initial pre-cooldown and final cooldown of the MCHE shall be conducted by the Contractor in conjunction with the APCI start-up representatives in accordance with Appendix W.

The engineering, design and fabrication of shell and tube, brazed aluminum and air-cooled heat exchangers shall be in accordance with the relevant project Specifications and Applicable Codes and Standards.

Contractor shall verify and confirm the thermal and mechanical design of each piece of equipment with the responsible Supplier of each shell and tube heat exchanger, which shall include a vibration analysis.

Contractor shall review electric heaters and heater system designs from the applicable Suppliers to confirm the thermal and mechanical designs. Additionally, functional testing of the local control system will also be required. All electrical Drawings and wiring diagrams are to be submitted by the applicable Suppliers to Contractor for review and approval.

Brazed aluminum core exchangers are provided with aluminum flanges. Insulation block made from Micarta or Owner approved equivalent shall be used to insulate core from structural steel. Contractor shall verify that the design conditions shown on the applicable Supplier’s data sheet are in accordance with the process data for each stream. The brazed aluminum heat exchanger is to be built in accordance with ALPEMA requirements.

The fuel gas heater designs, as submitted by the applicable Supplier, shall be checked for process condition accuracy. Contractor is responsible for all Drawings from the applicable Supplier, including controls schematic and power supply.

All anchor bolts required for the installation of the heat exchangers shall be sized by Contractor to safely handle weight, pullout, thermal, seismic and wind loadings and any other applied loads. The required bolts are to be provided by Contractor.

4.6 Truck loading, Unloading, and Weigh Stations

Contractor shall design, procure, install and commission the unloading station for incoming propane, ethane, diesel fuel, liquid nitrogen, hot oil, and amine delivered by truck.

Contractor shall design, procure, install and commission the loading station for outgoing condensate (C5+) and process waste water to be removed by truck.

Contractor shall also design, procure, install and commission the weigh stations for the applicable trucks entering and leaving the LNG Facility as described above and for other deliveries of consumables. Contractor shall include all hardware and software required to collect

and archive historical data of the weigh system, including a printer to issue loading/unloading tickets to the trucks at an outdoor workstation that interfaces with scale. Scales shall be inspected and certified by the Department of Agriculture. See also Section 4.10.22.14 of this Appendix A.

Contractor shall specify requirements for hose connection sizes and types, grounding, spill protection, containment, and all required safety and environmental measures for loading and unloading stations.

Minimum horizontal distances from any trucks to the property line and to adjacent facilities inside the property line shall be in accordance with NFPA 30. Sufficient room shall be provided for trucks with a capacity up to 8,000 gallons in the loading/unloading area to turn around without having to back-up and obstruct other traffic.

A safety barrier (bollards) shall be provided between the storage tanks and the truck loading/unloading area where required.

4.7 Design Elements

4.7.1 Welding

Contractor shall develop Liquefaction Project welding Specifications and procedures which shall cover shop and Site fabrication in accordance with Attachment A-1 and Appendix U. The Specifications and procedures shall include key performance indicators for shop and Site welding.

All welding and weld inspections shall be performed and shall meet the requirements of such welding Specifications and procedures.

4.7.2 Chemical Cleaning

Contractor shall identify the extent of chemical cleaning to be carried out for each Stage and perform all such chemical cleaning. Contractor shall prepare a chemical cleaning procedure for each application defining the following:

- Fluids to be used for cleaning
- Operating conditions that must be achieved during the cleaning process
- Duration of the cleaning process
- Acceptance criteria
- Disposal of the cleaning fluids
- Safety and environmental precautions to be implemented

4.7.3 Cathodic Protection (CP)

As part of the Work, Contractor shall develop details of the cathodic protection system, specifying the type of system to be installed for specific locations in the LNG Facility. The

cathodic protection system shall protect external surfaces of marine steel piles and sheet piling (in the immersion zone), underground CS or SS piping, Equipment, tanks, which contain water as described in the Specification for Cathodic Protection referenced in Appendix B.

Contractor shall also be responsible for the supply and installation of the cathodic protection system including all insulation flange/gasket sets and/or pipe isolation joints necessary to electrically separate the underground portions from the above ground facilities. Details of these components and applied coating shall also be provided to Owner.

4.7.4 Positive Material Identification

Contractor shall implement a program as required per the Specification for "Positive Material Identification (PMI)" and is listed in Appendix B.

4.7.5 Material Certification

Contractor shall ensure that where required, Equipment, bulk piping, bulk steel, and other applicable materials are supplied with material certifications, including third party certificates, to meet the quality assurance and quality control (QA/QC) requirements in accordance with Appendix R. Such material certifications shall include documented traceability per the Specification for "Material Traceability for Hydrocarbon Services" referenced in Appendix B. Where required, Equipment and pressure components shall be certified in accordance with ASME codes, and non-pressure components and piping shall be certified in accordance with ASTM codes.

4.7.6 Noise

Contractor shall design and build the LNG Facility to satisfy the noise requirements in Appendix B and Appendix G.

Where noise control measures (e.g. silencers, acoustic insulation) are required, to meet the Specification set forth in Appendix B, Contractor shall include noise control measures in the design and in the Supplier purchase requirements (as applicable).

4.7.7 Acoustically/Flow Induced Vibration

Contractor shall prepare a vibration study to assess anticipated flow induced or acoustically induced vibration, and deliver a report documenting the results of this assessment and associated calculations.

4.7.8 Painting, Coating and Galvanizing

Equipment and piping shall be supplied, painted and coated in accordance with the procedures set forth in Appendix B. Contractor shall follow the color requirement for the finish coat of the LNG Facility in accordance with the "Project Specification for Protective Coatings (Paint)" 26196-100-3PS-NX00-00001 (PAL-PJT-MET-STD-00-GEN-0022) referenced in Appendix B. Bulk piping materials shall be color coded in accordance with the "Project Specification for

Piping Material Color Code" 26196-100-3PS-PB00-00003 (PAL-PJT-PIP-STD-00-GEN-0023) referenced in Appendix B.

Structural steel shall be supplied with hot dipped galvanized protection in accordance with the procedures set forth in Appendix B. The Specification for galvanized steel shall also govern the repair procedures to be used for structural steel.

4.7.9 Insulation and Fireproofing

Contractor shall design all piping, Equipment and structural steel requiring insulation / fireproofing to be insulated and/or fireproofed in accordance with the Specifications listed in Appendix B. Equipment and piping shall be supplied with insulation vertical support rings, and/or fireproofing clips. Insulation and fireproofing material shall be supplied and installed by Contractor, its Suppliers, or at the module yard. Contractor's Drawings shall clearly indicate the type, thickness and extent of insulation and fireproofing.

4.8 PIPING

Contractor shall engineer, design, procure, fabricate, install, test (e.g. pneumatic, hydro, service, etc) and commission all piping systems in accordance with the P&IDs, Specifications, and Applicable Codes and Standards. Contractor shall ensure Owner requirements as specified in Appendix B are incorporated into the final design.

Pneumatic test requirements supported by test packs shall identify stored energy classification. Closure weld requirement and acceptance criteria shall be identified.

Contactor shall specify the default valve selection for cryogenic services as per Appendix B. Owner approved valve substitutions shall be indicated on the P&IDs.

Contractor to provide space in the liquefaction train piperack for a rundown line from future Train 4, associated cool-down line and a BOG return line to Train 4, and ensure rack is designed for the additional load of these lines.

Contractor to design the OSBL East/West piperack to accommodate the later addition of the piping, cable trays, etc. up to an agreed elevation for the Train 3 addition.

Contractor to accommodate the future Trains 3 & 4 by sizing the BOG suction and discharge lines and the instrument air and potable water headers for the future additions.

4.8.1 Piping Isometric Drawings

Contractor shall produce dimensioned isometric Drawings of all piping systems, regardless of pipe size, except where a Vendor does not provide isometric drawings for a piping system. Isometric Drawings shall be identified by the corresponding line number on the P&IDs. Each isometric drawing, including the fabricated spool isometrics shall also contain the complete Bill of Material (BOM) for the Drawing.

4.8.2 Piping Plot Plans

Contractor shall be responsible for the definition and location of Equipment on plot plans through detailed design. If required, the Contractor shall further sub-divide and create additional plot plan drawings at smaller scales. Contractor shall indicate all Equipment, structures, pipe racks, sleeper-ways, accessways, maintenance envelopes, building outlines, marine facilities, jetties, roads, detention ponds, impoundments, drainage ditches, and other major civil features such that the safe construction, operation and maintenance of the LNG Facility can be adequately demonstrated.

Contractor shall consider the Equipment spacing and location for personnel safety while maintaining access ways for proper operation and maintenance of the LNG Facility. Equipment that produces regulated emissions, Equipment that impacts vapor dispersion, spill containment trenches and impoundment basins/containment areas may not be relocated without written authorization from Owner.

4.8.3 Piping 3D Model

Contractor shall develop a scaled 3-dimensional model of the LNG Facility to demonstrate to Owner an acceptable plant layout. The model will be reviewed by Owner at the following specific review gates: 30% design, 50% design, and 90% design. Model reviews will be conducted in accordance with Contractor's procedure for 3D Model Reviews (PAL-PJT-PMT-PRO-00-GEN-0004) as provided to Owner.

Contractor shall establish and maintain a method of tracking Owner comments. Contractor shall close Owner comments by incorporation into final design and obtaining Owner approval through tag review and sign-off of comments by Owner.

The 3D model shall represent all plant equipment, structural steel, concrete, piping, instruments (off-line and in-line), electrical equipment, cable trays, buildings and roads. Sufficient detail is required to indicate adequate clearances exist to safely construct, operate and maintain the LNG Facility in accordance with the "Plant Design and Layout Criteria" in Appendix B. Additionally, Contractor shall conduct interference checks against the 3D model so that final Issued for Construction (IFC) designs are clash free and compliant with minimum clearance requirements.

Contractor shall request that the Vendors of packaged Equipment, compressor and ground flare supply 3D model geometry for all such Equipment. Any such Vendor-supplied 3D model geometry shall be incorporated into the Liquefaction Project 3D Model viewer for the LNG Facility. In the event that a Vendor does not provide the 3D model geometry, Contractor shall recreate such 3D Model geometry directly into S3D geometry (without intelligent attributes attached) that includes piping tie in locations for the LNG Facility.

4.8.4 Piping Supports

Contractor shall be responsible for development of standard and custom engineered pipe supports that will be incorporated into the design of the LNG Facility.

Contractor shall provide pipe supports in accordance with the project standards and Specifications.

4.8.5 Piping Stress Analysis

Contractor is responsible for the mechanical integrity for all piping systems. Contractor shall include in the design of the LNG Facility the effects of loads imposed by all piping components, pressure testing, dynamic and transient effects, and thermal displacement to prevent transmission of excessive movements and forces to Equipment connections and structures.

Contractor shall provide piping systems with sufficient flexibility covering all ranges of operating and design conditions to prevent transmission of excessive loads and forces onto Equipment and structures. Flexibility shall be achieved through pipe routing with flexible fittings (e.g. 90º ells) rather than specifying expansion joints.

Contractor shall follow piping flexibility and stress analysis criteria in accordance with “Stress and Support Design Criteria” as described in Attachment B.

4.8.6 Piping Material Control

Contractor shall utilize an electronic system for the purchase, expediting, control, reporting, inventory, material tracking, and logistics evaluation of the piping bulk materials. The system shall have the capability of importing data from the 3D model.

Contractor shall create material requisitions from the electronic system and procure all pipe, fittings, flanges, valves, supports, specialty items and bolts and gaskets required to fabricate and install all piping systems for the LNG Facility. Reports from the system shall identify overall bulk material requirements which can be disseminated into construction areas and required onsite dates. All piping bulk materials shall comply with the piping class Specifications.

4.8.7 Ergonomic Design

Contractor shall perform multiple 3D Model reviews for the LNG Facility, to ensure that adequate access is provided for the safe operation and maintenance of all Equipment in accordance with the “Plant Design and Layout Criteria” in Appendix B. Items to be considered in these reviews shall include the following:

- Stairs / ladders needed for accessing Equipment and instrumentation.
- Valve manoeuvring space (distance and height from the valve);
- Clearances around Equipment for maintenance activities;
- Platforms needed for operation and maintenance of Equipment;
- Access for maintenance Equipment, such as cranes, fork-lifts, welding machines (based on the maintenance envelope);
- Provision of adequate lighting around Equipment, including Instrumentation; and

- Permanent access to maintain critical instrumentation, such as permanent access to valve stations, positioners and solenoids of critical service control valves, emergency shutdown valves (ESDVs), blowdown valves (BDVs), anti-surge valves, and any instrumentation critical to the operation and safety of the LNG Trains.

Human Factors Engineering (HFE) requirements are limited to the criteria set forth in the "Plant Design and Layout Criteria" referenced in Appendix B, with the exception of the ergonomics study to be performed on the Central Control Room (CCR) referenced in Section 4.10.2 of this Appendix A.

4.9 CIVIL & STRUCTURAL

4.9.1 Site Geotechnical Data

The civil design of the LNG Facility shall be based on the geotechnical data requested by Contractor and identified in Appendix B.

4.9.2 Site Preparation

Contractor shall prepare the engineering recommendations and design based on Contractor's interpretation of the geotechnical data and reports referenced in Appendix B. Subsequently, the Site shall be prepared in accordance with Contractor's recommendations and design, as well as any other applicable Specifications included in Appendix B.

Site preparation includes, clearing and grubbing, stripping, cut and fill (general fill and structural fill), drainage system and berm, fencing, and construction of roads, pre-settlement (wick drainage) design, soil stabilization, finished grade and paving, DMM, and underground piping. Site preparation also includes preparation for temporary construction facilities, including laydown areas, and the permanent third LNG Tank area.

4.9.3 Soil Stabilization

Contractor shall prepare the soil stabilization recommendations and design based on Contractor's interpretation of the geotechnical data reports referenced in Appendix B and the result of Contractor's shallow soil mixing and wick drain test and monitoring program that was conducted under the SWSA. Soil stabilization shall be performed in accordance with Contractor's recommendations and design, as well as any other applicable Specifications referenced in Appendix B.

4.9.4 Finish Grading

Contractor shall prepare the finish grading recommendations and design based on Contractor's interpretation of the geotechnical data reports referenced in Appendix B. The high point of finish grading on site (excluding berms) shall be +7.0 ft NAVD88 based on the survey as requested by Contractor and identified in Appendix B.

The Contractor shall build up layers to the final grading elevations in accordance with the Drawings, Specifications and the engineering recommendations developed by Contractor based

on Contractor's interpretation of the geotechnical data reports referenced in Appendix B. Contractor shall develop a detailed paving plan based on its conceptual Drawings.

4.9.5 Drainage

Contractor shall develop and implement an overall Site drainage plan showing the sheet flow direction, conveyer system (ditches, culverts) and the outfall discharge quantities based on the Site plot plan and the Site drainage Drawing listed in Appendix B. In designing the Site drainage plan, Contractor shall ensure that the Work does not have an adverse impact on the surrounding areas beyond the limits of construction in accordance with Applicable Laws, the Permits and Appendix B.

Drainage systems shall be provided for the proper discharge and disposal of effluents from the sanitary sewer, the process, the utilities, and the contaminated / clean (non-contaminated) surface water streams in accordance with the Specifications, the spill containment Basis of Design in Appendix B and the Permits.

In order to meet these design objectives, the drainage systems are classified as follows:

- Clean (uncontaminated) storm water system: Clean storm water shall be directed off site through outfalls to the Sabine-Neches Waterway.
- Oil-contaminated drainage system (oily water contained by paved, curbed areas): Potential contaminated oily water will be contained in curbed areas that will have a local sump; a vacuum truck will be utilized to evacuate contaminated water from the system.
- Sanitary Sewer: Sanitary sewage from the facility will be pumped from the Sanitary Lift Stations inside the facility to an offsite sanitary treatment facility for processing.

Contractor shall also design and maintain adequate temporary drainage through the construction phase of the Liquefaction Project. Contractor shall also implement best management practices to manage stormwater run-off during construction in accordance with the applicable provisions of the Environmental Plan and Contractor's storm water pollution prevention plan.

4.9.6 Berm/Levee

Contractor shall design and build the berm in accordance with Appendix B. Contractor shall maintain the berm through Substantial Completion of Stage II. The berm is required to be functional before any permanent plant rotating, exchangers, electrical or control systems Equipment is stored or installed on the Site.

4.9.7 Roads, Paving and Fencing

The entrance and exit ramps from newly relocated Highway 87 to the LNG Facility shall follow the design and construction in accordance with Permits, other local requirements, and engineering Drawings and Specifications listed in Appendix B.

Areas that may receive accidental spills from contaminants shall be surfaced with liquid tight concrete paving or other impermeable liners. Areas where spills are not likely to occur may be covered with concrete, bituminous paving, grass or gravel layer to prevent wind and water erosion.

The paving shall be designed to accommodate the anticipated traffic loads, and loads from mobile cranes at designated areas according to the lifting plan and mechanical handling study as listed in Attachment A-1 including outriggers and maintenance vehicles.

Roads and paving shall be in accordance with the Project Specification for Roads and Paving and is listed in Appendix B.

A security fence shall be mounted on the berm all around the perimeter of the LNG Facility as per the Site Security Plan requirements listed as a part of Appendix Q as well as Drawings as listed in Attachment A-3. The security fence shall consist of 8 foot high chain-link perimeter fence equipped with additional 1 feet high barbed wire (6 strand) and razor wire on top of the fence. Contractor shall design, procure and install vapor fencing as required by the “Summary of Exponent Analysis” findings as referenced in Appendix B.

Fencing shall be in accordance with the Project Specification for “Fencing and Gates” in Appendix B and the Site Security Plan included as part of Contractor’s HSSE Program in Appendix Q.

Temporary fencing shall be provided by the Contractor as per the Site Security Plan, included as part of Appendix Q to segregate work areas of others as it deems necessary.

4.9.8 Piling

Contractor shall engineer, design, supply, test and install all piling required for the Liquefaction Project based on the geotechnical data reports in Appendix B. The detailed piling Drawings, to be delivered as part of the Work, shall show coordinate locations, type, and details of piles, such as cross section and length, and cut-off elevation, and connection to the foundation. The number and length of piles for each foundation shall be determined, taking into account the group effect modification factor and the down drag effect in order to stay within the allowable differential settlement permitted for the foundation under consideration.

Piling shall be in accordance with the applicable Specifications referenced in Appendix B.

Contractor has conducted an early test pile program to confirm the piling design. Additionally, Contractor shall complete the full test pile program as part of piling production to meet Permit and technical requirements as listed in Appendix B.

4.9.9 Foundations

Foundations shall meet the requirements of the Design Criteria for Structures and Foundations listed in Appendix B. Contractor shall design foundations for specific loading conditions such as

static and dynamic, wind and earthquake in addition to dead and live loads, and hydro loads for pipe testing, and using geotechnical data provided in Appendix B.

It is anticipated that the majority of foundations will be supported on piling. Contractor shall perform piling selection, design and installations in accordance with the piling Specifications as listed in Appendix B.

4.9.10 Pipe Racks

Contractor shall design pipe racks in accordance with the Design Criteria for Structures and Foundations as listed in Appendix B.

4.9.11 Structures

Contractor shall include platforms, stiles, stairs, ladders and railings required for maintenance and operability. The location of these structures shall be determined during engineering and confirmed via the 3D model reviews. The design, erection and installation shall meet the requirements of the applicable Specifications and Design Criteria for Structures and Foundations as listed in Appendix B.

4.9.12 Permanent Plant Buildings

The buildings are set forth in the building list referenced in Appendix B. Contractor shall design the architectural buildings to meet the Specification for “Permanent Plant Buildings”, and the Vendor supplied buildings (powerhouses and analyzer shelters) to meet the Specifications in the parent equipment Specifications listed in Appendix B.

Contractor shall design buildings to meet Site specific criteria for blast overpressure and natural occurrences set forth in “Overpressure and Impulse Calculations” referenced in Appendix B.

Contractor’s designs shall consider long term maintenance of the buildings. Exterior finishes that do not require maintenance and are suitable for the environmental location, such as bricks, pigmented concrete, metal siding or architectural blocks shall be used where practical.

The heating, ventilation, and air conditioning (HVAC) systems for occupied buildings and buildings where control system equipment is located shall be designed to provide positive building pressure by use of an air purifier that uses outside air for makeup. The HVAC system in buildings where widely varying heat loads may affect cooling capabilities shall be zoned and balanced. Single-pass, water-cooled units shall not be used. Electric resistance air heaters for building heat and humidity control are preferred.

For more details about buildings and HVAC refer to the “HVAC Systems Basis of Design for Plant Buildings” as listed in Attachment A-3.

Instrumentation and telecommunication systems as well as the fire protection / detection system shall be designed and constructed per Specifications as listed in Appendix B. Where specified,

buildings shall have the same fire control panel manufacturer, model number (to be dictated by Fire and Gas control system manufacturer).

4.9.13 LNG Impoundment and Spill Containment

The sizing of the LNG impoundment basin shall be based on a design spill of LNG as defined in NFPA 59A “Standard for the Production, Storage, and Handling of Liquefied Natural Gas (LNG)” and 49 CFR 193 “Liquefied Natural Gas Facilities: Federal Safety Standards”.

Impoundment basins and spill containment shall be in accordance with the “Spill Containment Design Basis” listed in Appendix B.

Spills from the storage tanks and trucks that contain refrigerant or hydrocarbon material shall be contained in its own impoundment. Impoundment basins and trenches designed and built in accordance with project Drawings and Specifications as referenced in Appendix A-1.

4.9.14 Liquid Storage Facilities

The storage of refrigerants, NGL (C5+ condensate), amine, hot oil, and liquid nitrogen and the associated truck loading/unloading area shall be located downwind of any potential ignition sources. The distance between storage tanks containing flammable material and buildings shall be in accordance with API 2510 and NFPA 30.

4.9.15 Grouting of Equipment and Base Plates

Cement mortar grout, non-shrink cementations, and epoxy grout shall be used for grouting the base plates and equipment skids and shall be in accordance with the Specifications referenced in Appendix B.

4.10 CONTROL SYSTEMS

4.10.1 General

Contractor shall engineer, design, procure, install, test, commission and perform all the functional checks for all control systems and instrumentation in Liquefaction Project as described herein and appendices. This includes engineered Drawings, data sheets, associated engineering documents, and procurement and field installation of the control system instrumentation, inspections, expediting, required testing for the systems, complete loop checking and commissioning.

The control and operating philosophy for the Liquefaction Project is described in the “Control Systems Design Criteria”, as referenced in Appendix B.

The integrated control system and field instrumentation is considered the “Integrated Control and Safety System” (ICSS). The ICSS shall be made up of the following systems:

- Basic Process Control System (BPCS)

  - Alarm Management System (ALMS)
  - Instrument Asset Management System (IAMS)
  - Data Historian System (Process Historians and Enterprise/Shadow Historian)
- Safety Instrument System (SIS)
  - High Integrity Pressure Protection System (HIPPS)
- Fire and Gas System (FGS)
- Control Network

The Instrumentation and Control Systems of the following subsystems shall interface with the ICSS:

- Closed circuit television system (CCTV)
- Machinery control and monitoring system (MCMS)
- Switchgear and medium voltage motor control centers (MCC) ENMCS monitoring interface to BPCS
- General Electric (G.E.) Mark VI controls for the gas turbines / compressors
- Gas Chromatography, Analyzers and Calorimeters (GC)
- 3rd Party mechanical package Equipment programmable logic controllers (PLC)
- LNG Tank gauging system (TGS)
- Truck Scales System (TSS)
- Plant Information Management System (PIMS)
- CCC Anti-Surge Systems
- Measurement devices (compliance and inventory)
- Analyzer Management and Data Acquisition system (AMADAS)
- Ship to Shore link system
- Loading Arms Control systems

The following systems are stand alone:

- Marine Navigational Aids and Monitoring system
- Public address and general alarm system (PAGA)

Contractor’s Scope of Work shall be to provide the interface with Owner’s systems as follows:

- Pipeline Metering and Nitrogen Metering Stations

Contactor shall install Single Mode Fiber Optic and related hardware and configuration from the LNG Facility (utility powerhouse) to the inlet gas pipeline metering skid and the nitrogen metering station.

Owner will provide a communication list in Microsoft Excel format to Contractor for implementation in the ICSS. Contractor shall configure ICSS as per the communication list, including configuration of points in BPCS, configuration of graphics in BPCS, configuration of points into the historians, configuration of flow and energy totalizers (daily, weekly, Monthly) for each flow paths and total flows in metering skid. The total number of configured points will be limited to one hundred fifty (150) within Contractor's Scope of Work.

- Energy and Mass balance reconciliation application

Contractor shall reserve space in the ICSS server cabinets for Owner to install the EMBR server with a communication link to the Enterprise Historian.

The Human Machine Interface (HMI) for the ICSS and for control systems shall be the BPCS. Where indicated on P&IDs, the systems listed above shall be accessed through the HMIs. The variables, graphic points and readings associated with the package equipment controls shown on the vendor P&IDs will be displayed on local HMIs and shall also be displayed/mimicked on the dedicated BPCS HMIs.

Contractor shall update the project Specification "Human Machine Interface (HMI) Graphics" as listed in Attachment A-3 as part of the Work. The updated Specification will be based on the selected ICSS system and the graphics shall follow EEMUA-201 Process plant control desks utilizing Human-Computer Interfaces" and ANSI/ISA-101.01 HMI standard for process automation. The new graphics shall be gray/blue scale, where the use of color shall be reserved only for abnormal process situations.

Contractor shall develop/design the ICSS HMIs/Graphics in conjunction with Owner. Graphics shall be reviewed and approved by the Owner. In case of vendors offers more than one HMIs software solution, Contractor shall provide the latest and more advance solution available for Owners approval for the long-term operability of the project and to extend the life of the product.

At a minimum, graphics HMIs/graphics shall have 4 different levels

Level 1: Overview of project
Level 2: Primary operating display
Level 3: System/Subsystem detail displays
Level 4: Diagnostic displays, Interlocks, First-Outs, Procedures, Documentation

The ICSS shall interface with remote subsystems. The remote subsystems located between buildings shall be connected using Fiber Optic cable. (See ICSS System Block Diagram as referenced in Appendix B). Field instrumentation shall be wired to a Remote IO (RIO) which shall use fiber optic cables to connect with the ICSS Control system cabinet located in the IO Room of the Electrical powerhouses.

4.10.2 Control Room Ergonomic Study

A Control Room Ergonomic Study (including human factors, lighting design of CCR, console arrangement planning, glare and reflection studies, and final CCR layout) shall be conducted in accordance with the Specification, "Basic Process Control System (BPCS)", regarding the

operating console desk arrangement. The Control Room Ergonomic Study will be completed after FNTP, and the findings of the Control Room Ergonomic Study shall be presented to Owner with impact to be evaluated for scope inclusion. This study will review the control panel layout for the current Liquefaction Project.

ICSS Operator consoles including desk in the Central Control Room shall be supplied for all the ICSS systems.

4.10.3 Cybersecurity

Contractor shall cybersecure the ICSS systems as require in Site Security Plan. Contractor shall incorporate into the detail design ICSS cybersecurity minimum requirements per Specification for Integrated Control and Safety System (ICSS) referenced in Appendix B.

4.10.4 Instrumentation

Contractor shall engineer, design, procure, and install all field instrumentation. The Scope of Work shall include inspection, factory acceptance test (FAT), storage and preservation of equipment at Site prior to installation, site acceptance test (SAT), pneumatic hook-ups, wiring, calibration at manufacture's facilities and at Site, continuity checks, functional, loop diagrams for field checking, and commissioning, as required. Additional specialty loops (for instance gas chromatographs) requirements shall also be included.

Contractor shall prepare data sheets for all instruments in scope as shown on the relevant P&IDs. Contractor shall coordinate with Mechanical package suppliers and obtain datasheets of all the instruments supplied with the package.

All instruments shall be designed and supplied for their intended application, location, and hazardous area classification. Transmitters shall be explosion proof, smart 4-20 mA plus HART with LCD indication and mounted on manifolds.

All instruments shall be calibrated and tested in the Vendor facility before shipment. Contractor shall obtain calibration certificates from suppliers for all the instrumentation including mechanical packages. Contractor shall inspect, and conduct loop testing of the instrumentation system during construction.

Contractor shall comply with instrumentation action items resulting from HAZOP, SIL, and Alarm Rationalization reviews, and revise all affected documents and Drawings to include recommendations from the reviews.

All transmitters and valve positioners shall be 4-20 mA plus "HART Protocol" compliant.

The Contractor shall use SmartPlant–Instrumentation for developing an Instrumentation Database in accordance with Attachment U-1 to Appendix U.

Contractor shall design and implement partial stroke testing (PST) for all the ESD and critical valves, using positioners to record the movement of the valve in the BPCS. Initialization of the “partial stroke” test shall be performed from the BPCS.

Fire-rated valves in ESD and critical systems shall be in compliance with the Project Loss Prevention Philosophy, Fire Zone Layout Drawings, as well as the Specification for General Instrumentation listed in Appendix B.

Contractor shall provide all bulk materials required to install the instrumentation.

Contractor shall take into account all RTDs for cool down of cryogenic systems in accordance with Specifications, and RTDs shall be permanently installed and the temperatures shall be displayed in the BPCS.

Contractor shall preserve and store Instrumentation and Control Systems in accordance with the Equipment Preservation Plan (PAL-PJT-PMT-STD-00-GEN-0001) as included in Appendix W.

Contractor shall provide the following flare ultrasonic flowmeters with dual path sensors 0FE-19284, 0FE-19004 and 0FE-19009. Existing datasheet requirements for retractable transducer shall be maintained.
Contractor shall provide flowmeters in the LNG Tank BOG lines with indication to the plant control systems (BPCS) as per FERC condition 62.

4.10.5 Instrument Process Data

Contractor shall be responsible to develop the instrument data sheets for instruments including flow elements, control valves, analyzers, pressure relief valves, ESD & isolation valves, blow down valves and other instruments.

4.10.6 Piping and Instrumentation Diagrams (P&IDs)

Contractor shall develop the control and instrumentation details for all systems shown on the Contractor developed P&IDs as the engineering design progresses.

Contractor shall include two-out-of-three instrumentation where an interlock results in shutdown of the LNG train(s). Contractor shall also include the remote start capabilities for Equipment as described in Appendix B.

4.10.7 Instrument Index

Contractor shall develop a single project database as the instrument index for the instrumentation systems, including instrument indexes provided by Vendors.

4.10.8 Major Process Control Loop Narratives

Contractor shall develop process control narratives for major control loops. These control schemes specify the general operation of systems and Equipment within the LNG Trains and their auxiliary support systems. Contractor shall develop final control logic narratives and interlocks descriptions during the engineering phase.

4.10.9 Loop Diagrams

Contractor shall develop loop diagrams for each instrument loop. The diagrams shall start at the field device and end at the indication or control device. The diagrams shall indicate the instrument tag number, wire number and ICSS I/O number.

4.10.10 Cause and Effect Diagrams

Contractor has developed Cause & Effects Diagrams to incorporate interlock and shutdown logics as per the Project P&IDs, Equipment Process Data Sheets.

Contractor shall complete the development of the cause and effect diagrams, following criteria as shown below:

a. Improving readability

b. Standardization between areas

c. Utilization of standard cause and effect terminology used in the LNG industry

d. Include input from packaged Equipment Vendors' cause and effect

e. Recommendations from the HAZOP, PHAs, and SIL studies

4.10.11 Instrumentation on Packaged Equipment

Instrumentation on packaged equipment shall be consistent with the other plant instrumentation and in accordance with Instrumentation for Packaged Equipment Specification listed in Appendix B.

4.10.12 Instrument/Electrical Interfaces

Instrument/electrical interface shall be a combination of soft (connected through ENMCS) and hardwired signals.

Contractor shall engineer and design the instrument/electrical interface and procure the interposing relay panels or remote input output (RIO) interface cabinets.

ENMCS (Electrical Network Monitoring Control System) controllers shall be independent from BPCS controllers and provided by Electrical. ENMCS shall be located in individual Power

Houses and shall share the plant backbone fiber optic network. ENMCS controller information shall be made available to plant operator on a dedicated console in the central control room.

4.10.13 Analyzers

Contractor shall engineer, design and procure the analyzers. Field analyzers shall be installed close to the sample probe. Gas chromatographs requiring environmentally controlled installation will be in 'Analyzer Houses' with their associated components, including calibration system. Contractor shall engineer, design, procure, install and commissioned all the analyzers including subcomponents such as sampling probes and conditioning system.

Sample probes shall be designed in accordance with Specification for Packaged Analyzer System as referenced in Appendix B.

4.10.14 Instrument Protection and Accessibility

Instrument installations shall be designed for safe and convenient access for operation, calibration, other routine maintenance, as well as for ease of construction and instrument protection (winterization). Field transmitters located in hazardous areas shall be accessible from both sides without requiring turning or movement that may compromise the electrical seal.

4.10.15 Instrument Winterization

Heat tracing of instruments / impulse lines shall be provided as required for specific systems. Diaphragm seal instruments are preferred over heat traced instruments where applicable.

4.10.16 Instrument and Control Systems Installation and Field Testing

Instrument installation shall be in accordance with the Specifications referenced in Appendix B. Contractor shall prepare a project-specific procedure, as required in Attachment A-1.

4.10.17 Instrument Process Connections and Instrument Air Lines

Contractor shall prepare instrument installation details for all process and utility system instruments. Typical installation details, which include tube fittings, pipe fittings, and root valves required for each instrument type shall be referenced in the instrument index.

4.10.18 Instrument Power and Grounding

Contractor shall design an instrument power system and a grounding system to provide an accurate voltage point measurement, protect personnel, and prevent digital bit signal mixing, RF and electrical interference.

Contractor shall develop the grounding design in accordance with the Specifications and Applicable Standards and Codes (for instance, the National Electrical Code) and vendor recommendations.

All plant automation systems and critical instruments shall be provided with back-up power from the UPS system.

Electrical power distribution system for control panel boards and UPS systems shall be designed and procured by Contractor. Contractor shall also design and procure instrumentation power feeders including fuses and/or breakers distributed from the main power supplies.

4.10.19 Location Plans

Contractor shall provide instrument location plans for all instrumentation and instrument equipment, junction/remote IO boxes, and control panels.

Instrument air supply main header routes shall be identified on the applicable Drawings with offtakes to the LNG Trains and other facilities, identifying the piping line numbers and the instrument air take-off valves.

Tagging and elevations shall be identified on the applicable Drawing.

4.10.20 Wiring

Wiring diagrams developed shall include:

a. Cable schedules listing details for the cable type, class, length, start and finish points for all cables;

b. Junction box wiring diagrams, showing terminal connection details, core and cable numbering, cable run detail from the junction boxes to the individual instruments, including details for multi-core cables;

c. Electrical installation detail showing typical cable gland arrangements and miscellaneous electrical installation detail; and

d. Fiber Optic Patch Panels termination connection details, block diagrams for fiber optics cables.

4.10.21 Junction Boxes for Instrumentation

Contractor shall supply separate field junction boxes (JB) / Remote-IO box for BPCS Signals, SIS, FGS, PLCs.

The following sparing philosophy shall be implemented for junction boxes:

a. physical space in the junction boxes (at least 20% at Substantial Completion of the Stage)

b. terminal strip/terminal blocks, and wired pairs (at least 20% at Substantial Completion of the Stage).

4.10.22 Plant Automation

Contractor shall engineer, design, procure and install the ICSS. Contractor shall establish/solve communications protocol between systems. Contractor shall advise where the ICSS configuration, programming, graphics configuration, engineering, testing and integration shall be performed. The ICSS shall be based on the following sub-systems:

4.10.22.1 Basic Process Control System (BPCS)

The BPCS shall be the operator HMI interface for all process control and monitoring systems for the facility. The primary function of this system is to produce, monitor, and control quality of LNG at design flow rates.

Controllers and servers for the LNG Facility shall be integrated. Control and measurement signals from PLCs (package equipment), truck scales system, SIS, FGS system, cool down temperatures, LNG storage, LNG cooldown, and loading operations shall also be displayed on the BPCS consoles.

Contractor shall provide auto-tuning software. Contractor shall use OTS tuning parameters as initial set up during start up and commissioning of the facility, and Contractor shall fine tune the control loops as required.

4.10.22.2 Enterprise Historian

Contractor shall specify, procure, configure, install interface and test the OSI-PI Enterprise Historian. Enterprise Historian will be in Level 4 in accordance with ICSS block diagrams. Enterprise Historian shall collect and store all the ICSS points of the LNG Facility including packaged Equipment. Contractor shall include licensing for a minimum of 50 users.

Contractor shall provide access to Historian, Historian tools and Historical data, as soon as Historian is energized on site, as Owner will have to configure operation reports as preparation to readiness for Operation.

4.10.22.3 Safety Instrumented Systems (SIS) and HIPPS (High Integrity Pressure Protection System)

The primary function of this system is to predict unsafe operating conditions and provide protection for critical process equipment and systems. Each LNG Train and the Common Facilities systems shall be provided with independent SIS and HIPPS.

SIS shall be engineered for the LNG Terminal based on IEC 61508 and 61511 (ANSI-ISA-84).

SIL 3 is defined as the maximum level for the LNG Terminal.

4.10.22.4 Fire and Gas System for Process (FGS)

A fire & gas detection and alarm system with a fully redundant controller shall provide continuous fire and gas surveillance throughout the LNG Facility to alert personnel of the presence of gas, fire or smoke.

The FGS shall consist of smart gas detectors, flame detectors, heat sensors, smoke detectors, manual pull stations, and other fire mitigation equipment for surveillance/protection of all the outdoor process areas, and indoor shelters/buildings in accordance with Applicable Laws.

Refer to the Specification for fire and gas system in Appendix B, for additional details.

4.10.22.5 Fire and Gas System Panels for Buildings

Building fire alarm control panel (FACP) shall communicate with the ICSS-FGS through ethernet or modbus/TCP IP.

4.10.22.6 Alarm Management System (ALMS)

Contractors shall develop, design and install the ALMS following ANSI/ISA–18.2-2016 Management of Alarm Systems for the Process Industries to improve and manage safety, quality, and productivity of the facility.

Contractor shall follow all the Alarm Management Lifecycle stages per ANSI/ISA–18.2-2016 Management.

Contractor shall develop an Alarm Philosophy for the Liquefaction Project and conduct alarm rationalization studies for alarms generated in ICSS and in packages equipment.

Contractor shall develop and deliver:

a) Master alarm database per ANSI/ISA–18.2-2016

b) A fully developed and configured Software Package for the facility.

An effective alarm management system ensures that deviations from desired state/mode are communicated effectively to and prioritized for the console operator. The alarm system is primarily for the console operators and configuration of the alarm system to focus on operation needs.
The ALMS shall capture alarm and events of all ICSS systems/sub-systems and chronologically log the events in an event database. It shall be possible to export the event database to various other applications for analysis.

The ALMS shall have the following minimum requirements:

a) Alarm Metrics, Benchmark and Analyze the alarms in given period

b) Alarm Shelving

c) Dynamic Alarming

d) First Out multi-alarm suppression

e) During start-up, the Operators shall be able to Shelve the process areas and equipment not in service.

The ALMS shall be configured using Enhanced and Advanced Alarming techniques to shelve alarms when rotary equipment is not running, i.e. low current or low speed shall be disabled when the equipment is not running. Contractor shall identify those alarms during the Alarm rationalization studies. ALMS shall have Dynamic Flood Suppression

ALMS and alarms in general shall comply with ANSI/ISA–18.2-2016 metrics in section 16.9 Alarm Performance Metric Summary

4.10.22.7 Instrument Asset Management System (IAMS)

This system shall be provided by the BPCS OEM (Original equipment manufacturer).

SIS to BPCS HART protocol demodulation shall be provided by the SIS OEM.

Propane and mixed refrigerant compressors and all the other packaged equipment shall be supplied with IAMS connectivity thru HART multiplexers. HART passthrough is acceptable for ControlLogix PLCs; Contractor shall provide any additional software/hardware and integration required.

The primary function of the system is to maintain data on plant Equipment such that Equipment maintenance requirements can be identified prior to the failure of the units.

4.10.22.8 Public Address and General Alarm System (PAGA)

A field-proven design of the PAGA system shall be provided to inform personnel of an abnormal situation and support safe evacuation of the LNG Facility.

The PAGA System provides specific alarm tones, pre-recorded or live voice messages, to all or selected areas of the facility by use of loudspeakers. In areas with a high ambient noise level, flashing lights (beacons) complement voice messages and audible alarms.

Alarms can be initiated either manually from any one of the dedicated access panels or automatically from the Fire and Gas Detection System and/or Emergency Shutdown System main panel. Voice messages can be generated either from the microphones at dedicated access panels or from telephones in the facility.

PAGA system shall be provided for indoors and outdoors locations.

4.10.22.9 Machine Condition Monitoring System (MCMS)

A permanent on-line MCMS shall be provided by Contractor to continuously monitor the performance and condition of all critical rotating Equipment, such as the refrigeration compressors, their gas turbine drivers, and other pumps/compressors installed in the LNG Trains and the common support facilities.

The primary function of this system is to safeguard critical Equipment through motion detection measurements; collection of equipment performance data to predict any abnormalities and provide early notification of deterioration and unit condition changes.

Part of the function of this system is the diagnosis of machine performance and assistance in the predictive maintenance for selected Equipment.

Hardware and software required for the MCMS shall be supplied by Contractor. Data collection and archiving shall be in rack mounted servers located in indoor cabinets with local HMI.

Contractor to provide five (5) licenses for sole use by Owner.

4.10.22.10 Programmable Logic Controller Network (PLC)

The primary function of this system is to provide package equipment control system applications. Communication networks shall also be used for maintenance as well as for local control. The control and maintenance network for PLCs shall be independent.

All PLCs shall be supplied with HART multiplexers with connectivity to the Instrument Asset Management System (IAMS) for analog input/output signals. The use of HART passthrough is allowed for ControlLogix PLCs with compatible and supported IAMS systems.

Contractor shall include any additional hardware or software to establish communication between PLCs and IAMS, and shall be connected to the propane and mixed refrigerant compressor control systems supplied by Baker Hughes.
Anti-surge controllers shall have the same control and maintenance networks as the PLCs.

The Air compressor package will not include a Unit Control Panel (UCP) and this functionality will be provided in the Local Control Panel (LCP) with interface to the control room.

4.10.22.11 LNG Tank Gauging System (TGS)

A LNG Tank Gauging System (TGS) shall be provided to provide overfill protection and stratification monitoring, with alarms to warn of potential rollover conditions. The TGS shall have the capability of measuring / providing tank level, temperature and density profiles over the tank height plus provide calculation data for tank inventory. The TGS shall be designed as a fully redundant system and data communication to the BPCS shall be redundant.

4.10.22.12 Anti-Surge System

Anti-Surge Systems shall be provided where specified in the mechanical datasheets. Contractor shall coordinate activities with Vendors that provide compressors, anti-surge valves, flow measurement devices (orifice and venturi) to ensure that the anti-surge system is installed and tuned to the design requirement of the compressors and the LNG Facility.

CCC anti-surge controllers shall be supplied with HART multiplexers and connectivity with IAMS. Trainview station located in the Main Control Room shall communicate and display all the compressors with CCC anti-surge systems.

4.10.22.13 Maintenance Network associated with package equipment

The primary function of this system is to communicate with the IAMS and PLC systems. The system will be programmed and configured to provide online trouble shooting capabilities for various systems.

4.10.22.14 Truck Scale System (TSS) (Weigh Station)

The primary function of this system is to weigh the product trucks prior to and after loading/unloading to determine the weight of their shipping cargo. The TSS shall interface with the BPCS using ethernet or modbus TCP/IP or OPC, data shall be collected in the historian.

4.10.22.15 Plant Information Management System (PIMS)

The primary function of this system is to provide many different types of LNG Facility information to desktop applications.

Contractor shall supply a desktop PC on the operating console and configure it to the LAN.

4.10.22.16 Analyzer Management and Data Acquisition System (AMADAS)

An analyzer management and data acquisition system shall be provided to measure the performance, availability and maintainability of a broad variety of all process analyzers and other critical instruments inside analyzer shelters. AMADAS shall be used to optimize the performance of the gas chromatographs, process analyzers, and help in determining when maintenance is required.

Contactor shall update the Specification for the Packaged Analyzer Systems to include the AMADAS requirements as part of the Work.

4.10.22.17 Control Network

Contractor shall be responsible for the control network for the LNG Facility. Contractor shall continue detailed design of the ICSS- Block Diagrams as referenced in Appendix B, and shall incorporate details of Supplier packaged Equipment, details of the ICSS Supplier selected scope, and Specifications into the design of the control network.

The control network shall be detail designed by Contractor in coordination with its Vendors and their networking and telecommunications SMEs.

The fiber optic communications network shall be the primary media for communication for the LNG Facility control network. Separate cabinets shall be provided for the ICSS system (not to be combined with the telecommunications cabinets) with dedicated ICSS patch panels and including switches, routers and media converters for the ICSS system. All communications systems shall be redundant.

The fiber optic communication network shall also be designed with a minimum of 50% spare capacity at Substantial Completion for fiber optic cable fibers and all fibers will be terminated in patch panels in accordance with the Specification "Telecommunications Design Criteria" referenced in Appendix B.

4.10.23 Operator Training Simulator (OTS)

In accordance with the requirements listed in Appendix P, the OTS shall be provided as outlined below:

[***].

4.10.24 Special Tools and Software

Contractor shall supply all the special tools required to calibrate, connect and configure all control systems that are part of the LNG Facility. This shall include tough books (field hardened) and tools suitable for Class 1 Div. 2 for PLCs and GC troubleshooting, Hart Handhelds, Gas Calibration Kits for Gas Detectors, Pressure Calibration Handhelds, Device Net/Modbus Handhelds, PLCs, and configuration software. Any special tools included as part of the control system purchase orders will be turned over to Owner as per the requirements of the Agreement.

All software and licenses provided shall be accompanied by their original installation media (CD, DVD, USB) and installation certificate, where applicable. The software, licenses and installation certificates provided to Owner shall be sufficient for Owner to re-install in new computers in case of failure of the original devices.

Contractor shall request each Supplier to generate a list containing all software information, licenses, operating systems information, special tools, laptops, printers, handhelds and any software, special tools or ship loose item provided by Supplier.

Contractor shall compile a list of all software, special tools, USB dongles licensing drivers, original installation drives (CDs, DVDs, Hard drives, USBs), laptops and documentation, for transfer to Owner prior to Substantial Completion.

This list shall contain, as a minimum, the following information

a) Package/System equipment

b) Project PO number, in case vendor has a different PO number, this needs to be included

c) Vendor information, including contact information

d) Item description, Software or license description

e) Manufacture/developer of the good provided

f) Model, Serial number, Software Version, year of release as applicable for each good

g) If the good is a license or software, Contractor shall describe in what fashion was the software provided, i.e. USB, CD media, DVD media, certificate from manufacture with serial number information for registration over internet or phone.

h) Project reference documentation.

4.11 ELECTRICAL

The electrical system shall be designed to provide:

- Safety for operations and maintenance personnel
- Reliability and flexibility
- A coordinated protection system
- Equipment properly rated for continuous operations
- Adequate short circuit ratings (interrupting capacity)
- Adequate and coordinated insulation levels

4.11.1 Electrical Equipment

The electrical systems to be engineered, procured, constructed, and commissioned by the Contractor include:

- 230 kV transmission lines from Entergy's Sandling substation interface point, including OPGW from Entergy's demarcation point
- 230 kV GIS switchgear or GIS switchyard in the plant with associated equipment and interface to Entergy's Sandling substation
- 230/34.5 kV Transformers
- Distribution transformers (Oil filled and Dry type)
- Pre-fabricated powerhouses
- 34.5kV, 13.8kV, 4.16kV, 480V switchgears and MCCs as applicable (All Medium Voltage and Low Voltage Switchgears and Medium Voltage MCCs are to be arc resistant equipment)
- AC UPS systems

- DC Systems for Electrical control and protection
- Lighting / Small Power Transformers & Panelboards
- Indoor and outdoor lighting, including area and street lighting
- Cables
- Metal enclosed Cable Bus
- Raceway systems including cable trays & channel
- ENMCS system
- Grounding systems
- Lightning protection systems
- Aircraft warning lights
- Junction boxes and local control stations
- Electrical heat tracing systems
- Any other equipment / systems / materials required to provide safe functioning and proper interface with the plant Electrical systems.
- Essential Power System
- Cathodic Protection System
- Power factor correction

The electrical system shall be designed to permit safe, logical and sequential energization of the system, both during initial startup of the plant and during restarting the plant after any power blackouts. An energization sequence / narrative detailing the above shall be submitted by the Contractor to the Owner for review.

4.11.2 Electrical Pre-Investment

The electrical distribution has been enhanced with selected pre-investment items (or space) to allow for the future addition of Trains 3 and 4. This pre-investment is as follows:

4.11.2.1 Main Powerhouse 111B-11

- Increase the ratings of the essential bus transformers;
- Add space for future contactors in essential MCCs;
- Add space for one future incoming circuit breaker for future diesel generator;
- Increase DC charger and battery bank capacity to allow for future breakers and contactors;
- Increase UPS size, as required; and
- Increase powerhouse size to accommodate above listed items.

4.11.2.2 Ship Loading Powerhouse 107B-02

- Increase powerhouse size to allow floor space for future BOG control panel, BOG VFD and additional LV MCC for future BOG auxiliary loads.

4.11.2.3 Utility Powerhouse 112B-01

- Add two equipped spaces for contactors in 5kV MCCs and equipped spaces in low voltage MCCs for two future air compressors;
- Increase transformers rating; and
- Increase DC charger and battery bank capacity to allow for future breakers and contactors.

4.11.3 Electrical Deliverables

Contractor shall produce all electrical engineering and design Deliverables listed in Attachment A-1 and required to accurately and sufficiently describe the distribution system layout and associated details.

4.11.4 One Line Diagrams

One-line diagrams to be developed by Contractor as part of the Work are listed in Attachment A-1. Contractor shall develop detailed one line diagrams. The following ratings will be confirmed by study/calculations and incorporated during engineering:

- Transformer Ratings
- Switchgear and MCC Continuous Ratings
- Switchgear and MCC Short Circuit Ratings
- Essential Power System Ratings and Requirements
- Continuous Ratings and Short Circuit Ratings of Any Other Electrical Distribution System Component

Contractor shall produce overall one line diagrams delineating each powerhouse and shall consider provisions for future expansions during engineering.

4.11.5 Electrical System Study

Contractor shall carry out an electrical system studies using ETAP software.

Contractor shall ensure that the following studies/calculations are executed:

- Load Flow Studies including power Factor Correction Study
- Fault Current Studies
- Motor Starting Conditions
- Harmonic Distortion Studies
- Arc-Flash Study

- Grounding Studies
- Cable Sizing Calculations including thermal calculations for the under-ground duct banks
- Protection Coordination Study
- Electrical Load List
- Electrical Equipment List
- CT & VT sizing calculations as needed and saturation curves as supplied by Vendors
- UPS sizing in the form of a load list
- Typical lighting calculations
- Lightning protection risk assessment study
- Relay setting
- Relay configuration files as submitted by Vendors
- Battery and charger calculations as submitted by Vendors

4.11.6 Uninterruptable Power Supplies (UPS)

Contractor shall design the UPS System in accordance with PIP ELSAP04 and Project datasheets.

4.11.7 DC Power Supplies Including Switchgears

DC power supply system including switchgear will be provided by the Powerhouse / substation Supplier who shall determine the DC power supply system requirements, engineer and design, procure, install, commission and verify the operation of all DC power supply systems including those used for operating switchgears, and transformers.

The Suppliers shall prepare detailed one-line diagrams for all DC power supply systems. Suppliers shall size batteries and chargers and verify that minimum voltages are maintained as specified and required by the Suppliers. Redundant battery chargers shall be provided for DC power supply system(s).

4.11.8 Electrical Heat Tracing

Contractor shall design, procure, install and verify the correct operation of the electrical heat tracing system including dedicated distribution panels located throughout the LNG Facility.

4.11.9 Electrical Equipment Powerhouses / Buildings

Contractor shall perform engineering and develop Drawings for electrical equipment powerhouses / buildings to meet the requirements of the LNG Facility as set forth in the Agreement.

The power houses and electrical buildings shall be designed and constructed in accordance with the requirements of the Specification PIP ELSSG11 and the Project datasheets.

4.11.10 Cable Routing/Cable Trays

Contractor shall develop the cable routing/cable tray Drawings and a cable database.

Contractor shall furnish and install a complete raceway system, which shall include channel, conduits, flexible conduits, cable trays, under-ground ducts, wire-ways, cabinets and boxes, and all other materials and devices required to provide a complete system for support and protection of electrical conductors.

4.11.11 Essential Power Supply System

The Essential power generation system shall provide back-up power for essential loads. Contractor shall develop a load list for essential users and size the system accordingly. The results of a preliminary analysis indicates that the system shall consist of three (3) Essential Power generators. These generators shall be diesel engine driven generators each with minimum nominal rating of 3MW Prime, 4160 V, 3-phase, 60 Hz and 0.8 pf, dedicated load centers, MCCs, auto transfer switches (ATS) and any other electrical components required for an operational standby power supply system. Rating of the generators shall be verified by the Contractor at the time of purchase.

The essential power supply system shall be rated for operation at 4160/480 V and shall act as a hub for local essential (e.g. lighting, power, instrument, HVAC, UPS) power needs.

4.11.12 Arc-Flash Labeling

Contractor shall label all electrical enclosures/panels in accordance with Contractor's Arc-Flash Study.

4.11.13 Electrical Interface Coordination

Contractor shall be responsible for interface activities between various systems and equipment, verifying and establishing interface processes during Vendor document review, for efficient functionality of systems after field installation and hook-up to the power supply systems.

4.12 TELECOMMUNICATIONS

Contractor shall follow and provide telecommunication systems as required in the Site Security Plan as listed in Appendix Q and the Specifications for such Work as listed in Appendix B.

Telecommunications system shall include the following sub-systems:

- Telecommunication infrastructure (fiber optic cables, ethernet cables, coaxial cables, electrical cables; Electrical installations, and any other activity related to Telecommunication);

- VoIP Telephone System;
- Plant Business LAN;
- Security LAN;
- Hot-Lines;
- Closed Circuit TV System (CCTV System);
- Public Address and Intercom System (PA/I);
- Access Control/Security System;
- Intrusion Detection System;
- Trunked Radio System;
- Marine VHF Radio System

Contractor shall produce all Telecoms engineering and design Deliverables required to accurately and sufficiently describe the telecoms systems listed above as set forth in Attachment A-1.

Contractor's engineering package shall include the following types of Deliverables:

- Specifications
- Manufacturers' Datasheets
- Cable Schedule
- Cable Routing Plans
- FAT/SAT Test Procedures
- Power and Heat Load Calculations
- Telecom Equipment List
- Site Equipment Location Plans
- Equipment and Installation Details
- Wiring Diagrams
- General Arrangement Drawings
- Telecom Equipment Location Plans
- Equipment Room Layouts
- Equipment Elevations
- Cable Termination Diagrams
- System Block Diagrams
- Radio Coverage Studies
- PA/I Coverage Study

Contractor shall integrate any required related system to the Telecom GPS Master Clock such as the PAGA, access control system and security systems as required in this Appendix A, Appendix B and the Site Security Plan per Appendix Q.

Contractor shall determine the locations of telecommunications outlets throughout the buildings in the LNG Facility. Wifi shall be provided inside buildings per the telecommunication block diagrams and outside as necessary to provide wifi coverage for the truck weigh station.

Contractor shall supply telecommunication systems as listed in the “Telecommunication Design Criteria” Specification as referenced and the block-diagrams in Appendix B:

Equipment
Infrastructure-All Systems
Fiber Optic Cable and Copper Cable
Conduit/Cable Tray
All Electrical Installations
All mechanical and civil works and installations related to Telecommunication systems
UPS and batteries
All Junction Boxes (indoors and outdoors)
Fiber Optic Patch panels
Cat6 Patch Panels
Racks/Enclosures including electrical power
Engineering and Deliverables
Telephone VoIP system
IP PBX
VoIP Switches
VoIP Servers
VoIP Phones (/Prefabricated Power Houses and Building)
Ethernet RJ45 Sockets (wall jacks) for all buildings
Conference Phones
Conference Room Equipment
Engineering and Deliverables (with input from Owner for Owner’s supplied equipment)
Networking Devices for LAN
Core Switches
Distribution Switches
Access Switches
Switches with SFP ports and STP pluggable connectors
Cisco Wireless Access Points (WAPs)
WAP Controllers
Firewalls for all Telecommunications systems provided by Contractor that interfaces with Business LAN
Racks/Enclosures for Owner use (with input from Owner)
Rack Mounted Power Distribution Units/Strips (PDUs)

Equipment
Ethernet RJ45 Sockets (wall jacks, floor, ceiling for WAP and conference rooms, etc.)
Ethernet and Fiber Optic patch cable to networking devices
Master telecom GPS clock with antenna installation, software and synchronization of systems provided by Contractor
Engineering and Deliverables (with input from Owner for Owner's supplied equipment)
Hot Lines
Hotlines and Associate Equipment
Engineering and Deliverables
CCTV
All CCTV cameras
Printers for the security CCTV system
Servers with redundant power supply and redundant storage units
Workstations for Operations (Process CCTV)
Workstations for Security and CCTV
Software Licenses
Engineering and Deliverables
PAGA
PAGA System
Speakers/beacons outdoor
Speakers indoor
PAGA access panels
Engineering and Deliverables
Access Control/Security System
Core Switches
Distribution Switches
Access Switches
Switches with SFP ports and STP pluggable connectors
Access control panels
Magnetic or strike locks for doors
Cards Readers
Servers and Workstations and Monitors for Access Control
Automated personnel turnstiles
Intercommunications stations
Engineering and Deliverables
Intrusion Detection System
Fiber optic intrusion detection system
Engineering and Deliverables
Permanent Radio System
Radio Tower
Antennas and Repeaters
Radio system components

Equipment
Radios Handhelds with batteries, batteries chargers and accessories
Fixed Radios (for Operations)
Fixed Marine Radios
Engineering and Deliverables

4.12.1 Racks/Enclosures for Owner use

Contractor shall reserve physical space for Owner to Install their Business LAN active Equipment in all building locations where telecommunications are provided, Cabinets shall be ready to be used, fully wired and power up.

4.12.2 Fiber Optic Cable Network (FOCN)

Contractor shall engineer, design, procure, install, test, and provide all associated Deliverables for the FOCN in accordance with Attachment A-1.

4.12.3 Telecommunication Testing

Contractor shall perform all tests as listed in the Specification for ”Installation and Testing of Telecommunications Cables” referenced in Appendix B. Contractor shall develop testing procedures for the performance of such tests.

Contractor shall also develop and submit FAT/SAT testing procedures for all telecommunication systems and components provided.

Telecommunications systems integrator personnel shall be on Site and at the shop for execution of acceptance testing as defined in Appendix T-1.

4.13 Site Security

Contractor shall design and install the Site security systems in compliance with the requirements for Site security as listed in the Site Security Plan as referenced in Appendix Q and the Specifications referenced in Appendix B.

The Site security system shall be provided that will include the following:

- Intrusion Detection and Protection system
- Security CCTV system (combination of fixed and Point-Tilt-Zoom cameras)
- Security Access Control System (buildings, guard houses, jetty areas)
- Lighting including lighting of the berm, the fence, and the surrounding area
- Fence System

- Biometric checking system
- Gates and wedge barriers for vehicular access points

4.14 FIRE PROTECTION & SAFETY SYSTEMS

Contractor shall engineer, design, procure, install, inspect and commission all Equipment, instrumentation and materials required for the fire and gas detection, and fire protection systems for the LNG Trains and the Common Facilities in accordance with applicable Specifications and Applicable Codes and Standards, including 49 CFR 193 and NFPA 59A, and Appendix B. Contractor, as a minimum, shall complete the Vendor and DECN Hazard and Operability (HAZOP) studies, and define the required protection method during the EPC phase of the Project.

The residual risks shall be mitigated via fire & gas (FGS) system and fire protection means.

The fire detection and protection basis of engineering shall be on guidelines provided in the “Loss Prevention Philosophy” listed in Appendix B.

FGS detector location layouts shall be designed based on identified sources and the associated cause and effect to be implemented into the facility Integrated Control and Safety System (ICSS).

Firefighting means shall be provided throughout the LNG Facility to quickly extinguish or control any fire incident at its incipient stage with the suitable agent, including but not limited to, water, foam, dry chemical, carbon dioxide or other gaseous extinguishing systems.

An underground firewater network shall be designed to supply firewater where required. The fire water network shall be sized according to the fire water demand calculated during the EDSA and verified as part of the Work. Two firewater storage tanks sized for a minimum of two (2) hours of operation each shall be provided. Two (2 x 50%) diesel firewater pumps and 1 x 50% electric motor driven fire water pump is provided. Tug boat connections shall be provided to pump river water into the system as back up to the fresh fire water system.

Firewater coverage and fire and gas detectors locations for the OSBL and ISBL areas shall be reviewed and verified in the 3D model to ensure the fire zones are protected adequately.

All fire protection equipment shall be UL/FM approved.

Contractor shall also identify the areas in which hazardous material may come in contact with personnel and provide safety shower and eyewash stations not more than 50 ft from the risk source.

Contractor shall develop P&IDs, Equipment data sheets, and location Drawings for the LNG Trains during engineering. Contractor shall verify fire water line sizes, pipe Specifications and all system hydraulics.

In order to accommodate the addition of future Trains 3 & 4, the Work includes a firewater tank size increase, increase of the firewater header to 24”, relocation of the plant road adjacent to the condensate and refrigerant storage area, firewater tie-in connections for the future T2301-B condensate tank, and the deluge system for the T2301-A condensate tank.

4.14.1 Fire & Gas Cause and Effect Diagrams

Contractor has developed Fire and Gas Cause & Effects Diagrams to incorporate interlock and shutdown logics as per the Fire Zones, Project P&IDs, Building Fire Control Panels, Equipment Process Data Sheets.

Contractor shall complete the development of the Fire and Gas cause and effect diagrams, following criteria as shown below:

a. Consistency of fire and gas protection across OSBL and ISBL.

b. Standardization between areas

c. Utilization of standard cause and effect terminology used in the LNG industry

d. Utilization of packaged Equipment fire and gas cause and effect and fire and gas detectors.

e. Recommendations from the HAZOP and LOPA studies

4.15 LNG LOADING, WARM LNG TANKER GAS-UP AND COOL-DOWN

Contractor shall engineer, design, procure, install, and commission all necessary LNG Loading Equipment and facilities to allow for warm LNG Tanker gas-up and cool-down, on the Berth, and associated vapor handling in a safe manner.

The following scenarios are to be considered:

- Preparation for ship arrival
- Operation with Off-Spec Vapor Return from the LNG tanker during the Gas-Up and Cooldown Operation.
- BOG management during ship loading

As part of the Liquefaction Project, the south Berth shall accommodate the gas-up and cool-down requirements as listed in this Appendix A and in Appendix B.

4.16 MARINE

Marine design shall be in accordance with the Specifications and requirements in Appendix B.

4.16.1 Marine Facilities

The marine facilities include:

- LNG Loading Berth: one south Berth capable of berthing tankers from 125,000 m3 to 266,000 m3 (QMAX) capacity, with a design loading rate of 12,000 m3/hr.
- Access trestle supporting a pipe rack and roadway providing access to the berths
- Material Offloading Facility (MOF) consisting of a quayside structure to import Equipment and Contractor Equipment during performance of the Work
- Contractor shall construct a Pioneer Dock (#2) in addition to the Pioneer Dock (#1) completed under the SWSA
- Ship turning basin and LNG berthing basin, including navigational aids and dredging including pre-turnover dredging of shoaling and pre-turnover maintenance dredging. The dredging depth shall be defined as what is outlined in the Specification for “Dredging Works, Marine Facilities Design Criteria for LNG Loading Berths” and “Marine Facilities Design Criteria for Material Offloading Facility” as referenced in Appendix B.
- Shore protection at the Berth pocket and MOF dredging slope.

4.16.2 Marine Analyses

The design of the marine structures for the jetties shall meet all requirements according to the Applicable Codes and Standards and shall consider the likely failure mechanisms.

As part of the marine facilities design, the following analysis shall be performed:

- Basin and berth geometry
- Shore protection analysis and design
- LNG berth topside equipment
- Further updates to Contractor’s LNG Vessel Drifting Speed Study PAL-T0-MAR-RPT-24-GEN-0003 (26196-100-30R-R01-00007) and Hydraulic Transient Analysis for LNG Loading Line Study PAL-PJT-PIP-CAL-24-GEN-1001 (26196-100-K0R-DK-00001) completed during the EDSA to confirm the design of the loading system complies with SIGTTO guidelines and the Marine Facilities Design Criteria for LNG Loading Berths PAL-T0-MAR-DEC-24-GEN-0001 (26196-100-3DR-R04-00001).
- Dredging requirement
- Mooring load analysis in accordance with OCIMF – Mooring Equipment Guidelines (Fourth Edition 2018). Static and dynamic mooring studies to determine the optimum mooring arrangement for the Berth.

4.16.3 Marine Berth and LNG Loading Platform

Contractor shall engineer, design, procure, fabricate, and install the marine Berth and loading platform in accordance with the Specifications and Applicable Codes and Standards provided in Appendix B, as applicable. In addition, the platform on the jetty control building shall connect via a walkway to the platform associated with the LNG loading arm valves.

The Berth shall consist of a pile supported LNG Loading platform, breasting dolphins, mooring dolphins, and a trestle with combination pipe rack / roadway connecting to the onshore LNG Facility.

4.16.4 Ship Turning Basin and Berth Pocket Layout

The ship turning basin in the Sabine-Neches Waterway and LNG Terminal Berth basin arrangements has been assessed in the "PALNG Shiphandling Simulations"
(PAL-T0-MAR-RPT-00-GEN-0003) (based on the original turning basin configuration without consideration of the reduced turning basin configuration), the "Q-Max Full Mission Bridge Simulation Report" (PAL-T0-MAR-RPT-00-GEN-0004) (based on the original turning basin configuration without consideration of the reduced turning basin configuration), and the "SEMPRA Port Arthur LNG Ship Simulation for Navigation Basin Clearances" (PALT0-MAR-RPT-0001) (based on the reduced turning basin configuration), as referenced in Appendix B.

The adjustment to the eastern side of the ship turning basin is based on the "SEMPRA Port Arthur LNG Ship Simulation for Navigation Basin Clearances" (PALT0-MAR-RPT-0001). Contractor shall review and validate the results of the navigation simulation with respect to the Site conditions, including bathymetry, berth layout, environmental conditions and other factors. The berth pockets and turning basin shall accommodate the maximum allowable ship motion as specified in the guidelines PIANC, International Association of Ports and Harbors. The design depth of the berths should take into account various factors, in addition to the maximum draft of the design vessel and required under keel clearance.

4.16.5 Dredging and Disposal

Contractor shall be responsible for all dredging requirements for the Berths, Berth pocket and turning basin, MOF, and Pioneer Dock(s), with the exception of the channel dredging and toe trench dredging (if applicable) at the turning basin east bank, which shall be performed by others (i.e., Army Corp of Engineers or Other Contractors). The Berth basin shall be based on the criteria specified in the in the Marine Facilities Design Criteria for LNG Loading Berths (PAL-T0-MAR-DEC-24-GEN-0001) and the Marine Facilities Design Criteria for Material Offloading Facility (PAL-T0-MAR-DEC-80-GEN-0001).

Contractor's dredging scope at the turning basin east bank is based on a basin elevation of -46 ft and a 3(H):1(V) slope along the straight section within the limits of construction (LOC) of the turning basin east bank and excludes the toe trench dredging. Owner will confirm the slope protection design for the turning basin east bank and Contractor shall dredge accordingly, subject to Section 8.3.1(r) of the Agreement.

Contractor shall be responsible for the disposal of such dredged material in accordance with Applicable Law and the Permits and otherwise at the approved and permitted disposal locations as specified in the Project Specification for Dredging Works (PAL-T0-MAR-STD-00-GEN-
0001), Beneficial Use of Dredged Material Basis of Design (PALT0-MAR-BOD-0001), Beneficial Use of Dredge Material Plan Drawings (PALT0-MAR-DWG-0001), and Beneficial Use of Dredged Material Technical Specifications (PALT0-MAR-STD-0001).

4.16.6 Shore Protection Design

Shore protection shall be designed for the LNG Berth pocket (including the flared section of the pocket) and MOF dredging slope in accordance with CIRIA, PIANC, and USACE Coastal Engineering Manual guidelines.

4.16.7 Navigation Aids

Navigation aids shall be provided as required to allow safe ship navigation for the LNG Facility. The aids to navigation shall be in accordance with the International Association of Lighthouse Authorities (IALA) Maritime Buoyage System B. The location, color, and intensity for these navigation lights shall be in compliance with U.S. Coast Guard regulations.

The location of navigation sector lights and range buoys are outlined in the Marine Drawings and the “Project Specification for Aids to Navigation” identified in Appendix B and shall be confirmed with the Sabine Pilots Association.

4.16.8 Material Offloading Facility (MOF)

Contractor may elect to use the Sabine-Neches Waterway and connected water ways to bring in large Equipment and heavy construction materials to the Site during construction. Contractor shall construct a MOF at the location as shown on the overall site plan, as part of the Work. The MOF layout and function are to be designed to receive roll-on / roll-off / lift-on / lift-off vessels as approved by the U.S. Army Corps of Engineers and the U.S. Coast Guard, which will not include tug berth capability. The MOF shall be designed for use by Owner following Substantial Completion of Stage I. Contractor shall design the MOF in accordance with the Agreement, and shall construct the MOF, including sheet piling, dredging and piling. Contractor shall also construct a heavy haul road from the MOF location to the Site to allow transport of heavy loads.

4.17 Tie ins

The design of the LNG Facility shall allow for the isolation/removal of the entire scope of the LNG Tank and supporting Facility as well as the 2nd Berth and support facilities.

The LNG Facility design shall include tie-ins for future expansion of Train 3 and 4 to ensure continuous operations of the LNG Facility, in accordance with the “Train 3 and Train 4 Pre-Investment Study – Tie-in List” 26293-100-M0X-DK-00001 (PAL-T02-MEC-LST-00-GEN-0001).

4.18 Technical Deviation and Management of change protocols

Any technical deviations shall be handled in accordance with Section 2.25.4 of the Agreement.

5.0 ENGINEERING SUPPORT GROUPS

5.1 REGULATORY

Contractor shall designate a single individual to act as the coordinator to support preparation of the technical components of FERC package submissions and coordinate with Owner with respect to other Permit submissions. The coordinator shall also participate in coordination meetings with Owner, including Governmental Authorities as necessary, and manage the FERC technical package tracking sheet.

Per section 4.4.2.1 of the FEIS, Contractor shall plan for the ICWW crossing of a dredge pipeline, in accordance with the applicable Owner Permit, in the case that it becomes a requirement for the Project.

Contractor shall provide training to Contractor personnel working on the Site and/or ship canal to stop work in the vicinity of any threatened or endangered species and notify Owner's Environmental Inspector. During the performance of the Work, Contractor must continuously observe the potential impact of the Work to the environment and wildlife. Contractor shall comply with Section 4.6.1.3 of the FEIS. Contractor shall utilize nesting inhibitors within on-site Construction parking areas such as installation of colorful pennant strings, etc. If manatees are present within the impacted Project waters, Contactor must comply with the requirements of Section 4.7.3 of the FEIS.

The Traffic Impact Assessment conducted by Contractor under the EDSA shall serve as the basis of a Traffic Management Plan. Contractor shall develop and implement a Traffic Management Plan in compliance with FERC Order condition number 23 for use in connection with the Work. Contractor shall update such plan from time to time to ensure continuing compliance with FERC requirements.

All construction activities shall be conducted in accordance with the requirements of the applicable air quality standards provided under the Owner Permits.

In accordance with Section 2.10 of the Agreement, Contractor shall satisfy the requirements of the conditions of the FERC Order except to the extent described in Section 13 of this Appendix A or as clarified in Appendix J-3.

Without limiting the generality of the foregoing, with respect to the requirements for a quantitative analysis under Condition 106 of the FERC Order, Contractor shall, as part of the Work, prepare and submit the following Deliverables to Owner:

- Fire Protection Evaluation Report (including firewater demand calculations)
- Fire Water Layout Drawings

- Passive Fireproofing Layout
- Passive Fire Protection Schedule

These Deliverables will detail locations and Equipment utilizing active and passive fire protection, Supplier data for the thickness of passive fire protection, as well as calculations demonstrating flow rates and durations of any fire water, as well as compliance with API 2510.

5.2 IT/IS & DOCUMENT CONTROL

Contractor shall provide documentation for the Work as required by the Agreement, Appendix U and Attachment U-1 to Appendix U.

5.3 PROJECT HANDOVER

Contractor will develop a records retention and turnover plan (RRTP) that will identify the various document types and disposition of same at Project close-out with requirements, formats, and timing to comply with Appendix U, and the Document Management Plan as referenced in Appendix W.

5.4 PROJECT CONTROLS

As part of the Work, Contractor shall utilize project controls tools and personnel to appropriately monitor, track and report on the progress of the Project as set forth in the Project Controls Plan as part of Appendix W, the Project Execution Plan and Appendix S.

6.0 PROCUREMENT, MATERIALS MANAGEMENT & LOGISTICS

Contractor shall requisition, bid, evaluate, purchase, inspect, expedite, customs clear, deliver, store, manage, and preserve the equipment and materials required for the complete fabrication, erection, construction, installation, commissioning, testing, and operation of the LNG Facility as defined in Agreement.

6.1 PROCUREMENT PLAN

Contractor’s Procurement & Contracting Strategy Management Plan and Logistics & Materials Management Plan, which are each part of the Project Execution Plan, Appendix W to the Agreement, address procurement, Supplier and Subcontractor management, expediting, materials management, logistics and related data and reporting.

Where practical, in procurement of Equipment packages, Contractor shall develop a plan to maximize the commonality of Equipment and components.

6.2 Purchase Order and Subcontracts management

Contractor shall develop a comprehensive procurement and subcontracting program, indicating planned Purchase Orders and Subcontracts together with the scope of each Purchase Order and Subcontract and the identification of critical items.

The requirements of Section 2.7 of the Agreement shall be complied with during all procurement and subcontracting activities.

6.3 Procurement and subcontracting reporting

Contractor shall provide procurement and subcontracting reporting in accordance with the Agreement, Appendix S, and Appendix W.

6.4 OWNER PARTICIPATION DURING SUPPLIER POST-AWARD MEETINGS:

Owner shall be allowed to participate in post-award kickoff meetings with selected Vendors. Such participation is only required with the Supplier that has been selected by Contractor's bid evaluation process, are only for the significant Equipment listed below and are only for the technical portion of such meeting. The intent of such participation is to review the Supplier technical scope of work and responsibilities under the applicable Purchase Order.

- Amine contactor internals
- Amine regenerator internals
- Molecular sieve dehydrators
- Demethanizer internals
- Mercury removal beds
- H2S scavenger
- LNG tank in-tank pumps
- Expander/compressors
- Booster compressors
- EFG compressors
- BOG compressors
- Ground flare
- Cold recovery exchanger
- Air coolers
- Thermal oxidizer
- LNG Loading Arms
- Main Cryogenic Heat Exchanger

- Powerhouses
- Main Step-down Transformers
- Distribution Transformers
- 230kV GIS
- 230kV Overhead line

6.5 EXPEDITING

Contractor shall develop an expediting plan which defines the levels of expediting, which largely depends on the type of Purchase Orders, the requirements of critical Supplier data, current market conditions and the applicable Supplier's fabrication location. Such plan shall become part of the Project Execution Plan set forth in Appendix W.

Contractor shall report the status of purchase requisitions, inquiries, orders, shop fabrications, expediting, inspection and delivery of Equipment, instruments and materials in accordance with Appendix S. Reporting should include data on "Received on Site" dates and "Required on Site" dates to demonstrate support of the construction/installation sequence as required in Appendix S-2.

6.6 LOGISTICS and Materials Management

Contractor shall perform the Work in accordance with its Logistics & Materials Management Plan as included in Appendix W.

6.6.1 LOGISTICS

The delivery location of Liquefaction Project Equipment is dependent on material type, required on Site dates, and other logistical considerations. Contractor shall ensure logistics of Equipment deliveries, fabrications, inspections, and transfers are done in a safe and timely manner.

Shipping instructions shall be prepared and issued to the extent possible as part of the applicable Purchase Orders and shall, among other things, comply with the provisions of the Agreement.

6.6.2 Home Office Materials Management

Contractor shall provide a Home Office Materials Management plan which will outline detailed planning, milestone control and monitoring of materials activities for each requisition. The plan shall be developed based on the CPM Schedule, taking into account lead times for activities and materials as well as construction priorities.

6.6.3 Site Materials Management

Contractor shall inspect all Equipment as soon as practicable upon receipt and at delivery to the area where the Work is being performed. Contractor shall take appropriate measures for immediate repair or replacement of damaged materials.

Contractor shall address the following:

- Material receiving
- Material tracking (which may include using bar codes or other equivalent technology)
- Equipment and material storage
- Record of condition of Equipment and materials received at the Site
- Preventative maintenance (further described below)
- Inspection of materials upon receipt at Site
- Material controls
- Shortage and damage reports
- Storage locations including lay down control, layout and sizing, warehousing and climate controlled storage (as necessary)
- Surplus materials control

6.6.4 Inspection

Contractor shall provide a Quality Surveillance Plan and Inspection and Test Plans, that satisfies the requirements of the Project Quality Plan, codes, Specifications, Drawings, procedures and the Agreement as part of the Work. Quality is essential to the inspection process, therefore Contractor will require that all supplier documentation/records are generated, maintained and included in the details of all inspections/surveillances performed to the extent required under the Agreement. Level of Inspections shall also consider equipment criticality, order complexity, and country of origin.

6.7 EQUIPMENT PRESERVATION PLAN

Contractor shall comply with its Equipment preservation plan, as described in Appendix W. This plan identifies the requirements for preservation from purchase, through delivery to site, receipt at jobsite, storage at jobsite, installation at jobsite through LNG Facility start-up (CSU requirement). This plan shall be updated as required during the Work as required as detailed design activities are completed.

Contractor’s responsibilities for all Equipment includes inspections, expediting, and participation in testing, delivery, handling and preservation of Equipment in accordance with manufacturer’s Specifications while in transit, while in storage on Site, and after installation up to Substantial Completion of the Stage in which such Equipment is installed.

7.0 CONSTRUCTION

7.1 HEALTH, SAFETY, SECURITY AND ENVIRONMENT (HSSE)

Contractor is committed to an incident and injury-free environment for all personnel on the Liquefaction Project. Through education and training, the work force will be made aware of the hazards associated with constructing a facility of this magnitude and how to avoid and deal with them in a safe and productive manner. This objective shall be achieved through implementation of Contractor's approved HSSE Program as referenced in Appendix Q. Contractor's HSSE Program will include Owner's goals of ZERO injuries. This includes a high standard of Site Safety, Occupational Health Security and Environmental Management, with these requirements also being maintained by all Subcontractors and other personnel working at the Site.

7.2 QUALITY ASSURANCE AND QUALITY CONTROL

Contractor has developed a Quality Assurance Plan as set forth in Appendix R to the Agreement. As part of the Work, Contractor shall also develop a Construction Quality Control Program which is consistent with the requirement in this Appendix A and is based on a craft philosophy that stresses "doing it right the first time" and "Build it Clean, Built it Tight" concepts, as well as an aggressive inspection program coupled with the total involvement of craft personnel.

7.3 SCOPE OF CONSTRUCTION

Contractor will construct all temporary infrastructure necessary to support the construction effort including temporary off-Site roads, heavy haul roads, offices, warehouses, and other needed facilities as listed in the Construction Execution Plan set forth in Appendix W.

Contractor will construct the following temporary off-Site roads as required for Contractor's construction execution:

- Temporary road from the inlet gas pipeline metering station to the Entergy pad
- Temporary road crossings along the original Highway 87 Temporary roads for access in the on-Site laydown areas
- Temporary roads to access and within the off-Site laydown area
- Temporary roads and driveways for access to off-Site parking areas

For LNG Jetty construction, a sheet pile wall will be installed around the loading platform to allow land-based construction of the loading platform. Installation of such sheet pile wall is planned to be completed prior to commencement of the dredging of the berth pocket. The sheet pile wall will be left in place once construction of LNG Jetty is complete.

Contractor shall be responsible for mud control on Site, including use of wheel wash stations, dust control and construction debris clean-up on Site, including street sweeping equipment, to mitigate excessive mud and debris on Highway 87.

Contractor will supply all pre-construction provisions to the Site and the Work Site including preparation of the Site and the Work Site for all construction activities. Site prep work, including clearing and grubbing, raising the Site, and the construction of the pioneer dock and associated material handling equipment.

Contractor shall identify and mark gas wells that it locates on the Site and provide high visibility Jersey concrete barriers around each such well. Existing utility lines and pipelines adjacent to the original Highway 87 will be removed by Owner's Other Contractors. Existing and abandoned wells shall be lowered (as in the Berth area) and plugged by Owner's Other Contractors.

Contractor shall coordinate with Owner and other Third-Party utility suppliers that will provide permanent utilities to the LNG Facility, in accordance with Section 2.28 of the Agreement and the Interface Management Plan.
Contractor has developed a construction execution plan as part of the Project Execution Plan (PEP). The construction objectives of the Liquefaction Project are as follows:

a. Targeting zero lost time accidents and zero recordable injuries.

b. Creating a safe working environment through the identification and elimination of hazardous conditions and unsafe acts.

c. Emphasizing quality to produce a best in class product.

d. Minimizing impact to the environment during construction and meeting the requirements of Applicable Laws.

e. Completing all the construction activities in a safe manner within the prescribed schedule requirements and to the requisite level of quality.

f. Making full, effective use of GECP and (CECP) Construction Environmental Control Plan

g. Provide a competent and trained and motivated work force committed to the Liquefaction Project construction objectives.

h. Create a working environment that involves all members and recognizes the contribution of every individual and promotes positive employee relations.

i. Be a good neighbor in our communities throughout the construction phase and conduct our business in a professional and ethical manner at all times and in compliance with Owner policies and the Social Management Plan as included in Appendix W.

j. Employ the practice of continuous improvement throughout the course of the Liquefaction Project, fostering a practice of transparency and collaboration between Owner, Contractor and workers to improve Contractor's construction team's performance throughout the Liquefaction Project.

Contractor's night time noise limit at the Noise Level Receptor shall be in compliance with FERC's Guidance Manual Section 4.9.2.3. Specifically, the night-time construction noise limit would be 10 dB above the background levels at the Noise Level Receptor.

7.4 WORK PERMITS

Contractor shall make timely arrangements and be responsible for issuing the necessary work permits for any work that is conducted by Contractor, its Suppliers and their respective representatives. Contractor shall produce and implement a procedure for Contractor and its Suppliers compliance with the requirements of the Contractor HSSE Program and permitting process, including LOTO, PTW, Flange Isolations, etc.

Where applicable, Contractor shall ensure that no Work proceeds until the appropriate safe work permit has been issued. Contractor shall understand all aspects of the safe work permit prior to starting the Work. In addition, the Contractor shall communicate the safe work permit information to all personnel performing such Work prior to starting the Work.

Contractor shall construct the Liquefaction Project based on Contractor's standard procedures that includes the concept of "Build it Clean/Keep it Clean" that minimizes the potential for contaminating the Equipment and piping with construction debris, abandoned tools and materials.

Contractor shall develop a Pre-Commissioning plan for blowing or flushing the piping to remove residual water and debris with acceptance criteria. The plan shall indicate spools to remove and other openings that shall remain open until the lines are flushed.

7.5 TRAFFIC PLAN AT SITE

Contractor shall develop a comprehensive Traffic Management Plan for the Liquefaction Project to assure prompt and safe access to the Site for all persons performing the Work, while minimizing disruption to regular activities or scheduled events in the surrounding areas and will be based on Traffic Impact Analysis that is approved by the applicable Governmental Authority. The traffic management / control plan shall address the requirements of the surrounding communities, as well as other applicable considerations: (a) off-site parking for construction personnel and transport of such personnel to the Site; (b) deliveries of major Equipment to the Site; and (c) any traffic control requirements of any Governmental Authority.

The traffic management Plan includes the following:

- Recommended routings for delivery of equipment and materials to the project site.
- Heavy Equipment delivery routes and any special measures to be undertaken to prepare the route for deliveries.
- Types of equipment to be used for transportation of materials.
- It will promote safe and organized transportation of the workers to and from the site.

- Capabilities of the port loading facilities.
- Maximum shipping envelopes will be addressed for barge and road deliveries.
- Transportation companies with knowledge of the general region will be identified.
- How traffic will safely enter and exit the Site at the main entrance during peak demand periods.

Contractor will utilize temporary traffic control and a temporary light system as potential mitigations, and has excluded in this Scope of Work any other traffic mitigation measures, such as the design or construction of acceleration/deceleration or turning lanes on the existing or relocated Highway 87.

7.6 CONSTRUCTABILITY

As part of the construction strategy, Contractor shall provide constructability support during early engineering activities and the procurement phase of the Work. Contractor shall provide constructability input to make optimal use of construction knowledge (including development of the subcontracting and construction plans, and model reviews). Plans shall describe how Contractor's constructability input will be obtained and implemented during engineering, fabrication and on-Site construction.

A constructability program will be developed for use during the Work that incorporates elements of a traditional constructability program and is designed to embrace a broad scope of safety, cost and schedule savings ideas. The program will be construction, start-up and operations driven to help simplify the design. The reviews will focus on a design that keeps construction, operations and maintenance activities in mind but meets the Specifications.

The program will promote and encourage creativity, innovation and teamwork among the participants. Construction personnel from Contractor will actively participate in the engineering design review optimizing constructability, safety, ease of construction, rate of construction, etc. Contractor shall consider items such as:

- Shop fireproofing vs. field fireproofing
- Vessel internals assembly in shop
- Installation of all paint coating of Equipment in shop
- Determine amount of vessel insulation prior to erection
- Pipe and platform installation on vessels prior to erection
- Maximize the extent of shop fabrication and testing of piping
- Consider semi-automatic welding process on straight run pipe and on fabricated spools where feasible
- Standardize foundation sizes for reuse of forms
- Prefabrication of concrete manholes or sumps prior to installation

- Standardize bottom of foundation elevations
- Minimize or eliminate irregular foundation shapes
- Identify the type and extent of grouting for vessels, skids and compressors, considering supplier recommendations.
- Consider prefabrication of manholes, valve boxes, sumps etc.
- Where practical perform dissimilar welds in the shop
- Design and order valves early to avoid delays
- Reduce number of welding procedures and qualifications
- Provide anchor bolt templates from Suppliers on vessels over 12 ft in diameter
- Ship air coolers preassembled, with instructions and necessary provisions for field installation.
- Standardize size of rebar to reduce number of sizes
- Use of embedded plates on vertical concrete surfaces instead of anchor bolts to eliminate precise bolting positions
- Prefabrication of analyzer houses
- Locate column splices just above platforms to eliminate scaffolding installation
- Standardize pipe supports for ease of installation
- Locate spring supports for installation at platform levels to avoid scaffolding installation
- Consider special internal cleaning, prior to erection, of pipe to lube oil flushed to reduce the flushing time
- Review lessons learned from similar projects of this nature
- Consider use of common scaffold supplier and erector

Contractor shall hold regular constructability meetings during the design phase.

7.7 LABOR SURVEY AND LABOR RELATIONS

Contractor delivered a Labor Study as listed in Attachment A-3. Such study surveyed workforce and crafts that are forecasted to be available during the time of construction and included Contractor’s analysis of potential labor concerns. The study identified the available qualified labor in the area, the expected regions from which the labor would be sourced, the specific crafts and numbers of qualified available personnel or anticipated shortages. As part of the Work, the study shall be updated by Contractor at least annually.

Contractor shall use a suitable screening method in the recruitment of all labor so that personnel on the Site and the Work Site are in good health, are suitable for their planned work duties and can successfully participate in the Site safety and Injury free programs. Contractor shall maintain records at the Work Site of all persons screened for work.

7.8 SECURITY

Contractor has established appropriate security measures to maintain the security of the Site and the Work Site and protect the Work in accordance with the "Site Security Plan" as part of Appendix Q. Contractor shall comply with the Site Security Plan.

Contractor's Site Security Plan addresses site entry and identification requirements; temporary and permanent fencing; code of conduct on Site employee termination and removal; guard services.

7.9 FIELD CHANGES; DEFECTS

Contractor shall implement a "design change proposal" procedure for the identification and resolution of any proposed changes to the design during the construction phase of the Work. This Field Design Change Control procedure shall identify the reasons why the change is required and the proposed change. The Field Design Change Control procedure shall describe how all changes are controlled through engineering and how all agreed changes are incorporated into the Drawings. A register of design changes and design queries shall be maintained during the construction phase. All design changes implemented at Site shall be captured in the As-Built documentation and submitted to Owner for record as required in Appendix U.

During prefabrication, pre-assembly and installation of goods at the Site, Contractor shall keep a register of Defects identified by its own QA/QC inspection team, or by Owner or any other Person in accordance with Contractor's procedures. All such identified Defects shall be rectified in accordance with the Section 2.21 and Article 10 of the Agreement.

7.10 HSSE RISK ASSESSMENT

Risk Assessment Hazard and Effects Management Process methodology shall be used to identify and assess Health & Safety and Environmental Hazards during field erection and testing up to start up. These hazards may be identified at any stage of the Work; e.g., Owner data, existing Drawings, site survey investigations, design and constructability reviews, or information that may emerge during the construction, commissioning and start-up phases.

Once potential hazards are identified, the health and safety risks must be assessed. The assessment shall characterize the risk in terms of severity and probability.

From the risk assessment, a method statement shall be developed, which at best would eliminate the risk or would contain the risk to an acceptable level. If the Work is similar to other Work that has already been assessed for risk, the original assessment may be modified to suit the specific circumstances. The Project Risk Register shall be maintained by the Contractor through all phases and shall be made accessible to the Owner.

All risk assessments, (together with associated job specific method statements) generated throughout the duration of the Work shall be retained by:

- Contractor's jobsite manager; and

- Contractor safety management

Contractor shall carry out full risk assessments in regard to all of its construction operations.

7.11 HEAVY LIFT AND TRANSPORTATION

Contractor shall conduct rigging studies for all lifts over 50 tons, multiple crane lifts, or lifts exceeding 90% of the crane capacity unless a lower % capacity is required in accordance with Applicable Law. Each such study shall be prepared by Contractor and made available to Owner at its request. The rigging studies for all lifts over 50 tons, multiple crane lifts, or lifts exceeding 90% of the crane capacity (unless a lower % capacity is required in accordance with Applicable Law) shall be prepared and certified by a competent Rigging Engineer and included in the Rigging Execution Plan as part of the Construction Execution Plan referenced in Appendix W. The study shall include the following:

a. Check and verify certified weight and dimensions of the load to be lifted.

b. Cranes shall be inspected and certified for the purpose for which they will be used.

c. Dimensional plan and elevation Drawings, showing all stages of movement of the load from initial to final installed position.

d. Angles of chain blocks or wire rope slings during the operation and method of attachment to the load and supporting steelwork or structure.

e. Details of skid beams, channels and packing arrangements under beams or channels.

f. Method statement for entire lifting operation, indicating how the Construction Equipment will be installed, load erected and Construction Equipment removed.

g. Itemized check list for the entire lifting operation.

h. Center of gravity calculations for Equipment.

i. Crane model.

j. Crane configuration.

k. Crane capacity at working radius and required boom length including copy of the crane chart for which information was taken.

l. Required sizes and capacities of slings, shackles and lifting beams including all certifications for these items.

m. Verification of lifting points on the load to be lifted.

n. Structural calculations if lifting frames/beams are to be used.

o. Crane accessibility and placement for the lift.

p. Possible interference from erected items and structures.

q. Load bearing of the crane and bearing capacity of the ground.

r. Underground and/or overhead installations that may affect lift and protective measures as required.

7.12 SITE FACILITIES AND LOGISTICS

7.12.1 Temporary Sanitation Facilities

Contractor shall provide adequate toilets and washing facilities for all visitors, employees, Owner and Suppliers at the Work Site. These facilities shall be strategically located close to Contractor designated major Work areas and / or parking lots, office buildings, trailers, and tents. Waste from these facilities shall be collected and transported to an offsite treatment plant. Contractor shall establish and maintain clean conditions on the Site and the Work Site during the Project for all visitors, employees, Owner / Contractor personnel and the Subcontractors. Temporary sanitation facilities will include maintained hand washing stations adequately replenished with water, hand cleaner and paper towels, and emptied trash receptacle. Contractor will maintain a clean work site with temporary sanitation facilities well-organized trash collection and removal. Contractor shall provide segregated male and female facilities with locks for privacy.

7.12.2 Temporary Construction Power and Utilities

Contractor shall provide temporary distribution facilities to extend utilities from the point(s) of outlet designated by the applicable utility service provider to the point(s) of use required by the Contractor to perform any construction activities or the support thereof.

Upon Substantial Completion of each Stage of the Work, Contractor shall remove all temporary and/or construction power, materials, facilities and equipment used in connection with the extension of any permanent utilities and repair any damage caused as a result in accordance with the Agreement. Underground utilities (i.e., temporary power cable and temporary water lines) shall be de-commissioned, capped and left in place. Contractor shall maintain records of all utilities both above and underground throughout the construction phase. Any temporary underground piping and electrical cabling not removed after completion of work, shall be de-energized, capped, and marked on Underground Drawings to indicate the As-Built version of the system left in place.

The temporary construction power distribution system shall be designed, paid for and installed by Contractor.

Contractor shall provide and maintain all temporary electrical facilities on the Site and the Work Site.

Contractor shall design, provide, and install all necessary generation, transformation, and distribution of construction power required to perform the Work.

All cords leads or electric power equipment shall be designed and maintained in accordance with the Applicable Codes and Standards and shall be used in accordance with the Contractor HSSE Program.

Water from the Sabine-Neches waterway will be used by Contractor and/or its Subcontractors as “construction water” for dust control, cement slurry, earthwork and the LNG tank hydrotest provided that such use is approved and permitted by Governmental Authorities.

7.13 TEMPORARY FACILITIES

Contractor shall provide all temporary facilities used during the Work, as required by the Agreement. The temporary facilities for the Liquefaction Project shall be designed to adequately support the needs of Contractor, Subcontractors and the Liquefaction Project. Access, egress, drainage, utilities, parking, cool down zones, lunch areas, lightning protection areas, lay down areas, off or on-site temporary laydown yards, temporary climate controlled building, warehouse and temporary utility routings shall all be reviewed for a safe, functional, and environmentally sensitive installation. Planning associated with the erection of these facilities must receive a high priority at the outset of the Project.

A temporary facilities plan has been developed by Contractor and is referenced in Appendix W. Such plan addresses offices and facilities, underground utilities, parking, construction water, construction waste, temporary laydowns, and removal of facilities. Contractor shall comply with its temporary facilities plan.

Contractor shall maintain the temporary facilities areas in accordance with GECP and the applicable provisions of the Environmental Plan until care, custody and control of the area in which such temporary facilities areas are located is turned over to Owner in connection with Substantial Completion of a Stage. The drainage of these temporary areas shall continue to function as designed throughout this period.

Contractor shall supply the following Temporary facilities to accommodate Owner’s field personnel (peak at 94 personnel) in accordance with Contractor’s Temporary Facilities Plan (PAL-PJT-CON-PLN-00-GEN-0003; 26196-100-G90-GAM-00002):

- one main office complex;

- two satellite field offices; and

- related communication infrastructure (open internet connection, desk phones).

7.14 TOOLS AND EQUIPMENT

All construction Equipment and tools shall be supplied by Contractor. A “Tools and Construction Equipment Inspection Program” shall be developed as part of the Work which shall

meets all statutory requirements, the Specifications listed in Appendix B, be in good working condition, be well maintained and be protected in accordance with the Agreement.

Safety harnesses, safety lines, Self-Retracting lines shall also be subject to the inspection program.

7.15 FIELD EXECUTION

Contractor shall be responsible for the management of all activities at the Site and the Work; in particular for safety, construction progress, and the quality of the Work performed by Contractor, its Subcontractors, and all Supplier personnel.

Pipe pressure testing will be conducted in accordance with the Specification except where pneumatic testing has been accepted by Owner in accordance with RFD PAL-PJT-PIP-RFD-00-GEN-5143 (26196-100-3UD-G01-00143).

In addition, to minimize risk of corrosion, Contractor's execution strategy for both field weld joints and shop weld joints is to maintain accessibility to such joints and apply full painting to the joints as soon as weld is accepted by applicable NDE (nondestructive examination) test, prior to leak test, except as otherwise provided in RFD PAL-PJT-PIP-RFD-00-GEN-5132 (26196-100-3UD-G01-00132).

7.16 BORROW PITS

Contractor shall prepare a Site Fill Materials Plan. Contractor shall also identify any borrow pits identified for use and/or the proposed supplier of fill materials for the Site or the Work Site as needed to meet the Liquefaction Project's design requirements. Contractor is responsible to assure the borrow pit is permitted for use by applicable Governmental Authorities. Contractor is to make any necessary contractual arrangements, including for mud management, with borrow pit Suppliers and shall pay all costs therewith.

7.17 DISPOSAL SITES

Contractor will maintain options to dispose stripped materials. The disposal locations will be either the laydown area 2 on the Site or at off-site locations. Contractor shall prepare a Spoils Disposal Plan as part of the Work. Contractor shall also identify all offsite locations proposed for spoils disposal of materials for Site or Work Site preparation. Contractor is responsible to assure any offsite disposal location utilized by Contractor is permitted for use by applicable Governmental Authorities. Contractor's storm water pollution prevention plan (SWPPP) shall be implemented at the onsite disposal area.

7.18 LINE AND EQUIPMENT LABELING

Contractor shall label all lines and Equipment in accordance with the PAL0-PIP-SPE-0021 – Identification and Labeling of Piping Systems.

8.0 COMMISSIONING, COMPLETION, AND ACCEPTANCE

Contractor shall prepare and submit a detailed commissioning and start-up plan to Owner for review and comments as required by the Agreement.

Contractor shall develop procedures that define Contractor's strategy to limit flaring of natural gas during pre-commissioning, commissioning and start-up phases. GECP shall be applied by the Contractor in developing these procedures.

Contractor's commissioning and start-up plan may utilize Contractor's standard procedures and work processes to execute commissioning and start-up activities, as modified to address all project specific requirements, and in any event shall include detailed procedures for all, commissioning and start-up activities for each system and subsystem. Pre-commissioning includes inspections, cleaning and other activities which are carried out after construction completion for a given system/subsystem is achieved, at ambient temperature and without the presence of process fluids. Catalyst and chemicals will be charged where practical to do so. Commissioning includes tests, inspections and adjustments carried out after pre-commissioning activities for a given system/subsystem are completed, as far as practical, and prior to the introduction of hydrocarbons (Feed Gas) in accordance with the Agreement. Contractor's commissioning and start-up plan shall include forms, document flow, schedule, certification scheme, status monitoring method and commissioning and start-up requirements checklists for each system and subsystem.

Prior to Ready for Start-Up (RFSU), Contractor and Owner shall jointly conduct a pre-safety start-up review. Procedures should also be made available that clearly define the HSSE, compliance, emergency response requirements and the roles and responsibilities of all team Members at Site, which also includes Owner personnel.

Any temporary piping and instrumentation shall be removed prior to conducting Performance and Functional Tests.

8.1 TRAINING OF O&M PERSONNEL

During the EPC period, the Contractor will develop a Training Program in accordance with Appendix P.

The Contractor shall develop O&M related documentation required for pre-commissioning, commissioning, start-up and operations of all system and sub-systems of the LNG Facility as required by the Agreement.

Contractor shall develop and provide an Operator Training Simulator (OTS) suitable for training Owner's Operating Personnel in accordance with Section 4.10.23 of this Appendix A and Appendix P.

8.2 COMMENCEMENT OF COMMISSIONING & START-UP

Contractor shall commence commissioning and start-up activities in accordance with the Agreement. Contractor shall execute all Work required for commissioning and start-up of each Stage.

Contractor shall provide a commissioning manager and a commissioning team. The commissioning team shall have a major interface with the construction team so that commissioning is completed in the correct sequence by system, all commissioning inspections and tests are conducted in accordance with the Agreement, and all required certificates and documents are completed for turnover.

After the completion of the Training Program, the Owner's Operating Personnel will work under the supervision of the Contractor's Commissioning & Start-Up team to participate in pre-commissioning, commissioning, start-up and subsequent operations activities, until Substantial Completion and handover of each Stage of the LNG Facility to the Owner.

Prior to the introduction of Hydrocarbons or other operating fluids, the Contractor and Owner's Operating Personnel will conduct a Pre-Start-up Safety Review (PSSR) for the facility to ensure that all Systems and Sub-Systems are ready for Operation.

9.0 OPERATIONAL INTERFACES

Contractor shall familiarize itself with all construction interfaces and carry out the on-site activities, including construction, hot taps, start-up, commissioning and testing, in a safe and efficient manner.

- Key Interfaces and Tie-ins
  - Feed Gas Supply
  - Imported Power Supply
  - Potable Water Supply (including piping components shown on UPI Drawing 24150-540-DTL-44010)
  - Nitrogen Supply
  - Sanitary waste disposal
  - Telecommunications

10.0 SIMOPS

Contractor shall Implement a SIMOPS process, in accordance with the SIMOPS plan in Appendix W, including a SIMOPS risk screening workshop, in the early phases of the Liquefaction Project to allow planning and sequencing of activities to eliminate risks associated with performing certain activities simultaneously. The early planning shall give an insight as to which activities shall be more suited to work together.

The following steps shall be considered to document hazards and associated mitigation measures:

- SIMOPS Risk screening workshop
- SIMOPS Activity Hazard Identification and Risk Assessment
- Risk Management

Contractor shall develop SIMOPS activity specific work plans for each specific work activities identified in the SIMOPS risk screening workshop. The SIMOPS activity specific work plan shall include, but not be limited to, the following:

- Description of the scope of work to be covered by their organization relative to the SIMOPS
- Roles and responsibilities – including organization and reporting lines/ requirements
- Procedures and controls
- SIMOPS risk and mitigations
- Work Method Statements as required
- JHA / STARRT card requirements
- Contingency plans
- Emergency response Plan
- Establishment of who has overall charge of the work

An Activity Specific Work Package shall be prepared for activities recorded on a SIMOPS register. The work package shall contain the pertinent activity-specific information for each of the SIMOPS.

11.0 PERFORMANCE TESTING

Please refer to Appendix G and Section 9.7 of the Agreement

12.0 SHIP ARRIVAL & CARGO TRANSFER

Contractor may have to cease all construction activities on the Berth when an LNG Tanker is approaching, or is in the process of being loaded or unloaded, and departing.

When an LNG Tanker approaches the Berth, an announcement will be made via the LNG Facility’s paging system to warn personnel of the approaching LNG Tanker and to stop

performing all Work in the affected areas. Contractor will be advised of the practicality and timing of resuming such Work.

13.0 SCOPE OF WORK EXCLUSIONS

The below listed items are excluded from Contractor's Scope of Work:

- Landscaping associated with the completed LNG Facility;
- Shoreline protection between the MOF and the North Berth and between the South Berth and the south end of LNG Facility;
- Any required vapor cloud dispersion modelling;
- Acquisition of frequency license of the ship/marine radios for communication between ship and shore in the jetty marine building;
- After Substantial Completion of a Stage, the supply of finished surface gravel fill to maintain such Stage and drainage through the stormwater system of such Stage;
- Supply of general office furniture, cubicles, and office tools required for the workshop and warehouse for the LNG Facility;
- Removal and disposal of the concrete bridge, foundations and cutoff piling (where required) within the TPWD area near the BUDM;
- Supply of all laboratory equipment and laboratory instrument management systems (LIMS) for the laboratory;
- Supply of permanent equipment toolboxes, permanent mobile lifting equipment (such as mobile cranes, forklifts, trucks, runway beam trolleys, platform trolleys, A-frames, abbey hoists, block and tackle, etc.) to be used for operations and maintenance activities by Owner after Substantial Completion;
- Compensation to Texas Parks and Wildlife Department for lost recreational opportunities related to seasonal hunting and the relocation of the existing WMA access road and construction of the alternate access road connecting to the relocated SH 87;
- Implementation of any recommendations resulting from the Baker-Hughes study report performed pursuant to Section 4.1.13 of this Appendix A;
- Implementation of any design changes that may result from Contractor's updates to the LNG Vessel Drifting Speed Study and Hydraulic Transient Analysis for LNG Loading Line Study completed pursuant to Section 4.16.2 of this Appendix A;

- Design package, which includes calculations, issued for construction (IFC) plan/profile drawings and material takeoffs of the turning basin east bank dredge slope and associated slope protection (if applicable) and design package verification;
- Procurement and installation of slope protection (if applicable) for the turning basin east bank;
- Dredging of toe trench (if applicable) based on design of the turning basin east bank dredge slope and associated slope protection (Contractor's dredging will be up to -46 ft); and
- Maintenance of the dredge slope and toe trench (if applicable) after completion of Contractor's dredging scope of work and turnover to Owner for the slope protection installation (if applicable) to be performed by Other Contractors.

With respect to the following items as required under the referenced FERC Order conditions:

[***].

SEMPRA ENERGY

<YEAR> LONG TERM INCENTIVE PLAN

YEAR <YEAR> NONQUALIFIED STOCK OPTION AWARD

You have been granted a nonqualified option award representing the right to purchase the number of shares of Sempra Energy Common Stock set forth below, subject to the vesting conditions set forth below. The option may not be sold or assigned. The option will be subject to forfeiture unless and until it is vested in accordance with the attached Year <YEAR> Nonqualified Stock Option Award Agreement (the "Award Agreement").

The terms and conditions of your award are set forth in the attached Award Agreement and in the Sempra Energy <YEAR> Long Term Incentive Plan (the "Plan"), which has been provided to you. The summary below highlights selected terms and conditions but it is not complete and you should carefully read the Award Agreement and the Plan to fully understand the terms and conditions of your award.

SUMMARY

Date of Award:	**<DATE>, <YEAR>**
Name of Optionee:	**NAME**
Optionee's Employee Number:	**EE ID**
Number of Shares of Sempra Energy Common Stock Covered by Option:	**# SHARES**
Exercise Price per Share:	**$TBD**

Vesting/Forfeiture of Option:
Subject to certain exceptions set forth in the Award Agreement, your option will vest (become exercisable) in three equal annual cumulative installments of one-third each over a three-year period. Once an installment becomes exercisable, it will remain exercisable until it is exercised or your option expires or terminates. Any portion of the option that does not vest will be forfeited.

Option Term:
Ten years subject to earlier expiration if your employment terminates.

Transfer Restrictions:

Your option may not be sold or otherwise transferred and will remain subject to forfeiture conditions until it vests, except as set forth herein.

Termination of Employment:

Subject to certain exceptions set forth in the Award Agreement, your option will expire and will cease to vest upon your termination of employment.

No Dividend Equivalents:

No dividend equivalents will be paid with respect to your option or the shares covered by your option.

Exercise of Option/Taxes:

You may exercise vested portions of the option in accordance with the Award Agreement. Upon exercise of your option you must pay (or make acceptable arrangements to pay) the exercise price for each share for which you exercise your option and any withholding taxes that may be due as a result of exercise.

By your acceptance of this award, you agree to all of the terms and conditions set forth in this Cover Page/Summary, the Award Agreement and the Plan. You will be deemed to have accepted this award unless you affirmatively reject the award in accordance with the procedures described herein.

Sempra Energy: <SIGNATURE>

<NAME>

Title: <CEO or CHRO (however designated)>

SEMPRA ENERGY

<YEAR> LONG TERM INCENTIVE PLAN

Year <YEAR> Nonqualified Stock Option Award Agreement

Award:

You have been granted a nonqualified stock option award under Sempra Energy's <YEAR> Long Term Incentive Plan (the "Plan"). The award consists of an option to purchase the number of shares of Sempra Energy Common Stock ("Common Stock") set forth on the Cover Page/Summary to this Award Agreement. ˙Capitalized terms used in this Award Agreement and not defined shall have the meaning set forth in the Plan.

Unless and until it is vested, your option will be subject to forfeiture and vesting conditions.

Subject to the provisions below relating to the treatment of your option in connection with a Change in Control (as defined in the Plan), your option will vest as described herein.

Subject to certain exceptions set forth herein, your option will also be forfeited if your employment terminates before it vests.

See "Vesting/Forfeiture," "Termination of Employment" and "Transfer Restrictions" below.

Vesting/Forfeiture:

Your option vests (becomes exercisable) in equal annual cumulative installments over a three-year period. Each installment is one-third of the original number of shares covered by your option and an installment vests on each of the first three anniversaries of the Grant Date shown on the Cover Page/Summary to this Award Agreement. Once an installment of your option becomes exercisable, it will remain exercisable until it is exercised or your option expires. Any unvested portion of the option will be forfeited in accordance with this Award Agreement.

Term:

Your option will expire at the close of business at Sempra Energy headquarters on the day before the 10th anniversary of the Grant Date shown on the cover sheet and, except as otherwise provided, is subject to earlier expiration or termination (as described below) if your employment terminates.

Termination of Employment:

Termination:

If your employment with Sempra Energy and its Subsidiaries terminates for any reason prior to the vesting of your option (other than under the circumstances set forth below), any unvested portion of your option will be forfeited effective immediately after your termination; provided, however, that the Compensation Committee in its sole discretion may determine that all or a portion of your option will not be forfeited but will be vested as of your termination of employment (subject to Code Section 409A requirements and the terms of the Plan). Except as provided below, the vested portion of your option will expire at the close of business at Sempra Energy's headquarters on the 90th day after your employment terminates or, if earlier, on the ten-year expiration date of the option. The option will not continue to vest after your termination of employment except as provided below or as provided by the Compensation Committee and will be exercisable only as to the number of shares for which it was exercisable on the date of your termination.

If your employment with Sempra Energy and its Subsidiaries terminates prior to a Change in Control, other than by termination for cause, and you had both completed at least five years of continuous service with Sempra Energy AND met any of the following conditions:

1.) your employment terminates on or after December 31, <YEAR> and at the date of termination you had attained age 55; or

2.) your employment terminates on or after November 30, <YEAR> and at the date of termination you had attained age 62; or

3.) at the date of termination you had attained age 65 and you were an officer subject to the company's mandatory retirement policy;

your option will not be forfeited but will continue to be subject to the transfer restrictions and vesting conditions and other terms and conditions of this Award Agreement until the ten-year expiration date of the option if you were at least age 62 at the time of your termination or the earlier of the ten-year expiration date of the option or the third anniversary of your termination date if you were below age 62 at the time of your termination).

If your employment with Sempra Energy and its Subsidiaries terminates by reason of your death prior to the vesting of your option and your option would otherwise be forfeited (you do not meet the age and service conditions described above), the unvested portion of your option will not expire but will continue to be subject to the transfer restrictions and vesting conditions and other terms and conditions of this Award Agreement until the earlier of the ten-year expiration date of the option or the third anniversary of your death.

Termination for Cause:

If your employment with Sempra Energy and its Subsidiaries terminates for cause, or your employment would have been subject to termination for cause, prior to the vesting of your option, the unvested portion of your option will be forfeited and cancelled.

Prior to the consummation of a Change in Control, a termination for cause is (i) the willful failure by you to substantially perform your duties with the Company (other than any such failure resulting from your incapacity due to physical or mental illness), (ii) the grossly negligent performance of such obligations referenced in clause (i) of this definition, (iii) your gross insubordination; and/or (iv) your commission of one or more acts of moral turpitude that constitute a violation of applicable law (including but not limited to a felony) which have or result in an adverse effect on the Company, monetarily or otherwise, or one or more significant acts of dishonesty. For purposes of clause (i), no act, or failure to act, on your part shall be deemed "willful" unless done, or omitted to be done, by you not in good faith and without reasonable belief that your act, or failure to act, was in the best interests of the Company. If your option remains outstanding following a Change in Control pursuant to a Replacement Award, a termination for cause following such Change in Control shall be determined in accordance with the provisions of the Plan that define "Cause", including reasonable notice and, if possible, a reasonable opportunity to cure as provided therein.

Change in Control: The terms of the Plan relating to treatment of awards in the event of a Change in Control shall apply to your option in the event of a Change in Control.

Restrictions on Exercise: You will not be permitted to exercise your option at any time at which Sempra Energy determines that the issuance of shares may violate any law, regulation or Sempra Energy policy.

Exercise of Option/Tax Withholding: You may exercise your option, to the extent vested, prior to the date on which the option expires. Exercise shall be done in accordance with policies and procedures established by Sempra Energy. Upon exercise, Sempra Energy or its Subsidiary is required to withhold taxes. Unless you instruct otherwise and pay or make arrangements satisfactory to Sempra Energy to pay the exercise price and the taxes (which can be accomplished through a broker assisted cashless exercise), upon exercise, Sempra Energy will withhold a sufficient number of shares of common stock that you otherwise would be entitled to receive upon exercise to pay the exercise price for the shares with respect to which the option is exercised and to cover the minimum required withholding taxes and will transfer to you only the remaining balance of the shares with respect to which the option is exercised.

Transfer Restrictions: Prior to your death, your option may only be exercised by you. You may not sell or otherwise transfer or assign your option. You may, however, dispose of your option in your will. If someone wants to exercise your option after your death, that person must prove to Sempra Energy's satisfaction that he or she is entitled to do so.

Restrictions on Resale: You agree not to sell any option shares at a time when applicable laws, regulations or Sempra Energy policies prohibit a sale.

Recoupment ("Clawback") Policy: The Company shall require the forfeiture, recovery or reimbursement of awards or compensation under the Plan and this award as (i) required by applicable law, or (ii) required under any policy implemented or maintained by the Company pursuant to any applicable rules or requirements of a national securities exchange or national securities association on which any securities of the Company are listed. The Company reserves the right to recoup compensation paid if it determines that the results on which the compensation was paid were not actually achieved.

The Compensation Committee may, in its sole discretion, require the recovery or reimbursement of long-term incentive compensation awards from any employee whose fraudulent or intentional misconduct materially affects the operations or financial results of the Company or any of its Subsidiaries.

Retention Rights: Neither your option nor this Award Agreement gives you the right to be retained by Sempra Energy or any of its Subsidiaries in any capacity and your employer reserves the right to terminate your employment at any time, with or without cause. The value of the shares subject to your option will not be included as compensation or earnings for purposes of any other benefit plan offered by Sempra Energy or any of its Subsidiaries.

No Shareholder Rights: You have no rights as a shareholder of Sempra Energy until your option shares have been issued. No adjustments are made for dividends or other rights if the applicable record date occurs before your option shares are issued.

Nonqualified Stock Option: This option is not intended to be an incentive stock option under section 422 of the Code.

Applicable Law: This Award Agreement will be interpreted and enforced under the laws of the State of California.

Further Actions: You agree to take all actions and execute all documents appropriate to carry out the provisions of this Award Agreement.

You shall be deemed to have accepted this award unless you affirmatively reject it in writing addressed to the Corporate Secretary of the Company no later than 90 days following the Date of Award.

You also appoint as your attorney-in-fact each individual who at the time of so acting is the Secretary or an Assistant Secretary of Sempra Energy with full authority to effect any transfer of any shares of Common Stock distributable to you pursuant to the option, including any transfer to pay withholding taxes, that is authorized by this Award Agreement.

Other Agreements: In the event of any conflict between the terms of this Award Agreement and any written employment, severance or other employment-related agreement between you and Sempra Energy, the terms of this Award Agreement, or the terms of such other agreement, whichever are more favorable to you, shall prevail. In the event of a conflict between the terms of this Award Agreement and the Plan, the Plan document shall prevail.

By your acceptance of this award, you agree to all of the terms and conditions set forth in the Cover Page/Summary, this Award Agreement and the Plan. You will be deemed to have accepted this award unless you affirmatively reject the award in accordance with the procedures described herein.

SEMPRA ENERGY
<YEAR> LONG TERM INCENTIVE PLAN
YEAR <YEAR> PERFORMANCE-BASED RESTRICTED STOCK UNIT AWARD

You have been granted a performance-based restricted stock unit award representing the right to receive the number of shares of Sempra Energy Common Stock set forth below, subject to the vesting conditions set forth below. The restricted stock units, and dividend equivalents with respect to the restricted stock units, under your award may not be sold or assigned. They will be subject to forfeiture unless and until they vest based upon the satisfaction of earnings per share performance criteria for the performance period beginning on January 1, <YEAR> and ending on December 31, <YEAR>. Shares of Common Stock will be distributed to you after the completion of the performance period ending on December 31, <YEAR> if, and to the extent that, the restricted stock units vest under the terms and conditions of your award.

The terms and conditions of your award are set forth in the attached Year <YEAR> Performance-Based Restricted Stock Unit Award Agreement (the "Award Agreement") and in the Sempra Energy <YEAR> Long Term Incentive Plan (the "Plan"), which has been provided to you. The summary below highlights selected terms and conditions but it is not complete and you should carefully read the Award Agreement and the Plan to fully understand the terms and conditions of your award.

SUMMARY

Date of Award:	**<DATE>, <YEAR>**
Name of Recipient:	**NAME**
Recipient's Employee Number:	**EE ID**
Number of Restricted Stock Units (prior to any dividend equivalents):	
At Target:	**# RSU**
At Maximum:	**200% of Target (e.g. 1,000 at Target = 2,000 at Maximum)**
Award Date Fair Market Value per Share of Common Stock (Closing Stock Price on Date of Award):	**$<PRICE>**

Restricted Stock Units:

Your restricted stock units represent the right to receive shares of Common Stock in the future, subject to the terms and conditions of your award. Your restricted stock units are not shares of Common Stock. The target number of restricted stock units will vest (subject to adjustment as described below) if, and to the extent that, the Compensation Committee of Sempra Energy's Board of Directors (the "Compensation Committee") determines that the target "Earnings Per Share Growth" (as defined in the Award Agreement) has been achieved for the performance period. If above target Earnings Per Share Growth is achieved, you may vest in up to the maximum number of restricted stock units plus reinvested dividend equivalents as described below.

Vesting/Forfeiture of Restricted Stock Units:

Subject to certain exceptions set forth in the Award Agreement, your restricted stock units (including units attributable to reinvested dividend equivalents) will vest only in the event, and to the extent, that the Compensation Committee determines and certifies that Sempra Energy has met the specified Earnings Per Share Growth performance, as described below, for the performance period beginning on January 1, <YEAR> and ending December 31, <YEAR>. Any vesting will occur immediately following such determination and certification. Any restricted stock units that do not vest with the Compensation Committee's determination and certification (or otherwise in accordance with the Award Agreement) will be forfeited. All determinations of the Compensation Committee as to the level of Earnings Per Share Growth and the number of your restricted stock units (and accompanying dividend equivalents) that vest is final and binding.

Transfer Restrictions:

Your restricted stock units may not be sold or otherwise transferred and will remain subject to forfeiture conditions until they vest.

Termination of Employment:

Subject to certain exceptions set forth in the Award Agreement, your restricted stock units will be forfeited if your employment terminates.

Dividend Equivalents:

You also have been awarded dividend equivalents with respect to your restricted stock units. Your dividend equivalents represent the right to receive additional shares of Common Stock in the future, subject to the terms and conditions of your award. Your dividend equivalents will be determined based on the dividends that you would have received had you held shares of Common Stock equal to the vested number of your restricted stock units from the date of your award to the date of the distribution of shares of Common Stock following the vesting of your restricted stock units, and assuming that the dividends were reinvested in Common Stock (and any dividends on such shares were reinvested in Common Stock). The dividends will be deemed reinvested in Common Stock in the same manner as dividends reinvested pursuant to the terms of the Sempra Energy Direct Stock Purchase Plan (also known as the Sempra Energy Dividend Reinvestment Plan). Your dividend equivalents will be subject to the same transfer restrictions and forfeiture and vesting conditions as the shares represented by your restricted stock units.

Distribution of Shares:

Shares of Common Stock will be distributed to you to the extent your restricted stock units (and accompanying dividend equivalents) vest. Except as provided otherwise in the Award Agreement, the shares will be distributed to you after the completion of the performance period ending on December 31, <YEAR> and the Compensation Committee's determination and certification of Earnings Per Share Growth performance for the performance period. The shares of Common Stock will include the additional shares to be distributed pursuant to your vested dividend equivalents.

Taxes:

Upon distribution of shares of Common Stock to you, you will be subject to income taxes on the value of the distributed shares at the time of distribution and must pay applicable withholding taxes.

By your acceptance of this award, you agree to all of the terms and conditions set forth in this Cover Page/Summary, the Award Agreement and the Plan. You will be deemed to have accepted this award unless you affirmatively reject the award in accordance with the procedures described herein.

Sempra Energy: <SIGNATURE>

<NAME>

Title: <CEO or CHRO (however designated)>

SEMPRA ENERGY
<YEAR> LONG TERM INCENTIVE PLAN

Year <YEAR> Performance-Based Restricted Stock Unit Award Agreement

Award:

You have been granted a performance-based restricted stock unit award under Sempra Energy's <YEAR> Long Term Incentive Plan (the "Plan"). The award consists of the number of restricted stock units set forth on the Cover Page/Summary to this Award Agreement, and dividend equivalents with respect to the restricted stock units (described below). Capitalized terms used in this Award Agreement and not defined shall have the meaning set forth in the Plan.

Your restricted stock units represent the right to receive shares of Common Stock in the future, subject to the terms and conditions of your award. Your restricted stock units are not shares of Common Stock.

Each restricted stock unit initially represents the right to receive one share of Common Stock upon the vesting of the unit.

Unless and until they vest, your restricted stock units and any dividend equivalents will be subject to transfer restrictions and forfeiture and vesting conditions.

Subject to the provisions below relating to the treatment of your restricted stock units in connection with a Change in Control, your restricted stock units (and dividend equivalents) will vest only in the event, and only to the extent, that the Compensation Committee of Sempra Energy's Board of Directors (the "Compensation Committee") determines and certifies that Sempra Energy has met the Earnings Per Share Growth performance for the performance period beginning January 1, <YEAR> and ending on December 31, <YEAR> as described below. Any restricted stock units (and dividend equivalents) that do not vest will be forfeited.

Subject to certain exceptions set forth herein, your restricted stock units (and dividend equivalents) will be forfeited if your employment terminates before they vest; provided, however, that the Compensation Committee, in its sole discretion, may determine that all or a portion of such restricted stock units (and dividend equivalents) will not be forfeited but will continue to be subject to transfer restrictions and other vesting conditions applicable under this Award Agreement (subject to Code Section 409A requirements and the terms of the Plan).

See "Vesting/Forfeiture," "Transfer Restrictions," and "Termination of Employment" below.

Vesting/Forfeiture: Subject to the provisions below relating to the treatment of your restricted stock units in connection with a Change in Control, your restricted stock units (and dividend equivalents) will vest only in the event, and to the extent, that the Compensation Committee determines and certifies that the Earnings Per Share Growth performance for the performance period has been met. Any vesting will occur immediately following such determination and certification. **The Compensation Committee retains sole and exclusive authority to determine the level of Earnings Per Share Growth and the number of your restricted stock units (and accompanying dividend equivalentS) that vest. THE DETERMINATION OF THE COMPENSATION COMMITTEE AS TO ALL MATTERS RELATING TO THIS AWARD IS FINAL AND BINDING.**

Earnings Per Share Growth is determined based upon the compound annual growth rate (CAGR) of Sempra Energy's fiscal <YEAR> and fiscal <YEAR> earnings per share, subject to adjustments by the Compensation Committee in its sole discretion. For purposes of this calculation, (i) the starting point to calculate Earnings Per Share Growth shall be Sempra Energy's <YEAR> earnings per share, (ii) the ending point to calculate Earnings Per Share Growth shall be Sempra Energy's <YEAR> earnings per share and (iii) earnings per share shall be calculated using weighted average shares outstanding (WASO) for fiscal <YEAR> and fiscal <YEAR>, as diluted to reflect outstanding stock options and RSUs (Diluted WASO). For fiscal <YEAR>, earnings per share shall exclude the effect of any common stock buybacks not contemplated in Sempra Energy's most recent financial plans publicly communicated prior to the Date of Award. For the avoidance of doubt, Diluted WASO shall include the impact of any compensation or incentive plan transactions that reduce diluted WASO including, without limitation, transactions from tax withholding obligations and expirations or forfeitures of stock options and restricted stock units.

The calculation of the Earnings component of Earnings Per Share is intended to be consistent with the calculation of Earnings under the Sempra Energy annual incentive plans. Adjustments to Earnings are intended to be generally consistent with the adjustments applied under the Sempra Energy annual incentive plans, but the Compensation Committee, in its sole discretion, shall determine what adjustments shall apply for purposes of calculating Earnings Per Share Growth. The Compensation Committee in its sole discretion shall determine the extent to which the Earnings Per Share Growth performance has been achieved and the number of restricted stock units (and accompanying dividend equivalents) that vest.

The percentage of your target number of restricted stock units that vest will be determined as follows:

Earnings Per Share Growth <YEAR> - <YEAR>	**Percentage of Target Number of Restricted Stock Units that Vest**
<PERCENTAGE>	200%
<PERCENTAGE>	150%
<PERCENTAGE>	100%
<PERCENTAGE>	25%
Below <PERCENTAGE>	0%

If Earnings Per Share Growth as determined by the Compensation Committee does not equal a growth rate level shown in the above table, the percentage of your target number of restricted stock units that vest will be determined by a linear interpolation between the next lowest percentage shown in the table and the next highest percentage shown on the table.

If the Earnings Per Share Growth is at or above <PERCENTAGE>, 200% of your target number of restricted stock units will vest.

If the Earnings Per Share Growth is below <PERCENTAGE>, none of your restricted stock units will vest.

As soon as reasonably practicable following the end of the performance period, the Compensation Committee will determine and certify the extent to which Sempra Energy has met the Earnings Per Share Growth performance and the extent to which, if any, your restricted stock units have then vested and any such vesting shall occur immediately following such determination and certification by the Compensation Committee. You will receive the number of shares of Common Stock equal to the number of your vested restricted stock units after the Compensation Committee's determination and certification. Also, you will receive the number of shares of Common Stock equal to your vested dividend equivalents after the Compensation Committee's determination and certification. Certificates for the shares will be transferred to your brokerage account unless you specifically instruct otherwise. When the shares of Common Stock are issued to you, your restricted stock units (vested and unvested) and your dividend equivalents will terminate.

Transfer Restrictions: You may not sell or otherwise transfer or assign your restricted stock units (or your dividend equivalents).

Dividend Equivalents & Capitalization Adjustments: You also have been awarded dividend equivalents with respect to your restricted stock units. Your dividend equivalents represent the right to receive additional shares of Common Stock in the future, subject to the terms and conditions of your award. Your dividend equivalents will be determined based on the dividends that you would have received had you held shares of Common Stock equal to the vested number of your restricted stock units from the date of your award to the date of the distribution of shares of Common Stock following the vesting of your restricted stock units, and assuming that the dividends were reinvested in Common Stock (and any dividends on such shares were reinvested in Common Stock). The dividends will be deemed reinvested in Common Stock in the same manner as dividends reinvested pursuant to the terms of the Sempra Energy Direct Stock Purchase Plan (also known as the Sempra Energy Dividend Reinvestment Plan).

Your dividend equivalents will be subject to the same transfer restrictions and forfeiture and vesting conditions as your restricted stock units. They will vest when and to the extent that your restricted stock units vest.

Also, your restricted stock units (and dividend equivalents), including the terms and conditions thereof, will, in the sole discretion of the Compensation Committee, be substituted or adjusted, as applicable, in accordance with the terms and conditions of the Plan. Any additional restricted stock units (and dividend equivalents) awarded to you as a result of such substitution or adjustment also will be subject to the same transfer restrictions, forfeiture and vesting conditions and other terms and conditions that are applicable to your restricted stock units (and dividend equivalents).

No Shareholder Rights: Your restricted stock units (and dividend equivalents) are not shares of Common Stock. You will have no rights as a shareholder unless and until shares of Common Stock are issued to you following the vesting of your restricted stock units (and dividend equivalents) as provided in this Award Agreement and the Plan.

Distribution of Shares: As described in “Vesting/Forfeiture” above, the Compensation Committee will determine and certify the extent to which Sempra Energy has met the performance criteria and the extent, if any, as to which your restricted stock units (and dividend equivalents) have then vested in accordance with the terms of the award.

You will receive the number of shares of Common Stock equal to the number of your restricted stock units that have vested. However, in no event will you receive under this award, and other awards granted to you under the Plan in the same fiscal year of Sempra Energy, more than the maximum number of shares of Common Stock permitted under the Plan. Also, you will receive the number of shares of Common Stock equal to your vested dividend equivalents after the Compensation Committee’s determination and certification.

You will receive the shares as soon as reasonably practicable following the Compensation Committee’s determination and certification (and in no event later than March 15, <YEAR>). Once you receive the shares of Common Stock, your vested and unvested restricted stock units (and dividend equivalents) will terminate.

Termination of Employment:

Termination:

If your employment with Sempra Energy and its Subsidiaries terminates for any reason prior to the vesting of your restricted stock units (and dividend equivalents) (other than under the circumstances set forth in the following provisions of this section), all of your restricted stock units (and dividend equivalents) will be forfeited. Subject to the provisions below relating to the treatment of your restricted stock units in connection with a Change in Control, the vesting of your restricted stock units (and dividend equivalents) does not occur until the date of the Compensation Committee's determination and certification described above.

If your employment terminates prior to a Change in Control, other than by termination for cause, and you had both completed at least five years of continuous service with Sempra Energy and its Subsidiaries AND met any of the following conditions:

1.) your employment terminates on or after December 31, <YEAR> and at the date of termination you had attained age 55; or

2.) your employment terminates on or after November 30, <YEAR> and at the date of termination you had attained age 62; or

3.) at the date of termination you had attained age 65 and you were an officer subject to the company's mandatory retirement policy;

your restricted stock units (and dividend equivalents) will not be forfeited but will continue to be subject to the transfer restrictions and vesting conditions and other terms and conditions of this Award Agreement (subject to Code Section 409A requirements and the terms of the Plan).

If your employment terminates by reason of your death prior to the vesting of your restricted stock units and your award would otherwise be forfeited (for example, you do not meet the age and service conditions described above), your award will be deemed forfeited immediately prior to the date and time it would otherwise vest, unless, and to the extent that, prior to the date and time that the restricted stock units would otherwise vest, the Compensation Committee, in its sole discretion, takes action to waive the service requirement described above.

If your employment terminates and your restricted stock units (and dividend equivalents) would otherwise be forfeited, the Compensation Committee, in its sole discretion, may determine prior to such termination that all or a portion of such restricted stock units (and dividend equivalents) will not be forfeited but will continue to be subject to the transfer restrictions and vesting conditions and other terms and conditions of this Award Agreement (subject to Code Section 409A requirements and the terms of the Plan).

Termination for Cause: If your employment with Sempra Energy and its Subsidiaries terminates for cause, or your employment would have been subject to termination for cause, prior to the vesting of your restricted stock units (and dividend equivalents), all of your restricted stock units (and dividend equivalents) will be forfeited.

Prior to the consummation of a Change in Control, a termination for cause is (i) the willful failure by you to substantially perform your duties with the Company (other than any such failure resulting from your incapacity due to physical or mental illness), (ii) the grossly negligent performance of such obligations referenced in clause (i) of this definition, (iii) your gross insubordination; and/or (iv) your commission of one or more acts of moral turpitude that constitute a violation of applicable law (including but not limited to a felony) which have or result in an adverse effect on the Company, monetarily or otherwise, or one or more significant acts of dishonesty. For purposes of clause (i), no act, or failure to act, on your part shall be deemed "willful" unless done, or omitted to be done, by you not in good faith and without reasonable belief that your act, or failure to act, was in the best interests of the Company. If your restricted stock units remain outstanding following a Change in Control pursuant to a Replacement Award, a termination for cause following such Change in Control shall be determined in accordance with the provisions of the Plan that define "Cause", including reasonable notice and, if possible, a reasonable opportunity to cure as provided therein.

Taxes:

Withholding Taxes: When you become subject to withholding taxes upon distribution of the shares of Common Stock or otherwise, Sempra Energy or its Subsidiary is required to withhold taxes. Unless you instruct otherwise and pay or make arrangements satisfactory to Sempra Energy to pay these taxes, upon the distribution of your shares, Sempra Energy will withhold a sufficient number of shares of common stock that you would otherwise be entitled to receive to cover the minimum required withholding taxes and transfer to you only the remaining balance of your shares. In the event that, following a Change in Control, your restricted stock units become eligible for a distribution upon your Retirement by reason of your combined age and service, your restricted stock units may become subject to employment tax withholding prior to the distribution of shares with respect to such units.

Code Section 409A: Your restricted stock units are subject to provisions of the Plan which set forth terms to comply with Code Section 409A.

Recoupment ("Clawback") Policy: The Company shall require the forfeiture, recovery or reimbursement of awards or compensation under the Plan and this award as (i) required by applicable law, or (ii) required under any policy implemented or maintained by the Company pursuant to any applicable rules or requirements of a national securities exchange or national securities association on which any securities of the Company are listed. The Company reserves the right to recoup compensation paid if it determines that the results on which the compensation was paid were not actually achieved.

The Compensation Committee may, in its sole discretion, require the recovery or reimbursement of long-term incentive compensation awards from any employee whose fraudulent or intentional misconduct materially affects the operations or financial results of the Company or its Subsidiaries.

Retention Rights: Neither your restricted stock unit award nor this Award Agreement gives you any right to be retained by Sempra Energy or any of its Subsidiaries in any capacity and your employer reserves the right to terminate your employment at any time, with or without cause. The value of your award will not be included as compensation or earnings for purposes of any other benefit plan offered by Sempra Energy or any of its Subsidiaries.

Change in Control: In the event of a Change in Control, the following terms shall apply:

- If (i) you have achieved age 55 and have completed at least five years of continuous service with Sempra Energy and its Subsidiaries as of the date of a Change in Control and your restricted stock units have not been forfeited prior to the Change in Control, (ii) your outstanding restricted stock units as of the date of a Change in Control are not subject to a "substantial risk of forfeiture" within the meaning of Code Section 409A and/or (iii) your outstanding restricted stock units are not assumed or substituted with one or more Replacement Awards (as defined in the Plan), then in each case your outstanding restricted stock units and any associated dividend equivalents will vest immediately prior to the Change in Control with the applicable performance goals deemed to have been achieved at the greater of target level as of the date of such vesting or the actual performance level had the performance period ended on the last day of the calendar year immediately preceding the date of the Change in Control. If the foregoing terms apply, immediately prior to the date of the Change in Control you will receive a number of shares of Common Stock equal to the number of your restricted stock units and dividend equivalents that have vested.

- If your outstanding restricted stock awards are assumed or substituted with one or more Replacement Awards, then, except as provided otherwise in an individual severance agreement or employment agreement to which you are a party, the terms set forth in the Plan shall apply with respect to such Replacement Award following the Change in Control. If the foregoing terms apply and the Replacement Award vests upon your separation from service or death, on such date, you will receive a number of shares or other property in settlement of the Replacement Awards.

Further Actions: You agree to take all actions and execute all documents appropriate to carry out the provisions of this Award Agreement.

You shall be deemed to have accepted this award unless you affirmatively reject it in writing addressed to the Corporate Secretary of the Company no later than 90 days following the Date of Award.
You also appoint as your attorney-in-fact each individual who at the time of so acting is the Secretary or an Assistant Secretary of Sempra Energy with full authority to effect any transfer of any shares of Common Stock distributable to you, including any transfer to pay withholding taxes, that is authorized by this Award Agreement.

Applicable Law: This Award Agreement will be interpreted and enforced under the laws of the State of California.

Other Agreements: In the event of any conflict between the terms of this Award Agreement and any written employment, severance or other employment-related agreement between you and Sempra Energy, the terms of this Award Agreement, or the terms of such other agreement, whichever are more favorable to you, shall prevail, provided that in each case a conflict shall be resolved in a manner consistent with the intent that your restricted stock units comply with Code Section 409A. In the event of a conflict between the terms of this Award Agreement and the Plan, the Plan document shall prevail.

By your acceptance of this award, you agree to all of the terms and conditions set forth in the Cover Page/Summary, this Award Agreement and the Plan. You will be deemed to have accepted this award unless you affirmatively reject the award in accordance with the procedures described herein.

SEMPRA ENERGY

<YEAR> LONG TERM INCENTIVE PLAN

YEAR <YEAR> PERFORMANCE-BASED RESTRICTED STOCK UNIT AWARD

You have been granted a performance-based restricted stock unit award representing the right to receive the number of shares of Sempra Energy Common Stock set forth below, subject to the vesting conditions set forth below. The restricted stock units, and dividend equivalents with respect to the restricted stock units, under your award may not be sold or assigned. They will be subject to forfeiture unless and until they vest based upon the satisfaction of total shareholder return performance criteria for the S&P 500 Index for the performance period beginning on January 1, <YEAR> and ending on the close of trading on the first New York Stock Exchange trading day of <YEAR> [or such other performance period beginning and ending on the dates determined by the Compensation Committee]. Shares of Common Stock will be distributed to you after the completion of the performance period ending on the first New York Stock Exchange trading day of <YEAR> [or the end of the performance period determined by the Compensation Committee] if, and to the extent that, the restricted stock units vest under the terms and conditions of your award.

The terms and conditions of your award are set forth in the attached Year <YEAR> Performance-Based Restricted Stock Unit Award Agreement (the "Award Agreement") and in the Sempra Energy <YEAR> Long Term Incentive Plan (the "Plan"), which has been provided to you. The summary below highlights selected terms and conditions but it is not complete and you should carefully read the Award Agreement and the Plan to fully understand the terms and conditions of your award.

SUMMARY

Date of Award:	**<DATE>, <YEAR>**
Name of Recipient:	**NAME**
Recipient's Employee Number:	**EE ID**
Number of Restricted Stock Units (prior to any dividend equivalents):	
At Target:	**# RSU**
At Maximum:	**200% of Target (e.g. 1,000 at Target = 2,000 at Maximum)**
Award Date Fair Market Value per Share of Common Stock (Closing Stock Price on Date of Award):	**$<PRICE>**

Restricted Stock Units:

Your restricted stock units represent the right to receive shares of Common Stock in the future, subject to the terms and conditions of your award. Your restricted stock units are not shares of Common Stock. The target number of restricted stock units will vest (subject to adjustment as described below) if, and to the extent that, the Compensation Committee of Sempra Energy's Board of Directors (the "Compensation Committee") determines that the target total shareholder return (a return at the 50th percentile) as described in the Award Agreement has been achieved for the performance period. If above target total shareholder return is achieved, you may vest in up to the maximum number of restricted stock units plus reinvested dividend equivalents as described below.

Vesting/Forfeiture of Restricted Stock Units:

Subject to certain exceptions set forth in the Award Agreement, your restricted stock units (including units attributable to reinvested dividend equivalents) will vest only in the event, and to the extent, that the Compensation Committee determines and certifies that Sempra Energy has met the specified total shareholder return performance criteria for the performance period beginning on January 1, <YEAR> and ending on the close of trading on the first New York Stock Exchange trading day of <YEAR> [or such other performance period beginning and ending on the dates determined by the Compensation Committee]. Any vesting will occur immediately following such determination and certification. Any restricted stock units that do not vest with the Compensation Committee's determination and certification (or otherwise in accordance with the Award Agreement) will be forfeited. All determinations of the Compensation Committee as to total shareholder return (as described below) and the number of your restricted stock units (and accompanying dividend equivalents) that vest is final and binding.

Transfer Restrictions:

Your restricted stock units may not be sold or otherwise transferred and will remain subject to forfeiture conditions until they vest.

Termination of Employment:

Subject to certain exceptions set forth in the Award Agreement, your restricted stock units will be forfeited if your employment terminates.

Dividend Equivalents:

You also have been awarded dividend equivalents with respect to your restricted stock units. Your dividend equivalents represent the right to receive additional shares of Common Stock in the future, subject to the terms and conditions of your award. Your dividend equivalents will be determined based on the dividends that you would have received had you held shares of Common Stock equal to the vested number of your restricted stock units from the date of your award to the date of the distribution of shares of Common Stock following the vesting of your restricted stock units, and assuming that the dividends were reinvested in Common Stock (and any dividends on such shares were reinvested in Common Stock). The dividends will be deemed reinvested in Common Stock in the same manner as dividends reinvested pursuant to the terms of the Sempra Energy Direct Stock Purchase Plan (also known as the Sempra Energy Dividend Reinvestment Plan). Your dividend equivalents will be subject to the same transfer restrictions and forfeiture and vesting conditions as the shares represented by your restricted stock units.

Distribution of Shares:

Shares of Common Stock will be distributed to you to the extent your restricted stock units (and accompanying dividend equivalents) vest. Except as provided otherwise in the Award Agreement, the shares will be distributed to you after the completion of the performance period ending on the close of trading on the first New York Stock Exchange trading day of <YEAR> [or the end of the performance period determined by the Compensation Committee] and the Compensation Committee’s determination and certification of Sempra Energy’s total shareholder return for the performance period. The shares of Common Stock will include the additional shares to be distributed pursuant to your vested dividend equivalents.

Taxes:

Upon distribution of shares of Common Stock to you, you will be subject to income taxes on the value of the distributed shares at the time of distribution and must pay applicable withholding taxes.

By your acceptance of this award, you agree to all of the terms and conditions set forth in this Cover Page/Summary, the Award Agreement and the Plan. You will be deemed to have accepted this award unless you affirmatively reject the award in accordance with the procedures described herein.

Sempra Energy: <SIGNATURE>

<NAME>

Title: <CEO or CHRO (however designated)>

SEMPRA ENERGY
<YEAR> LONG TERM INCENTIVE PLAN

Year <YEAR> Performance-Based Restricted Stock Unit Award Agreement

Award:

You have been granted a performance-based restricted stock unit award under Sempra Energy's <YEAR> Long Term Incentive Plan (the "Plan"). The award consists of the number of restricted stock units set forth on the Cover Page/Summary to this Award Agreement, and dividend equivalents with respect to the restricted stock units (described below). Capitalized terms used in this Award Agreement and not defined shall have the meaning set forth in the Plan.

Your restricted stock units represent the right to receive shares of Common Stock in the future, subject to the terms and conditions of your award. Your restricted stock units are not shares of Common Stock.

Each restricted stock unit initially represents the right to receive one share of Common Stock upon the vesting of the unit.

Unless and until they vest, your restricted stock units and any dividend equivalents will be subject to transfer restrictions and forfeiture and vesting conditions.

Subject to the provisions below relating to the treatment of your restricted stock units in connection with a Change in Control, your restricted stock units (and dividend equivalents) will vest only in the event, and only to the extent, that the Compensation Committee of Sempra Energy's Board of Directors (the "Compensation Committee") determines and certifies that Sempra Energy has met specified total shareholder return criteria for the performance period beginning January 1, <YEAR> and ending on the close of trading on the first New York Stock Exchange trading day of <YEAR> [or such other performance period beginning and ending on the dates determined by the Compensation Committee]. Any restricted stock units (and dividend equivalents) that do not vest will be forfeited.

Subject to certain exceptions set forth herein, your restricted stock units (and dividend equivalents) will be forfeited if your employment terminates before they vest; provided, however, that the Compensation Committee, in its sole discretion, may determine that all or a portion of such restricted stock units (and dividend equivalents) will not be forfeited but will continue to be subject to transfer restrictions and other vesting conditions applicable under this Award Agreement (subject to Code Section 409A requirements and the terms of the Plan).

See "Vesting/Forfeiture," "Transfer Restrictions," and "Termination of Employment" below.

Vesting/Forfeiture:

Subject to the provisions below relating to the treatment of your restricted stock units in connection with a Change in Control, your restricted stock units (and dividend equivalents) will vest only in the event, and to the extent, that the Compensation Committee determines and certifies that Sempra Energy has met the following total shareholder return performance criteria for the performance period beginning on January 1, <YEAR> and ending on the close of trading on the first New York Stock Exchange trading day of <YEAR> [or such other performance period beginning and ending on the dates determined by the Compensation Committee]. Any vesting will occur immediately following such determination and certification. **THE DETERMINATION OF THE COMPENSATION COMMITTEE AS TO TOTAL SHAREHOLDER RETURN PERFORMANCE AND THE NUMBER OF RESTRICTED STOCK UNITS (AND ACCOMPANYING DIVIDEND EQUIVALENTS) THAT VEST IS FINAL AND BINDING.**

- The percentage of your target number of restricted stock units that vest will be determined as follows, based on the percentile ranking for the performance period (as measured based on the thirty-day average closing stock price immediately preceding the start of the performance period compared to the thirty-day average closing stock price immediately preceding the end of the performance period) of Sempra Energy's cumulative total shareholder return (consisting of per share appreciation in Common Stock plus reinvested dividends and other distributions paid on Common Stock) among the companies (ranked by cumulative total shareholder returns) in the S&P 500 Index, as determined and certified by the Compensation Committee, subject to adjustment as described below. For the avoidance of doubt, the thirty-day average preceding the beginning of the performance period shall be based on the thirty calendar days prior to and excluding January 1, <YEAR> and the thirty day average preceding the end of the performance period shall be based on the thirty calendar days prior to and including the first NYSE trading day of <YEAR> [or such other performance period beginning and ending on the dates determined by the Compensation Committee].

Sempra Energy Total Shareholder Return Percentile Ranking	Percentage of Target Number of Restricted Stock Units that Vest
90th	200%
80th	175%
70th	150%
60th	125%
50th	100%
40th	70%
35th	55%
30th	40%
25th	25%
Below 25th	0%

If the percentile ranking does not equal a ranking shown in the above table, the percentage of your target number of restricted stock units that vest will be determined by a linear interpolation between the next lowest percentile shown in the table and the next highest percentile shown on the table.

- If the percentile ranking is at or above the 90th percentile, 200% of your target number of restricted stock units will vest.
- If the percentile ranking is below the 25th percentile, none of your restricted stock units will vest.

As soon as reasonably practicable following the end of the performance period, the Compensation Committee will determine and certify the extent to which Sempra Energy has met the total shareholder return performance criteria and the extent to which, if any, your restricted stock units have then vested and any such vesting shall occur immediately following such determination and certification by the Compensation Committee. You will receive the number of shares of Common Stock equal to the number of your vested restricted stock units after the Compensation Committee's determination and certification. Also, you will receive the number of shares of Common Stock equal to your vested dividend equivalents after the Compensation Committee's determination and certification. Certificates for the shares will be transferred to your brokerage account unless you specifically instruct otherwise. When the shares of Common Stock are issued to you, your restricted stock units (vested and unvested) and your dividend equivalents will terminate.

Transfer Restrictions: You may not sell or otherwise transfer or assign your restricted stock units (or your dividend equivalents).

Dividend Equivalents & Capitalization Adjustments: You also have been awarded dividend equivalents with respect to your restricted stock units. Your dividend equivalents represent the right to receive additional shares of Common Stock in the future, subject to the terms and conditions of your award. Your dividend equivalents will be determined based on the dividends that you would have received had you held shares of Common Stock equal to the vested number of your restricted stock units from the date of your award to the date of the distribution of shares of Common Stock following the vesting of your restricted stock units, and assuming that the dividends were reinvested in Common Stock (and any dividends on such shares were reinvested in Common Stock). The dividends will be deemed reinvested in Common Stock in the same manner as dividends reinvested pursuant to the terms of the Sempra Energy Direct Stock Purchase Plan (also known as the Sempra Energy Dividend Reinvestment Plan).

Your dividend equivalents will be subject to the same transfer restrictions and forfeiture and vesting conditions as your restricted stock units. They will vest when and to the extent that your restricted stock units vest.

Also, your restricted stock units (and dividend equivalents), including the terms and conditions thereof, will, in the sole discretion of the Compensation Committee, be substituted or adjusted, as applicable, in accordance with the terms and conditions of the Plan. Any additional restricted stock units (and dividend equivalents) awarded to you as a result of such substitution or adjustment also will be subject to the same transfer restrictions, forfeiture and vesting conditions and other terms and conditions that are applicable to your restricted stock units (and dividend equivalents).

No Shareholder Rights: Your restricted stock units (and dividend equivalents) are not shares of Common Stock. You will have no rights as a shareholder unless and until shares of Common Stock are issued to you following the vesting of your restricted stock units (and dividend equivalents) as provided in this Award Agreement and the Plan.

Distribution of Shares:

As described in “Vesting/Forfeiture” above, the Compensation Committee will determine and certify the extent to which Sempra Energy has met the performance criteria and the extent, if any, as to which your restricted stock units (and dividend equivalents) have then vested in accordance with the terms of the award.

You will receive the number of shares of Common Stock equal to the number of your restricted stock units that have vested. However, in no event will you receive under this award, and other awards granted to you under the Plan in the same fiscal year of Sempra Energy, more than the maximum number of shares of Common Stock permitted under the Plan. Also, you will receive the number of shares of Common Stock equal to your vested dividend equivalents after the Compensation Committee’s determination and certification.

You will receive the shares as soon as reasonably practicable following the Compensation Committee’s determination and certification (and in no event later than March 15, <YEAR>). Once you receive the shares of Common Stock, your vested and unvested restricted stock units (and dividend equivalents) will terminate.

Termination of Employment:

Termination:

If your employment with Sempra Energy and its Subsidiaries terminates for any reason prior to the vesting of your restricted stock units (and dividend equivalents) (other than under the circumstances set forth in the following provisions of this section), all of your restricted stock units (and dividend equivalents) will be forfeited. Subject to the provisions below relating to the treatment of your restricted stock units in connection with a Change in Control, the vesting of your restricted stock units (and dividend equivalents) does not occur until the date of the Compensation Committee's determination and certification described above.

If your employment terminates prior to a Change in Control, other than by termination for cause, and you had both completed at least five years of continuous service with Sempra Energy and its Subsidiaries AND met any of the following conditions:

1.) your employment terminates on or after December 31, <YEAR> and at the date of termination you had attained age 55; or

2.) your employment terminates on or after November 30, <YEAR> and at the date of termination you had attained age 62; or

3.) at the date of termination you had attained age 65 and you were an officer subject to the company's mandatory retirement policy;

your restricted stock units (and dividend equivalents) will not be forfeited but will continue to be subject to the transfer restrictions and vesting conditions and other terms and conditions of this Award Agreement (subject to Code Section 409A requirements and the terms of the Plan).

If your employment terminates by reason of your death prior to the vesting of your restricted stock units and your award would otherwise be forfeited (for example, you do not meet the age and service conditions described above), your award will be deemed forfeited immediately prior to the date and time it would otherwise vest, unless, and to the extent that, prior to the date and time that the restricted stock units would otherwise vest, the Compensation Committee, in its sole discretion, takes action to waive the service requirement described above.

If your employment terminates and your restricted stock units (and dividend equivalents) would otherwise be forfeited, the Compensation Committee, in its sole discretion, may determine prior to such termination that all or a portion of such restricted stock units (and dividend equivalents) will not be forfeited but will continue to be subject to the transfer restrictions and vesting conditions and other terms and conditions of this Award Agreement (subject to Code Section 409A requirements and the terms of the Plan).

Termination for Cause:

If your employment with Sempra Energy and its Subsidiaries terminates for cause, or your employment would have been subject to termination for cause, prior to the vesting of your restricted stock units (and dividend equivalents), all of your restricted stock units (and dividend equivalents) will be forfeited.

Prior to the consummation of a Change in Control, a termination for cause is (i) the willful failure by you to substantially perform your duties with the Company (other than any such failure resulting from your incapacity due to physical or mental illness), (ii) the grossly negligent performance of such obligations referenced in clause (i) of this definition, (iii) your gross insubordination; and/or (iv) your commission of one or more acts of moral turpitude that constitute a violation of applicable law (including but not limited to a felony) which have or result in an adverse effect on the Company, monetarily or otherwise, or one or more significant acts of dishonesty. For purposes of clause (i), no act, or failure to act, on your part shall be deemed "willful" unless done, or omitted to be done, by you not in good faith and without reasonable belief that your act, or failure to act, was in the best interests of the Company. If your restricted stock units remain outstanding following a Change in Control pursuant to a Replacement Award, a termination for cause following such Change in Control shall be determined in accordance with the provisions of the Plan that define "Cause", including reasonable notice and, if possible, a reasonable opportunity to cure as provided therein.

Taxes:

Withholding Taxes:

When you become subject to withholding taxes upon distribution of the shares of Common Stock or otherwise, Sempra Energy or its Subsidiary is required to withhold taxes. Unless you instruct otherwise and pay or make arrangements satisfactory to Sempra Energy to pay these taxes, upon the distribution of your shares, Sempra Energy will withhold a sufficient number of shares of common stock that you would otherwise be entitled to receive to cover the minimum required withholding taxes and transfer to you only the remaining balance of your shares. In the event that, following a Change in Control, your restricted stock units become eligible for a distribution upon your Retirement by reason of your combined age and service, your restricted stock units may become subject to employment tax withholding prior to the distribution of shares with respect to such units.

Code Section 409A:

Your restricted stock units are subject to provisions of the Plan which set forth terms to comply with Code Section 409A.

Recoupment ("Clawback") Policy:

The Company shall require the forfeiture, recovery or reimbursement of awards or compensation under the Plan and this award as (i) required by applicable law, or (ii) required under any policy implemented or maintained by the Company pursuant to any applicable rules or requirements of a national securities exchange or national securities association on which any securities of the Company are listed. The Company reserves the right to recoup compensation paid if it determines that the results on which the compensation was paid were not actually achieved.

The Compensation Committee may, in its sole discretion, require the recovery or reimbursement of long-term incentive compensation awards from any employee whose fraudulent or intentional misconduct materially affects the operations or financial results of the Company or its Subsidiaries.

Retention Rights:

Neither your restricted stock unit award nor this Award Agreement gives you any right to be retained by Sempra Energy or any of its Subsidiaries in any capacity and your employer reserves the right to terminate your employment at any time, with or without cause. The value of your award will not be included as compensation or earnings for purposes of any other benefit plan offered by Sempra Energy or any of its Subsidiaries.

Change in Control:

In the event of a Change in Control, the following terms shall apply:

- If (i) you have achieved age 55 and have completed at least five years of continuous service with Sempra Energy and its Subsidiaries as of the date of a Change in Control and your restricted stock units have not been forfeited prior to the Change in Control, (ii) your outstanding restricted stock units as of the date of a Change in Control are not subject to a "substantial risk of forfeiture" within the meaning of Code Section 409A, and/or (iii) your outstanding restricted stock units are not assumed or substituted with one or more Replacement Awards (as defined in the Plan), then in each case your outstanding restricted stock units and any associated dividend equivalents will vest immediately prior to the Change in Control with the applicable performance goals deemed to have been achieved at the greater of target level as of the date of such vesting or the actual performance level had the performance period ended on the date of the Change in Control. If the foregoing terms apply, immediately prior to the date of the Change in Control you will receive a number of shares of Common Stock equal to the number of your restricted stock units and dividend equivalents that have vested.

- If your outstanding restricted stock awards are assumed or substituted with one or more Replacement Awards, then, except as provided otherwise in an individual severance agreement or employment agreement to which you are a party, the terms set forth in the Plan shall apply with respect to such Replacement Award following the Change in Control. If the foregoing terms apply and the Replacement Award vests upon your separation from service or death, on such date, you will receive a number of shares or other property in settlement of the Replacement Awards.

Further Actions:

You agree to take all actions and execute all documents appropriate to carry out the provisions of this Award Agreement.

You shall be deemed to have accepted this award unless you affirmatively reject it in writing addressed to the Corporate Secretary of the Company no later than 90 days following the Date of Award.

You also appoint as your attorney-in-fact each individual who at the time of so acting is the Secretary or an Assistant Secretary of Sempra Energy with full authority to effect any transfer of any shares of Common Stock distributable to you, including any transfer to pay withholding taxes, that is authorized by this Award Agreement.

Applicable Law:

This Award Agreement will be interpreted and enforced under the laws of the State of California.

Other Agreements:

In the event of any conflict between the terms of this Award Agreement and any written employment, severance or other employment-related agreement between you and Sempra Energy, the terms of this Award Agreement, or the terms of such other agreement, whichever are more favorable to you, shall prevail, provided that in each case a conflict shall be resolved in a manner consistent with the intent that your restricted stock units comply with Code Section 409A. In the event of a conflict between the terms of this Award Agreement and the Plan, the Plan document shall prevail.

By your acceptance of this award, you agree to all of the terms and conditions set forth in the Cover Page/Summary, this Award Agreement and the Plan. You will be deemed to have accepted this award unless you affirmatively reject the award in accordance with the procedures described herein.

SEMPRA ENERGY

<YEAR> LONG TERM INCENTIVE PLAN

YEAR <YEAR> PERFORMANCE-BASED RESTRICTED STOCK UNIT AWARD

You have been granted a performance-based restricted stock unit award representing the right to receive the number of shares of Sempra Energy Common Stock set forth below, subject to the vesting conditions set forth below. The restricted stock units, and dividend equivalents with respect to the restricted stock units, under your award may not be sold or assigned. They will be subject to forfeiture unless and until they vest based upon the satisfaction of total shareholder return performance criteria for the S&P 500 Utilities Index (excluding water companies) for the performance period beginning on January 1, <YEAR> and ending on the close of trading on the first New York Stock Exchange trading day of <YEAR> [or such other performance period beginning and ending on the dates determined by the Compensation Committee]. Shares of Common Stock will be distributed to you after the completion of the performance period ending on the first New York Stock Exchange trading day of <YEAR> [or the end of the performance period determined by the Compensation Committee] if, and to the extent that, the restricted stock units vest under the terms and conditions of your award.

The terms and conditions of your award are set forth in the attached Year <YEAR> Performance-Based Restricted Stock Unit Award Agreement (the "Award Agreement") and in the Sempra Energy <YEAR> Long Term Incentive Plan (the "Plan"), which has been provided to you. The summary below highlights selected terms and conditions but it is not complete and you should carefully read the Award Agreement and the Plan to fully understand the terms and conditions of your award.

SUMMARY

Date of Award:	**<DATE>, <YEAR>**
Name of Recipient:	**NAME**
Recipient's Employee Number:	**EE ID**
Number of Restricted Stock Units (prior to any dividend equivalents):	
At Target:	**# RSU**
At Maximum:	**200% of Target (e.g. 1,000 at Target = 2,000 at Maximum)**
Award Date Fair Market Value per Share of Common Stock (Closing Stock Price on Date of Award):	**$<PRICE>**

Restricted Stock Units:

Your restricted stock units represent the right to receive shares of Common Stock in the future, subject to the terms and conditions of your award. Your restricted stock units are not shares of Common Stock. The target number of restricted stock units will vest (subject to adjustment as described below) if, and to the extent that, the Compensation Committee of Sempra Energy's Board of Directors (the "Compensation Committee") determines that the target total shareholder return (a return at the 50th percentile) as described in the Award Agreement has been achieved for the performance period. If above target total shareholder return is achieved, you may vest in up to the maximum number of restricted stock units plus reinvested dividend equivalents as described below.

Vesting/Forfeiture of Restricted Stock Units:

Subject to certain exceptions set forth in the Award Agreement, your restricted stock units (including units attributable to reinvested dividend equivalents) will vest only in the event, and to the extent, that the Compensation Committee determines and certifies that Sempra Energy has met the specified total shareholder return performance criteria for the performance period beginning on January 1, <YEAR> and ending on the close of trading on the first New York Stock Exchange trading day of <YEAR> [or such other performance period beginning and ending on the dates determined by the Compensation Committee]. Any vesting will occur immediately following such determination and certification. Any restricted stock units that do not vest with the Compensation Committee's determination and certification (or otherwise in accordance with the Award Agreement) will be forfeited. All determinations of the Compensation Committee as to total shareholder return (as described below) and the number of your restricted stock units (and accompanying dividend equivalents) that vest is final and binding.

Transfer Restrictions:

Your restricted stock units may not be sold or otherwise transferred and will remain subject to forfeiture conditions until they vest.

Termination of Employment:

Subject to certain exceptions set forth in the Award Agreement, your restricted stock units will be forfeited if your employment terminates.

Dividend Equivalents:

You also have been awarded dividend equivalents with respect to your restricted stock units. Your dividend equivalents represent the right to receive additional shares of Common Stock in the future, subject to the terms and conditions of your award. Your dividend equivalents will be determined based on the dividends that you would have received had you held shares of Common Stock equal to the vested number of your restricted stock units from the date of your award to the date of the distribution of shares of Common Stock following the vesting of your restricted stock units, and assuming that the dividends were reinvested in Common Stock (and any dividends on such shares were reinvested in Common Stock). The dividends will be deemed reinvested in Common Stock in the same manner as dividends reinvested pursuant to the terms of the Sempra Energy Direct Stock Purchase Plan (also known as the Sempra Energy Dividend Reinvestment Plan). Your dividend equivalents will be subject to the same transfer restrictions and forfeiture and vesting conditions as the shares represented by your restricted stock units.

Distribution of Shares:

Shares of Common Stock will be distributed to you to the extent your restricted stock units (and accompanying dividend equivalents) vest. Except as provided otherwise in the Award Agreement, the shares will be distributed to you after the completion of the performance period ending on the close of trading on the first New York Stock Exchange trading day of <YEAR> [or the end of the performance period determined by the Compensation Committee] and the Compensation Committee’s determination and certification of Sempra Energy’s total shareholder return for the performance period. The shares of Common Stock will include the additional shares to be distributed pursuant to your vested dividend equivalents.

Taxes:

Upon distribution of shares of Common Stock to you, you will be subject to income taxes on the value of the distributed shares at the time of distribution and must pay applicable withholding taxes.

By your acceptance of this award, you agree to all of the terms and conditions set forth in this Cover Page/Summary, the Award Agreement and the Plan. You will be deemed to have accepted this award unless you affirmatively reject the award in accordance with the procedures described herein.

Sempra Energy: <SIGNATURE>

<NAME>

Title: <CEO or CHRO (however designated)>

SEMPRA ENERGY
<YEAR> LONG TERM INCENTIVE PLAN

Year <YEAR> Performance-Based Restricted Stock Unit Award Agreement

Award:

You have been granted a performance-based restricted stock unit award under Sempra Energy's <YEAR> Long Term Incentive Plan (the "Plan"). The award consists of the number of restricted stock units set forth on the Cover Page/Summary to this Award Agreement, and dividend equivalents with respect to the restricted stock units (described below). Capitalized terms used in this Award Agreement and not defined shall have the meaning set forth in the Plan.

Your restricted stock units represent the right to receive shares of Common Stock in the future, subject to the terms and conditions of your award. Your restricted stock units are not shares of Common Stock.

Each restricted stock unit initially represents the right to receive one share of Common Stock upon the vesting of the unit.

Unless and until they vest, your restricted stock units and any dividend equivalents will be subject to transfer restrictions and forfeiture and vesting conditions.

Subject to the provisions below relating to the treatment of your restricted stock units in connection with a Change in Control, your restricted stock units (and dividend equivalents) will vest only in the event, and only to the extent, that the Compensation Committee of Sempra Energy's Board of Directors (the "Compensation Committee") determines and certifies that Sempra Energy has met specified total shareholder return criteria for the performance period beginning January 1, <YEAR> and ending on the close of trading on the first New York Stock Exchange trading day of <YEAR> [or such other performance period beginning and ending on the dates determined by the Compensation Committee]. Any restricted stock units (and dividend equivalents) that do not vest will be forfeited.

Subject to certain exceptions set forth herein, your restricted stock units (and dividend equivalents) will be forfeited if your employment terminates before they vest; provided, however, that the Compensation Committee, in its sole discretion, may determine that all or a portion of such restricted stock units (and dividend equivalents) will not be forfeited but will continue to be subject to transfer restrictions and other vesting conditions applicable under this Award Agreement (subject to Code Section 409A requirements and the terms of the Plan).

See "Vesting/Forfeiture," "Transfer Restrictions," and "Termination of Employment" below.

Vesting/Forfeiture:

Subject to the provisions below relating to the treatment of your restricted stock units in connection with a Change in Control, your restricted stock units (and dividend equivalents) will vest only in the event, and to the extent, that the Compensation Committee determines and certifies that Sempra Energy has met the following total shareholder return performance criteria for the performance period beginning on January 1, <YEAR> and ending on the close of trading on the first New York Stock Exchange trading day of <YEAR> [or such other performance period beginning and ending on the dates determined by the Compensation Committee]. Any vesting will occur immediately following such determination and certification. **THE DETERMINATION OF THE COMPENSATION COMMITTEE AS TO TOTAL SHAREHOLDER RETURN PERFORMANCE AND THE NUMBER OF RESTRICTED STOCK UNITS (AND ACCOMPANYING DIVIDEND EQUIVALENTS) THAT VEST IS FINAL AND BINDING.**

- The percentage of your target number of restricted stock units that vest will be determined as follows, based on the percentile ranking for the performance period (as measured based on the thirty-day average closing stock price immediately preceding the start of the performance period compared to the thirty-day average closing stock price immediately preceding the end of the performance period) of Sempra Energy's cumulative total shareholder return (consisting of per share appreciation in Common Stock plus reinvested dividends and other distributions paid on Common Stock) among the companies (ranked by cumulative total shareholder returns) in the S&P 500 Utilities Index (excluding water companies), as determined and certified by the Compensation Committee, subject to adjustment as described below. For the avoidance of doubt, the thirty-day average preceding the beginning of the performance period shall be based on the thirty calendar days prior to and excluding January 1, <YEAR> and the thirty day average preceding the end of the performance period shall be based on the thirty calendar days prior to and including the first NYSE trading day of <YEAR> [or such other performance period beginning and ending on the dates determined by the Compensation Committee].

Sempra Energy Total Shareholder Return Percentile Ranking	Percentage of Target Number of Restricted Stock Units that Vest
90th	200%
80th	175%
70th	150%
60th	125%
50th	100%
40th	70%
35th	55%
30th	40%
25th	25%
Below 25th	0%

If the percentile ranking does not equal a ranking shown in the above table, the percentage of your target number of restricted stock units that vest will be determined by a linear interpolation between the next lowest percentile shown in the table and the next highest percentile shown on the table.

- If the percentile ranking is at or above the 90th percentile, 200% of your target number of restricted stock units will vest.

- If the percentile ranking is below the 25th percentile, none of your restricted stock units will vest.

As soon as reasonably practicable following the end of the performance period, the Compensation Committee will determine and certify the extent to which Sempra Energy has met the total shareholder return performance criteria and the extent to which, if any, your restricted stock units have then vested and any such vesting shall occur immediately following such determination and certification by the Compensation Committee. You will receive the number of shares of Common Stock equal to the number of your vested restricted stock units after the Compensation Committee's determination and certification. Also, you will receive the number of shares of Common Stock equal to your vested dividend equivalents after the Compensation Committee's determination and certification. Certificates for the shares will be transferred to your brokerage account unless you specifically instruct otherwise. When the shares of Common Stock are issued to you, your restricted stock units (vested and unvested) and your dividend equivalents will terminate.

Transfer Restrictions: You may not sell or otherwise transfer or assign your restricted stock units (or your dividend equivalents).

Dividend Equivalents & Capitalization Adjustments:

You also have been awarded dividend equivalents with respect to your restricted stock units. Your dividend equivalents represent the right to receive additional shares of Common Stock in the future, subject to the terms and conditions of your award. Your dividend equivalents will be determined based on the dividends that you would have received had you held shares of Common Stock equal to the vested number of your restricted stock units from the date of your award to the date of the distribution of shares of Common Stock following the vesting of your restricted stock units, and assuming that the dividends were reinvested in Common Stock (and any dividends on such shares were reinvested in Common Stock). The dividends will be deemed reinvested in Common Stock in the same manner as dividends reinvested pursuant to the terms of the Sempra Energy Direct Stock Purchase Plan (also known as the Sempra Energy Dividend Reinvestment Plan).

Your dividend equivalents will be subject to the same transfer restrictions and forfeiture and vesting conditions as your restricted stock units. They will vest when and to the extent that your restricted stock units vest.

Also, your restricted stock units (and dividend equivalents), including the terms and conditions thereof, will, in the sole discretion of the Compensation Committee, be substituted or adjusted, as applicable, in accordance with the terms and conditions of the Plan. Any additional restricted stock units (and dividend equivalents) awarded to you as a result of such substitution or adjustment also will be subject to the same transfer restrictions, forfeiture and vesting conditions and other terms and conditions that are applicable to your restricted stock units (and dividend equivalents).

No Shareholder Rights:

Your restricted stock units (and dividend equivalents) are not shares of Common Stock. You will have no rights as a shareholder unless and until shares of Common Stock are issued to you following the vesting of your restricted stock units (and dividend equivalents) as provided in this Award Agreement and the Plan.

Distribution of Shares:

As described in “Vesting/Forfeiture” above, the Compensation Committee will determine and certify the extent to which Sempra Energy has met the performance criteria and the extent, if any, as to which your restricted stock units (and dividend equivalents) have then vested in accordance with the terms of the award.

You will receive the number of shares of Common Stock equal to the number of your restricted stock units that have vested. However, in no event will you receive under this award, and other awards granted to you under the Plan in the same fiscal year of Sempra Energy, more than the maximum number of shares of Common Stock permitted under the Plan. Also, you will receive the number of shares of Common Stock equal to your vested dividend equivalents after the Compensation Committee’s determination and certification.

You will receive the shares as soon as reasonably practicable following the Compensation Committee’s determination and certification (and in no event later than March 15, <YEAR>). Once you receive the shares of Common Stock, your vested and unvested restricted stock units (and dividend equivalents) will terminate.

Termination of Employment:

Termination:

If your employment with Sempra Energy and its Subsidiaries terminates for any reason prior to the vesting of your restricted stock units (and dividend equivalents) (other than under the circumstances set forth in the following provisions of this section), all of your restricted stock units (and dividend equivalents) will be forfeited. Subject to the provisions below relating to the treatment of your restricted stock units in connection with a Change in Control, the vesting of your restricted stock units (and dividend equivalents) does not occur until the date of the Compensation Committee's determination and certification described above.

If your employment terminates prior to a Change in Control, other than by termination for cause, and you had both completed at least five years of continuous service with Sempra Energy and its Subsidiaries AND met any of the following conditions:

1.) your employment terminates on or after December 31, <YEAR> and at the date of termination you had attained age 55; or

2.) your employment terminates on or after November 30, <YEAR> and at the date of termination you had attained age 62; or

3.) at the date of termination you had attained age 65 and you were an officer subject to the company's mandatory retirement policy;

your restricted stock units (and dividend equivalents) will not be forfeited but will continue to be subject to the transfer restrictions and vesting conditions and other terms and conditions of this Award Agreement (subject to Code Section 409A requirements and the terms of the Plan).

If your employment terminates by reason of your death prior to the vesting of your restricted stock units and your award would otherwise be forfeited (for example, you do not meet the age and service conditions described above), your award will be deemed forfeited immediately prior to the date and time it would otherwise vest, unless, and to the extent that, prior to the date and time that the restricted stock units would otherwise vest, the Compensation Committee, in its sole discretion, takes action to waive the service requirement described above.

If your employment terminates and your restricted stock units (and dividend equivalents) would otherwise be forfeited, the Compensation Committee, in its sole discretion, may determine prior to such termination that all or a portion of such restricted stock units (and dividend equivalents) will not be forfeited but will continue to be subject to the transfer restrictions and vesting conditions and other terms and conditions of this Award Agreement (subject to Code Section 409A requirements and the terms of the Plan).

Termination for Cause:

If your employment with Sempra Energy and its Subsidiaries terminates for cause, or your employment would have been subject to termination for cause, prior to the vesting of your restricted stock units (and dividend equivalents), all of your restricted stock units (and dividend equivalents) will be forfeited.

Prior to the consummation of a Change in Control, a termination for cause is (i) the willful failure by you to substantially perform your duties with the Company (other than any such failure resulting from your incapacity due to physical or mental illness), (ii) the grossly negligent performance of such obligations referenced in clause (i) of this definition, (iii) your gross insubordination; and/or (iv) your commission of one or more acts of moral turpitude that constitute a violation of applicable law (including but not limited to a felony) which have or result in an adverse effect on the Company, monetarily or otherwise, or one or more significant acts of dishonesty. For purposes of clause (i), no act, or failure to act, on your part shall be deemed "willful" unless done, or omitted to be done, by you not in good faith and without reasonable belief that your act, or failure to act, was in the best interests of the Company. If your restricted stock units remain outstanding following a Change in Control pursuant to a Replacement Award, a termination for cause following such Change in Control shall be determined in accordance with the provisions of the Plan that define "Cause", including reasonable notice and, if possible, a reasonable opportunity to cure as provided therein.

Taxes:

Withholding Taxes:

When you become subject to withholding taxes upon distribution of the shares of Common Stock or otherwise, Sempra Energy or its Subsidiary is required to withhold taxes. Unless you instruct otherwise and pay or make arrangements satisfactory to Sempra Energy to pay these taxes, upon the distribution of your shares, Sempra Energy will withhold a sufficient number of shares of common stock that you would otherwise be entitled to receive to cover the minimum required withholding taxes and transfer to you only the remaining balance of your shares. In the event that, following a Change in Control, your restricted stock units become eligible for a distribution upon your Retirement by reason of your combined age and service, your restricted stock units may become subject to employment tax withholding prior to the distribution of shares with respect to such units.

Code Section 409A:

Your restricted stock units are subject to provisions of the Plan which set forth terms to comply with Code Section 409A.

Recoupment ("Clawback") Policy: The Company shall require the forfeiture, recovery or reimbursement of awards or compensation under the Plan and this award as (i) required by applicable law, or (ii) required under any policy implemented or maintained by the Company pursuant to any applicable rules or requirements of a national securities exchange or national securities association on which any securities of the Company are listed. The Company reserves the right to recoup compensation paid if it determines that the results on which the compensation was paid were not actually achieved.

The Compensation Committee may, in its sole discretion, require the recovery or reimbursement of long-term incentive compensation awards from any employee whose fraudulent or intentional misconduct materially affects the operations or financial results of the Company or its Subsidiaries.

Retention Rights: Neither your restricted stock unit award nor this Award Agreement gives you any right to be retained by Sempra Energy or any of its Subsidiaries in any capacity and your employer reserves the right to terminate your employment at any time, with or without cause. The value of your award will not be included as compensation or earnings for purposes of any other benefit plan offered by Sempra Energy or any of its Subsidiaries.

Change in Control:

In the event of a Change in Control, the following terms shall apply:

- If (i) you have achieved age 55 and have completed at least five years of continuous service with Sempra Energy and its Subsidiaries as of the date of a Change in Control and your restricted stock units have not been forfeited prior to the Change in Control, (ii) your outstanding restricted stock units as of the date of a Change in Control are not subject to a "substantial risk of forfeiture" within the meaning of Code Section 409A, and/or (iii) your outstanding restricted stock units are not assumed or substituted with one or more Replacement Awards (as defined in the Plan), then in each case your outstanding restricted stock units and any associated dividend equivalents will vest immediately prior to the Change in Control with the applicable performance goals deemed to have been achieved at the greater of target level as of the date of such vesting or the actual performance level had the performance period ended on the date of the Change in Control. If the foregoing terms apply, immediately prior to the date of the Change in Control you will receive a number of shares of Common Stock equal to the number of your restricted stock units and dividend equivalents that have vested.

- If your outstanding restricted stock awards are assumed or substituted with one or more Replacement Awards, then, except as provided otherwise in an individual severance agreement or employment agreement to which you are a party, the terms set forth in the Plan shall apply with respect to such Replacement Award following the Change in Control. If the foregoing terms apply and the Replacement Award vests upon your separation from service or death, on such date, you will receive a number of shares or other property in settlement of the Replacement Awards.

Further Actions:

You agree to take all actions and execute all documents appropriate to carry out the provisions of this Award Agreement.

You shall be deemed to have accepted this award unless you affirmatively reject it in writing addressed to the Corporate Secretary of the Company no later than 90 days following the Date of Award.

You also appoint as your attorney-in-fact each individual who at the time of so acting is the Secretary or an Assistant Secretary of Sempra Energy with full authority to effect any transfer of any shares of Common Stock distributable to you, including any transfer to pay withholding taxes, that is authorized by this Award Agreement.

Applicable Law:

This Award Agreement will be interpreted and enforced under the laws of the State of California.

Other Agreements:	In the event of any conflict between the terms of this Award Agreement and any written employment, severance or other employment-related agreement between you and Sempra Energy, the terms of this Award Agreement, or the terms of such other agreement, whichever are more favorable to you, shall prevail, provided that in each case a conflict shall be resolved in a manner consistent with the intent that your restricted stock units comply with Code Section 409A. In the event of a conflict between the terms of this Award Agreement and the Plan, the Plan document shall prevail.

By your acceptance of this award, you agree to all of the terms and conditions set forth in the Cover Page/Summary, this Award Agreement and the Plan. You will be deemed to have accepted this award unless you affirmatively reject the award in accordance with the procedures described herein.

Amendment Number One to the Amended and Restated Sempra Energy 2013 Long-Term Incentive Plan (As Amended Effective November 18, 2020)

This Amendment Number 1 to the Sempra Energy 2013 Long-Term Incentive Plan, as amended and restated effective December 15, 2015 (the "2013 LTIP") is dated November 18, 2020 ("Amendment Number 1").

Section 1. Amendment to Section 2.11. Section 2.11 of Article 2. Definitions of the 2013 LTIP is amended and restated in its entirety effective November 18, 2020 to read as follows:

> "**Committee**" means the Compensation Committee (currently known as the Compensation and Talent Development Committee) of the Board or a subcommittee thereof, or any other committee designated by the Board to administer this Plan. The members of the Committee shall be appointed from time to time by and shall serve at the discretion of the Board. The Committee shall consist solely of two or more Directors, each of whom shall qualify as a "non-employee director" as defined in Rule 16b-3 promulgated under the Exchange Act.

Section 2. Amendment to Section 13.4. Section 13.4 of Article 13. Performance Measures of the 2013 LTIP is amended and restated in its entirety effective November 18, 2020 to read as follows:

> **Committee Discretion**. In the event that the Committee determines that it is advisable to grant Awards that shall not qualify as Performance-Based Compensation, the Committee may make such grants without satisfying the requirements of Code Section 162(m) and base vesting on Performance Measures other than those set forth in Section 13.1. In addition, the Committee shall not be required to administer this Plan in a manner that qualifies any Award as Performance-Based Compensation, including, without limitation, that the Committee, or a duly authorized sub-committee of the Committee, be comprised solely of "outside "directors" within the meaning of Code Section 162(m).

Section 3. Governing Law. Amendment Number One shall be governed by the laws of the State of California, excluding any conflicts or choice of law rule or principle that might otherwise refer construction or interpretation of this Plan to the substantive law of another jurisdiction.

Section 4. Full Force and Effect. The 2013 LTIP, as amended effective November 18, 2020 by Amendment Number One herein, shall remain in full force and effect in accordance with the terms and conditions thereof.

THE SEMPRA ENERGY EMPLOYEE AND DIRECTOR SAVINGS PLAN
(As Amended and Restated Effective as of November 18, 2020)

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THE SEMPRA ENERGY EMPLOYEE AND DIRECTOR SAVINGS PLAN
(As Amended and Restated Effective as of November 18, 2020)

Effective as of January 1, 2005, Sempra Energy, a California corporation, established the Sempra Energy 2005 Deferred Compensation Plan (the "Plan") which was designed to provide supplemental retirement income benefits for certain directors of Sempra Energy and for a select group of management and highly compensated employees of the Company (as defined herein) through deferrals of salary and incentive compensation and employer matching contributions. The Plan has been amended from time to time and, effective as of January 1, 2011, the name of the Plan was changed to "The Sempra Energy Employee and Director Retirement Savings Plan". Effective as of June 29, 2012, the name of the Plan was changed to "The Sempra Energy Employee and Director Savings Plan". The Plan was amended and restated effective June 16, 2015 and was subsequently amended and restated effective as of November 10, 2016, November 9, 2017, and January 1, 2019, respectively. The following provisions constitute an amendment, restatement and continuation of the Plan as in effect immediately prior to November 18, 2020.

ARTICLE I.
TITLE AND DEFINITIONS

1.1 Title.

This Plan shall be known as the Sempra Energy Employee and Director Savings Plan.

1.2 Definitions.

Whenever the following words and phrases are used in this Plan, with the first letter capitalized, they shall have the meanings specified below.

(a) "**Account" or "Accounts**" shall mean a Participant's Deferral Account and/or Employer Matching Account (including any Subaccounts thereunder).

(b) "**Administrator**" shall mean the individual(s) designated by the Committee (who need not be a member of the Committee) to handle the day-to-day Plan administration. If the Committee does not make such a designation, the Administrator shall be the most senior officer of Human Resources of Sempra Energy.

(c) "**Affiliate**" has the meaning ascribed to such term in Rule 12b-2 promulgated under the Exchange Act.

(d) "**Base Salary**" shall mean, with respect to any Participant, the Participant's annual base salary, excluding bonus, incentive and all other remuneration for services rendered to the Company, prior to reduction for any salary contributions to a plan established pursuant to Section 125 of the Code or qualified pursuant to Section 401(k) of the Code and prior to reduction for deferrals under this Plan.

(e) "**Beneficial Owner**" has the meaning set forth in Rule 13d-3 under the Exchange Act.

(f) "**Beneficiary**" or "**Beneficiaries**" shall mean the person or persons, including a trustee, personal representative or other fiduciary, last designated in writing by a Participant to receive the benefits specified hereunder in the event of the Participant's death in accordance with Section 9.4.

(g) "**Board of Directors**" or "**Board**" shall mean the Board of Directors of Sempra Energy.

(h) "**Bonus**" shall mean the annual cash incentive award earned by a Participant under the Company's short-term incentive plans and other special cash payments or cash awards that may be granted by the Company from time to time to the extent that such other special cash payments or cash awards are permitted by the Committee to be deferred under the Plan.

(i) "**Change in Control**" shall be deemed to have occurred when any event or transaction described in paragraph (1), (2), (3) or (4) occurs, subject to paragraph (5):

(1) Any Person is or becomes the Beneficial Owner, directly or indirectly, of securities of Sempra Energy representing twenty percent (20%) or more of the combined voting power of Sempra Energy's then outstanding securities; or

(2) The following individuals cease for any reason to constitute a majority of the number of directors then serving: individuals who, on the Effective Date, constitute the Board and any new director (other than a director whose initial assumption of office is in connection with an actual or threatened election contest, including, but not limited to, a consent solicitation, relating to the election of directors of Sempra Energy) whose appointment or election by the Board or nomination for election by Sempra Energy's shareholders was approved or recommended by a vote of at least two-thirds (2/3) of the directors then still in office who either were directors on the date hereof or whose appointment, election or nomination for election was previously so approved or recommended; or

(3) There is consummated a merger or consolidation of Sempra Energy or any direct or indirect subsidiary of Sempra Energy with any other corporation, other than (A) a merger or consolidation which would result in the voting securities of Sempra Energy outstanding immediately prior to such merger or consolidation continuing to represent (either by remaining outstanding or by being converted into voting securities of the surviving entity or any parent thereof), in combination with the ownership of any trustee or other fiduciary holding securities under an employee benefit plan of Sempra Energy or any subsidiary of Sempra Energy, at least sixty percent (60%) of the combined voting power of the securities of Sempra Energy or such surviving entity or any parent thereof outstanding immediately after such merger or consolidation, or (B) a merger or consolidation effected to implement a recapitalization of Sempra Energy (or similar transaction) in which no Person is or becomes the Beneficial Owner, directly or indirectly, of securities of Sempra Energy (not including in the securities beneficially owned by such Person

any securities acquired directly from Sempra Energy or its affiliates other than in connection with the acquisition by Sempra Energy or its affiliates of a business) representing twenty percent (20%) or more of the combined voting power of Sempra Energy's then outstanding securities; or

(4) The shareholders of Sempra Energy approve a plan of complete liquidation or dissolution of Sempra Energy or there is consummated an agreement for the sale or disposition by Sempra Energy of all or substantially all of Sempra Energy's assets, other than a sale or disposition by Sempra Energy of all or substantially all of Sempra Energy's assets to an entity, at least sixty percent (60%) of the combined voting power of the voting securities of which are owned by shareholders of Sempra Energy in substantially the same proportions as their ownership of Sempra Energy immediately prior to such sale.

(5) An event or transaction described in paragraph (1), (2), (3), or (4) shall be a "Change in Control" only if such event or transaction is also a "change in the ownership or effective control of the corporation, or in the ownership of a substantial portion of the assets of the corporation," within the meaning of Section 409A of the Code.

(j) "**Code**" shall mean the Internal Revenue Code of 1986, as amended, and all applicable rules and regulations thereunder

(k) "**Committee**" shall mean the compensation committee of the Board of Directors.

(l) "**Company**" shall mean Sempra Energy and any successor corporations. The term **"Company"** shall also include each corporation which is a member of a controlled group of corporations (within the meaning of Section 414(b) of the Code) of which Sempra Energy is a component member if the Committee provides that such corporation shall participate in the Plan and such corporation's governing board of directors adopts the Plan. Any corporation described in the preceding sentence that participates in the Plan immediately prior to the Effective Date shall be deemed to participate in the Plan and to have adopted the Plan without any further action of either such corporation or Sempra Energy, subject to the terms and conditions of the Plan.

(m) "**Compensation**" shall mean, with respect to a Participant, the following:

(1) with respect to any Participant who is an employee, Base Salary and Bonus that the Participant is entitled to receive for services rendered to the Company. In addition, for any Participant who is an Executive Officer "**Compensation**" includes (i) SERP Lump Sum, and (ii) Restricted Stock Units. The Committee may also permit Eligible Individuals who are not Executive Officers to defer Restricted Stock Units (or any other compensation specifically designated by the Committee) provided that such Eligible Individual shall not be an Executive Officer for purposes of the Plan solely as a result of such deferral unless such Eligible Individual is otherwise designated as such by the Committee; and

(2) with respect to any Director, retainer payments and/or meeting and other fees (including Elective Phantom Share Amounts and Nonelective Phantom Share Amounts), received from Sempra Energy for services performed by the Participant as a Director.

(n) "**Deferral Account**" shall mean the bookkeeping account maintained under the Plan for each Participant that is credited with amounts equal to the portion of the Participant's Compensation that he elects to defer pursuant to Section 3.1, debited by amounts equal to all distributions to and withdrawals made by the Participant and/or his Beneficiary and adjusted for investment earnings and losses pursuant to Article V. The Deferral Account may be further subdivided into Subaccounts as determined by the Committee or the Administrator.

(o) "**Deferral Election Form**" shall mean the form designated by the Committee or the Administrator for purposes of making deferrals under Section 3.1.

(p) "**Director**" shall mean an individual who is a non-employee member of the Board.

(q) "**Disability**" **or** "**Disabled**" means, with respect to a Participant, that the Participant:

(1) is unable to engage in any substantial gainful activity by reason of any medically determinable physical or mental impairment which can be expected to result in death or can be expected to last for a continuous period of not less than twelve (12) months, or

(2) is, by reason of any medically determinable physical or mental impairment which can be expected to result in death or can be expected to last for a continuous period of not less than twelve (12) months, receiving income replacement benefits for a period of not less than three (3) months under an accident or health plan covering employees of such Participant's employer,

in either case, as determined in accordance with Section 409A of the Code.

(r) "**Distributable Amount**" of a Participant's Subaccounts with respect to a Plan Year shall mean the sum of the vested balance of the Subaccount in a Participant's Deferral Account and Employer Matching Account with respect to such Plan Year.

(s) "**Effective Date**" shall mean November 18, 2020.

(t) (1) "**Election Period**" with respect to a Plan Year shall mean the period designated by the Committee or the Administrator; provided, however, that such period shall be no less than ten (10) business days. The Election Period with respect to a Plan Year shall end not later than the last day of the prior Plan Year; *provided, however*, that, in the case of an Eligible Individual who first becomes eligible to participate in the Plan during a Plan Year, the Election Period, if any, shall be the thirty (30) calendar day period (or such shorter period specified by the Committee or the Administrator) commencing on the date such Eligible Individual first becomes eligible to participate in accordance with the

provisions of subsection 1(v) and Section 409A of the Code; and provided, further, in the case of an Eligible Individual's election to defer a Bonus (or portion thereof) for a Plan Year that is performance-based compensation within the meaning of Section 409A of the Code, the Election Period, if any, shall be a period designated by the Committee or the Administrator during such Plan Year that satisfies the requirements of Section 409A of the Code.

(2) Notwithstanding anything to the contrary in paragraph (1), in the case of a Director who becomes a Participant in accordance with Section 2.2, with respect to the Plan Year in which such Director first becomes eligible to participate in the Plan by reason of appointment or election as a Director, "**Election Period**," for purposes of: (A) such Director's election under paragraph 3.1(b)(3) to defer any Elective Phantom Share Amount with respect to an initial equity award granted during the Plan Year shall be the thirty (30) calendar day period (or such shorter period designated by the Committee or the Administrator) after such appointment or election (which period shall end not later than the day next preceding the grant date of such initial equity award), and (B) such Director's election under subsection 3.1(f) of the time and form of payment of any Nonelective Phantom Share Account (or any prorated Nonelective Phantom Share Amount) credited during such Plan Year shall be the thirty (30) calendar day period (or such shorter period designated by the Committee or the Administrator) after such appointment or election (which period shall end not later than the day next preceding the first day of the calendar quarter with respect to such Nonelective Phantom Share Amount (or such prorated Nonelective Phantom Share Amount) as determined under subsection 3.1(f)); provided that any such election under subparagraph (A) or (B) satisfies the requirements of Section 409A of the Code.

(u) "**Elective Phantom Share Amount**" " shall mean, with respect to an initial or annual equity award by Sempra Energy to a Participant who is a Director, which the Director may elect to receive in the form of (1) an award of Restricted Stock Units, or (2) an amount credited to such Participant's Deferral Account in the Sempra Energy Stock Fund, the dollar value designated by the Board for such equity award that is used for purposes of determining the number of Restricted Stock Units subject to such award, or the amount to be credited to such Participant's Deferral Account. In the case of a Director who first becomes a Director by reason of appointment or election as a Director, any such initial equity award shall be granted on the tenth New York Stock Exchange trading day after such appointment or election.

(v) "**Eligible Individual**" shall mean those individuals selected by the Committee from (1) those employees of the Company who either (A) are Executive Officers or (B) have Base Salary for a calendar year that is at least $170,000 (at least $175,000 starting in calendar year 2021), as adjusted by the Committee from time to time and (2) those Directors who are not employees of the Company. The Committee may, in its sole discretion, select such other individuals to participate in the Plan who do not otherwise meet the foregoing criteria. Except as otherwise provided by the Committee or the Administrator, an Eligible Individual who is not a Director shall first become eligible to participate in the Plan on first day of the first calendar quarter that occurs at least thirty (30) days after the Eligible Individual commences employment in a covered category as set forth in subparagraph 1.2(v)(A) or (B)

(and, to the extent applicable, is selected as an Eligible Individual under the Plan). A Director shall become a Participant in the Plan in accordance with Section 2.2 on the date of such Director's appointment or election as a Director.

(w) "**Employer Matching Account**" shall mean the bookkeeping account maintained under the Plan for each Participant that is credited with an amount equal to the Employer Matching Contribution, if any, debited by amounts equal to all distributions to and withdrawals made by the Participant and/or his Beneficiary and adjusted for investment earnings and losses pursuant to Article V.

(x) "**Employer Matching Contributions**" shall mean the employer matching contribution made to the Plan pursuant to Section 3.3.

(y) "**ERISA**" shall mean the Employee Retirement Income Security Act of 1974, as amended, and all applicable rules and regulations thereunder.

(z) "**Exchange Act**" shall mean the Securities Exchange Act of 1934, as amended, and the applicable rules and regulations thereunder.

(aa) "**Executive Officer**" shall mean an employee of the Company who (i) is designated by the Board as an executive officer of Sempra Energy pursuant to Rule 3b-7 of the Exchange Act, (ii) participates in the Sempra Energy Supplemental Executive Retirement Plan, or (iii) who is otherwise designated as an Executive Officer by the Committee.

(bb) "**401(k) Plan**" shall mean the Sempra Energy Savings Plan, as in effect from time to time, maintained by Sempra Energy under Section 401(k) of the Code.

(cc) "**Manager**" shall mean an employee of the Company who is an Eligible Individual, other than an Executive Officer or a Director.

(dd) "**Measurement Fund**" shall mean one or more of the investment funds selected by the Committee pursuant to Section 4.1.

(ee) "**Moody's Plus Rate**" shall mean the Moody's Rate (as defined below) plus the greater of (1) 10% of the Moody's Corporate Bond Yield Average – Monthly Average Corporates as published by Moody's Investors Service, Inc. (or any successor) or (2) one percentage point per annum. The Moody's Rate for a month means the average of the daily Moody's Corporate Bond Yield Average – Monthly Average Corporates for the applicable month. Unless otherwise designated by the Committee, the "applicable month" shall be the month of June in the prior year.

(ff) "**Nonelective Phantom Share Amount**" shall mean the dollar amount designated by the Board for purposes of subsection 3.1(f) to be invested in the Sempra Energy Stock Fund.

(gg) "**Participant**" shall mean any Eligible Individual who becomes a Participant in accordance with Article II and who has not received a complete distribution of the amounts credited to his Accounts.

(hh) "**Payroll Date**" shall mean, with respect to any Participant, the date on which he would otherwise be paid Compensation.

(ii) "**Payment Date**" shall mean the business day determined by the Committee or the Administrator that is on or within thirty (30) calendar days after one of the following dates as designated by the Participant in his distribution form election with respect to a Plan Year:

(1) the first business day of the first calendar month on or next following thirty (30) calendar days after the date of the Participant's Separation from Service or Disability,

(2) the first business day of the first, second, third, fourth or fifth calendar year next following the date of the Participant's Separation from Service or Disability; or

(3) such other date provided by the Committee or the Administrator (or elected by the Participant in accordance with rules established by the Committee or the Administrator), in any case which does not violate the requirements of Section 409A of the Code.

"Payment Date" shall also mean the Scheduled Withdrawal Date elected in accordance with the provisions of subsection 7.1(b).

(jj) "**Person**" means any person, entity or "group" within the meaning of Section 13(d)(3) or Section 14(d)(2) of the Exchange Act, except that such term shall not include (1) Sempra Energy or any of its Affiliates, (2) a trustee or other fiduciary holding securities under an employee benefit plan of Sempra Energy or any of its Affiliates, (3) an underwriter temporarily holding securities pursuant to an offering of such securities, (4) a corporation owned, directly or indirectly, by the shareholders of Sempra Energy in substantially the same proportions as their ownership of stock of Sempra Energy, or (5) a person or group as used in Rule 13d-1(b) under the Exchange Act.

(kk) "**Plan**" shall mean the Sempra Energy Employee and Director Savings Plan set forth herein, as amended from time to time.

(ll) "**Plan Year**" shall mean the twelve (12) consecutive month period beginning on each January 1 and ending on each December 31.

(mm) **"QDRO"** shall mean a domestic relations order that constitutes a "qualified domestic relations order" within the meaning of the Code or ERISA.

(nn) "**Restricted Stock Units**" shall mean restricted stock units granted to a Participant under the Sempra Energy 2008 Long Term Incentive Plan, Sempra Energy 2013 Long-Term Incentive Plan, the Sempra Energy 2019 Long-Term Incentive Plan, and any successor plan(s) thereto.

(oo) "**Rule 16b-3**" shall mean that certain Rule 16b-3 under the Exchange Act, as such Rule may be amended from time to time.

(pp) "**Scheduled Withdrawal Date**" shall be in January in the year elected by the Participant for an in-service withdrawal elected in accordance with subsection 3.2(c), as set forth on the election forms for such Plan Year. If the day elected by the Participant is not a business day, the Scheduled Withdrawal Date shall be deemed to be the next following business day.

(qq) "**Sempra Energy Stock Fund**" shall mean the Measurement Fund in which investment earnings and losses parallel the investment return on the common stock of Sempra Energy.

(rr) "**Separation from Service**" shall mean, with respect to a Participant, the Participant's "separation from service," as defined in Treasury Regulation Section 1.409A-1(h).

(ss) "**SERP Lump Sum**" shall mean the lump sum retirement benefit that would be payable to an Executive Officer who is a Plan Participant under either the Sempra Energy Supplemental Executive Retirement Plan or the Sempra Energy Excess Cash Balance Plan.

(tt) "**Specified Employee**" shall mean a specified employee determined in accordance with the requirements of Section 409A of the Code.

(uu) "**Subaccount**" or "**Subaccounts**" shall mean the subaccount or subaccounts maintained with respect to a Participant's Deferral Account or Employer Matching Account.

(vv) **"Valuation Date**", with respect to the Measurement Funds that are available under the 401(k) Plan, shall have the same meaning as under the 401(k) Plan. For purposes of the Measurement Fund based on Moody's Plus Rate, "Valuation Date" shall mean the last day of the calendar month.

ARTICLE II.
PARTICIPATION

2.1 Commencement of Participation

Subject to Section 2.2, an Eligible Individual shall become a Participant in the Plan by (a) electing to make deferrals in accordance with Section 3.1 and (b) filing such other forms as the Committee or the Administrator may reasonably require for participation hereunder.

2.2 Newly Appointed or Elected Directors

A Director who first becomes an Eligible Individual during a Plan Year by reason of appointment or election as a Director shall become a Participant on the date of such appointment or election. Such Eligible Individual may elect to make deferrals in accordance with Section 3.1 and shall file such forms as the Committee or the Administrator reasonably requires.

ARTICLE III.
CONTRIBUTIONS

3.1 Elections to Defer Compensation

(a) General Rule. Each Eligible Individual may defer Compensation for a Plan Year by filing with the Committee or the Administrator a Deferral Election Form for such Plan Year that conforms to the requirements of this Section 3.1, no later than the last day of the applicable Election Period for such Plan Year, and such deferral election shall become irrevocable on the last day of the applicable Election Period for such Plan Year (or such later date permitted by the Committee or the Administrator consistent with the requirements of Section 409A of the Code). Unless otherwise provided by the Committee, an Eligible Individual who first becomes eligible to participate in the Plan during a Plan Year may elect to defer Compensation for such Plan Year; provided, however, that any such election to defer Compensation for such Plan Year must be filed during the Election Period prior to the effective date of such election, shall be irrevocable when made, and shall be effective only for Compensation that constitutes compensation for services performed during periods during the Plan Year beginning after the effective date of such election. Notwithstanding the previous sentence, if an Eligible Individual's Bonus (or portion thereof) is a performance-based compensation within the meaning of Section 409A of the Code, the Committee or the Administrator may permit such Eligible Individual to file an election to defer such Bonus (or such portion thereof), or change such Eligible Individual's prior election to defer such Bonus (or such portion thereof), no later than the date that is six (6) months before the end of the performance period over which such services are to be performed, under the terms and conditions that may be specified by the Committee or the Administrator, in accordance with Section 409A of the Code, and such deferral election shall become irrevocable on the date that is six (6) months before the end of the performance period.

(b) Special Rules. Notwithstanding the above, the following restrictions apply to deferrals of certain elements of Compensation:

(1) Restricted Stock Units. Each Eligible Individual designated by the Committee as eligible to defer Restricted Stock Units, may elect to defer Restricted Stock Units (or a portion thereof), in accordance with such rules as the Committee may establish, which such rules shall not be inconsistent with the deferral election rules set forth in Sections 3.1 and 3.2 or the distribution provisions of Section 7.1. In order to defer Restricted Stock Units (or a portion thereof), an eligible Participant must file the appropriate Deferral Election Form no later than the election date required under Section 409A of the Code. The Participant's election to defer Restricted Stock Units (or a portion thereof) shall apply only if the Restricted Stock Units (or portion thereof) constitute a legally binding right to a payment of compensation in a subsequent taxable year and, absent a deferral election, would be treated as a short-term deferral, within the meaning of Section 409A of the Code. Any deferral election that does not satisfy the requirements for an initial deferral election under Section 409A of the Code shall be irrevocable when made and shall be made in accordance with Section 409A of the Code, applied as if the amount were a deferral of compensation and the scheduled payment date for the amount were the date the substantial risk of forfeiture lapses. Such subsequent deferral election shall be irrevocable when made, shall be made at least twelve (12) months prior to the first date on which Restricted Stock Units are scheduled to be paid (or, in the case of installment payments, twelve (12) months prior to the date on which the first amount is to be paid), and shall not take effect until at least twelve (12) months after the date on which the election is made. Such deferral election shall provide that the amount deferred shall be deferred for a period of not less than five (5) years from the date the payment of the amount deferred would otherwise have been made (or, in the case of installment payments treated as a single payment as determined under Section 409A of the Code, five (5) years from the date the first amount was scheduled to be paid); provided, however, that such deferral election may provide that the deferred amounts will be payable upon a change in control event (within the meaning of Section 409A of the Code) without regard to the five (5) year additional deferral requirement. Deferrals of Restricted Stock Units shall be invested in the Sempra Energy Stock Fund and may not be moved to any other Measurement Fund. Notwithstanding anything contained in the Plan to the contrary, a Participant may not elect a Scheduled Withdrawal Date with respect to the deferral of any Restricted Stock Units.

(2) SERP Lump Sum. A Participant may elect to defer a SERP Lump Sum (or a portion thereof), to the extent permitted by the Committee. In order to defer a SERP Lump Sum (or a portion thereof), an eligible Participant must file the appropriate Deferral Election Form no later than the election date required under Section 409A of the Code. The Participant's election to defer a SERP Lump Sum (or a portion thereof) that does not satisfy the requirements for an initial deferral election under Section 409A of the Code shall satisfy the requirements of Section 409A of the Code as a subsequent deferral. Such deferral election shall be irrevocable when made, and shall not take effect until at least twelve (12) months after the date on which the election is made. Such deferral election shall provide that the amount deferred shall be deferred for a period of not less than five (5) years from the date the payment of the amount deferred would otherwise have been made (or, in the case of installment payments treated as a single payment, five (5) years from the date the first amount was scheduled to be paid) in accordance with Section 409A of the Code.

(3) Elective Phantom Share Amounts. A Participant who is a Director and is entitled to receive an initial or annual equity award from Sempra Energy, in the form of an award of Restricted Stock Units or an amount credited to his Deferral Account, may elect to have the Elective Phantom Share Amount with respect to such award credited to his Deferral Account (in lieu of such award

of Restricted Stock Units) and defer such Elective Phantom Share Amount. In order to elect such credit and deferral of the Elective Phantom Share Amount with respect to such an equity award, an eligible Participant must file the appropriate Deferral Election Form no later than the last day of the applicable Election Period for the Plan Year during which such equity award is granted, and such deferral election shall become irrevocable on the last day of the applicable Election Period for such Plan Year. A Director who first becomes a Participant during a Plan Year may make a deferral election during such Plan Year in accordance with subparagraph 1.2(t)(2)(A). Such an election to defer an Elective Phantom Share Amount with respect to an equity award granted during a Plan Year must be filed during the Election Period prior to the effective date of such election and shall be irrevocable when made and shall be effective only for an Elective Phantom Share Amount that constitutes compensation for services performed after the effective date of such election. If a Participant fails to elect such credit and deferral of the Elective Phantom Share Amount with respect to such an equity award, the Participant's equity award shall not be deferred and shall be made in the form of an award of Restricted Stock Units. A Participant shall make a separate election to defer Elective Phantom Share Amounts for each Plan Year.

(c) Deferral Amounts. The amount of Base Salary or Bonus that a Participant may elect to defer for a Plan Year is such Base Salary or Bonus earned on or after the time at which the Participant elects to defer for such Plan Year in accordance with subsection 3.1(a), and that is earned during the Plan Year to which the deferral election relates (other than with respect to subsequent deferrals of previously deferred amounts or other amounts that are treated as subsequent deferrals for purposes of Section 409A of the Code). In no event shall a Participant be permitted to defer any amount of Compensation earned prior to the date of the deferral election or attributable to services performed prior to the date of the deferral election (other than with respect to subsequent deferrals of previously deferred amounts or other amounts that are treated as subsequent deferrals for purposes of Section 409A of the Code or as permitted under the Plan relating to performance-based compensation).

(1) Each Participant who is a Manager shall be permitted to defer, in any whole percentage: (A) from 6% to 85% of Base Salary, (B) from 6% to 85% of his Bonus, and (C) if permitted by the Committee, between 10% and 100% of such Participant's Restricted Stock Units, subject to subsection 3.1(b).

(2) Each Participant who is an Executive Officer shall be permitted to defer, in any whole percentage: (A) from 6% to 85% of Base Salary, (B) from 6% to 85% of his Bonus and (c) from 10% to 100% of such Participant's Restricted Stock Units and SERP Lump Sum, subject to subsection 3.1(b).

(3) Each Participant who is a Director: (A) shall be permitted to defer, in any whole percentage, from 10% to 100% of his Compensation (other than Elective Phantom Share Amounts and Nonelective Phantom Share Amounts), and (B) shall be permitted to defer 100% of his Elective Phantom Share Amounts. In the case of a Participant who is a Director, 100% of such Participant's Nonelective Phantom Share Amounts shall be deferred under subsection 3.1(f).

Notwithstanding the limitations established above, the total amount deferred by a Participant shall be limited in any calendar year, if necessary, to satisfy the Participant's income and employment tax withholding obligations (including Social Security, unemployment and Medicare), and the Participant's employee benefit plan contribution requirements, determined on the first day of the Election Period for such Plan Year, in any case as determined by the Committee or the Administrator, as applicable.

(d) Duration of Deferral Election.

(1) A Participant shall not modify or suspend his election to defer Compensation during a Plan Year.

(2) A Participant must file a new deferral election for each subsequent Plan Year. In the event a Participant fails to file a timely deferral election for the next Plan Year, he shall be deemed to have elected not to defer any Compensation for such Plan Year.

(3) A Participant's election to defer all or any portion of his SERP Lump Sum shall automatically become void in the event the Participant dies or becomes disabled while employed by the Company.

(4) A Participant who is a Director must file a new deferral election for the Elective Phantom Share Amounts for the equity awards granted during each Plan Year. In the event a Participant fails to file a timely deferral election for the next Plan Year, he shall be deemed to have elected not to defer the Elective Phantom Share Amounts for the equity awards granted during such Plan Year.

(e) Elections. Any Eligible Individual who does not elect to defer Compensation during his Election Period for a Plan Year may subsequently participate in the Plan in accordance with the terms and conditions of the Plan.

(f) Nonelective Compensation Deferrals for Directors. The Board may determine from time to time whether deferrals of Nonelective Phantom Share Amounts shall be credited to the Deferral Accounts of one or more Participants who are Directors. The Board shall designate the Nonelective Phantom Share Amounts and any conditions under which a Director shall be entitled to have Nonelective Phantom Share Amounts credited to his Deferral Account. A Nonelective Phantom Share Amount credited to a Director's Deferral Account shall constitute compensation for services to be performed by the Director during a calendar quarter, and the Nonelective Phantom Share Amount for such calendar quarter shall be credited to the Director's Deferral Account on the first New York Stock Exchange trading day of such calendar quarter; provided, however, that, in the case of a Director who first becomes a Director by reason of appointment or election as a Director, for purposes of the calendar quarter during which such appointment or election occurs, such Director's Deferral Account shall be credited with a prorated portion of the Nonelective Phantom Share Amount for the portion of such calendar quarter (if any), commencing on the tenth New York Stock Exchange trading day after such Director's appointment or election and ending on

the last day of the calendar quarter, and any such prorated portion of the Nonelective Phantom Share Amount shall constitute compensation for services to be performed by the Director during the period commencing on such tenth New York Stock Exchange trading day and ending on the last day of such calendar quarter and shall be determined based on the portion of such calendar quarter that comprises such period and such prorated portion of the Nonelective Phantom Share Amount shall be credited to the Director's Deferral Account on the New York Stock Exchange trading day next following the last day of such calendar quarter. The service period for a Nonelective Phantom Share Amount (or a prorated Nonelective Phantom Share Amount) shall be the calendar quarter, or portion thereof, during which the Director performs services for which such Nonelective Phantom Share Amount (or prorated Phantom Share Amount) constitutes compensation. Such Nonelective Phantom Share Amounts shall be deferred on a nonelective basis. An eligible Participant must file the appropriate Deferral Election Form with respect to the Nonelective Phantom Share Amounts that constitute compensation for services performed during periods during the Plan Year beginning after the effective date of such election, for purposes of electing the Payment Date and the form of distribution of such Nonelective Phantom Share Amounts, no later than the last day of the applicable Election Period for the Plan Year during which such Nonelective Phantom Share Amounts are credited, and such deferral election shall become irrevocable on the last day of the applicable Election Period for such Plan Year. The Committee or the Administrator shall permit such a Participant who first becomes a Participant during a Plan Year to have his first Election Period with respect to such election of the Payment Date and the form of distribution during such Plan Year determined in accordance with subparagraph 1.2(t)(2)(B). Such an election as to the Payment Date and the form of distribution must be filed during the Election Period prior to the effective date of such election and shall be irrevocable when made and shall be effective only for a Nonelective Phantom Share Amount that constitutes compensation for services performed after the date of such election.

(g) Termination of Participation and/or Deferrals. If the Committee or the Administrator determines in good faith that a Participant no longer qualifies as a Director or a member of a select group of management or highly compensated employees, as membership in such group is determined in accordance with Sections 201(2), 301(a)(3) and 401(a)(1) of ERISA, the Committee or the Administrator shall have the right, in its sole discretion and only for purposes of preserving the Plan's exemption from Title I of ERISA, to prevent the Participant from making deferral elections for future Plan Years.

3.2 Distribution Elections.

(a) General Rule. Each Participant shall make a separate distribution election with respect to each Plan Year for which such Participant elects to defer Compensation in accordance with Section 3.1. In the case of each Participant who is a Director,

such Participant shall make a separate distribution election with respect to each Plan Year without regard to whether such Participant elects to defer Compensation in accordance with Section 3.1. A Participant's distribution election with respect to a Plan Year shall apply to: (1) the Subaccount in his Deferral Account to which shall be credited the amount equal to the portion of his Compensation earned during such Plan Year that he elects to defer pursuant to Section 3.1, (2) in the case of a Participant who is a Director, the Subaccount in his Deferred Account to which shall be credited any Elective Phantom Share Amounts for equity awards granted during such Plan Year that he elects to defer pursuant to Section 3.1, and the Subaccount in his Deferral Account to which shall be credited any Nonelective Phantom Share Amounts during such Plan Year pursuant to subsection 3.1(f), and (3) the Subaccount in his Employer Matching Account to which shall be credited the amount equal to the Employer Matching Contribution for such Plan Year. A Participant may elect any Payment Date described in subsection 1.2(ii), and may elect distribution in the normal form, as described in paragraph 7.1(a)(1), or an optional form described in paragraph 7.1(a)(2). Such Payment Date and distribution form elections shall be made on such Participant's Deferral Election Form during the Election Period for which such Participant elects to defer Compensation under Section 3.1 for such Plan Year, and such Payment Date and distribution form elections with respect to such Plan Year shall be irrevocable, except as provided in subsection 3.2(b). In the event a Participant fails to elect a Payment Date for his Distributable Amount with respect to a Plan Year, his Payment Date for his Distributable Amount with respect to such Plan Year shall be the date described in paragraph 1.2(ii)(1). In the event a Participant fails to make a distribution form election for his Distributable Amount with respect to a Plan Year, his Distributable Amount with respect to such Plan Year shall be distributed in the normal form, as described in paragraph 7.1(a)(1) in the event of his Separation from Service or Disability, except as provided in subsection 3.2(b). Except as provided in subsection 3.2(b), a Participant's distribution for his Distributable Amount with respect to a Plan Year shall be made or commence on such Participant's Payment Date.

(b) Changes to Distribution Form Election. Subject to subsection 3.2(e), a Participant may change his distribution form election for his Distributable Amount with respect to a Plan Year in accordance with this subsection 3.2(b) as follows:

(1) Change from Lump Sum. If such Participant elected to receive the distribution of his Distributable Amount with respect to a Plan Year in the event of his Separation from Service or Disability in a lump sum, such Participant may change such distribution form election by making a new distribution form election for his Distributable Amount with respect to such Plan Year providing for distribution in one of the following forms, with such distribution made or commencing on the fifth anniversary of his Payment Date:

(A) a lump sum,

(B) annual installments (calculated as set forth in paragraph 7.1(a)(6)) over five (5) years,

(C) annual installments (calculated as set forth in paragraph 7.1(a)(6) over ten (10) years, or

(D) annual installments (calculated as set forth in paragraph 7.1(a)(6)) over fifteen (15) years.

(2) Change from Installments. If such Participant elected to receive the distribution of his Distributable Amount with respect to a Plan Year in the event of his Separation from Service or Disability in annual installments over five (5), ten (10) or fifteen (15) years, such Participant may change such distribution form election by making a new distribution form election for his Distributable Amount with respect to such Plan Year providing for distribution in one of the following forms, with such distribution commencing on the fifth anniversary of his Payment Date:

(i) annual installments (calculated as set forth at paragraph 7.1(a)(6)) over the period of years specified in such Participant's initial distribution form election, or

(ii) annual installments (calculated as set forth at paragraph 7.1(a)(6)) over a period of either ten (10) years or fifteen (15) years, provided that such period exceeds the period of years specified in such Participant's initial distribution form election.

(3) A Participant may make only one change to his distribution form election with respect to a Plan Year under this subsection 3.2(b).

(c) Election of Scheduled Withdrawal Date. A Participant may elect a Scheduled Withdrawal Date with respect to his deferrals of Compensation (the "Withdrawal Amount") with respect to a Plan Year. Such election of a Scheduled Withdrawal Date for such Participant's Withdrawal Amount with respect to a Plan Year shall be made by such Participant during the Election Period for which such Participant elects to defer Compensation under Section 3.1 for such Plan Year, and such election of a Scheduled Withdrawal Date shall be irrevocable, except as provided in subsection 3.2(d). A Participant may make separate Scheduled Withdrawal Date elections for his deferrals of Compensation with respect to different Plan Years. A Participant's Withdrawal Amount with respect to a Plan Year shall be credited to Subaccounts under such Participant's Accounts for such Plan Year. A Participant shall not be required to elect a Scheduled Withdrawal Date with respect to his deferrals of Compensation for a Plan Year and, if a Participant fails to make an election of a Scheduled Withdrawal Date for a Plan Year, no Scheduled Withdrawal Date shall apply with respect to his deferrals of Compensation for such Plan Year. For purposes of the Plan, the deferrals of

Compensation included as part of the Withdrawal Amount (i) shall be adjusted for investment earnings and losses in the case of elections made on or after November 10, 2016 and (ii) shall be adjusted for investment losses (but not investment earnings) in the case of elections made prior to November 10, 2016.

(d) Change of Scheduled Withdrawal Date. Subject to subsection 3.2(e), if a Participant elected a Scheduled Withdrawal Date with respect to his deferrals of Compensation with respect to a Plan Year in accordance with subsection 3.2(c), such Participant may change such Scheduled Withdrawal Date for the Withdrawal Amount with respect to such Plan Year by electing a new Scheduled Withdrawal Date for the Withdrawal Amount with respect to such Plan Year that is not less than five (5) years later than the Scheduled Withdrawal Date previously elected by such Participant for such Plan Year. A Participant who has not elected a Scheduled Withdrawal Date for his deferrals of Compensation in accordance with subsection 3.2(c) for a Plan Year may not subsequently elect a Scheduled Withdrawal Date for his deferrals of Compensation for such Plan Year. A Participant may make only one change to the Scheduled Withdrawal Date with respect to each Plan Year under this subsection 3.2(d).

(e) Limitation on Distribution Changes. A Participant's election to change his distribution form election with respect to a Plan Year under subsection 3.2(b), or change of a Scheduled Withdrawal Date with respect to a Plan Year under subsection 3.2(d), shall be subject to the following limitations:

(1) The Participant's election to change his distribution election form with respect to a Plan Year, or change his Scheduled Withdrawal Date with respect to a Plan Year, shall not take effect until at least twelve (12) months after his election to change the distribution form election, or Scheduled Withdrawal Date, is made. If the distribution of such Participant's Distributable Amount with respect to a Plan Year (in the case of a change in his distribution election form), or the distribution of the Withdrawal Amount with respect to such Plan Year (in the case of a change in his Scheduled Withdrawal Date), is made or commence before the election to change his distribution form election or Scheduled Withdrawal Date, as the case may be, becomes effective, the election to change his distribution form election or Scheduled Withdrawal Date shall not thereafter become effective, and distributions shall be made in accordance with the distribution form election, and Scheduled Withdrawal Date (if any), as applicable, in effect prior to the Participant's election to change.

(2) The Participant's election to change his distribution election form with respect to a Plan Year, or change his Scheduled Withdrawal Date with respect to a Plan Year, shall provide that each payment with respect to such new distribution form election, or new Scheduled Withdrawal Date, shall be deferred for a period of not less than five (5) years from the date such payment would otherwise have been made.

(3) The Participant's election to change his Scheduled Withdrawal Date with respect to a Plan Year shall not be made less than twelve (12) months prior to the date of the first scheduled

payment under the Participant's initial election of the Scheduled Withdrawal Date with respect to such Plan Year.

The limitations under this subsection 3.2(e) shall be applied in accordance with Section 409A of the Code.

3.3 Employer Matching Contributions.

(a) The Company shall make an Employer Matching Contribution for each payroll date during a Plan Year, on behalf of each Participant who is employed by the Company on such payroll date and who makes deferrals of Base Salary and/or Bonus under Article III, in an amount equal to the sum of (1) 50% of the first 6% of Base Salary and Bonus deferred under Article III for such payroll period plus (2) 20% of the next 5% of Base Salary and Bonus deferred under Article III for such payroll period, reduced by (3) the amount of the matching contributions that would have been made under the 401(k) Plan for such payroll period if the Participant had contributed 11% of his eligible compensation (or such other amount that represents the maximum level of pre-tax salary reduction contributions (including catch-up contributions) and/or Roth elective contributions with respect to which matching contributions would have been made on behalf of the Participant under the 401(k) Plan for the applicable period). For the avoidance of doubt, the amount of the reduction under paragraph (3) shall be the maximum amount of matching contributions that could have been made under 401(k) Plan on behalf of the Participant (regardless of whether such matching contributions were actually made under the 401(k) Plan).

Notwithstanding the foregoing, in no event shall the Employer Matching Contributions made pursuant to this subsection 3.3(a) exceed 100% of the matching contributions that would have been provided under the 401(k) Plan absent any plan-based restrictions or limitations on contributions to qualified plans under the Code.
If a Participant is employed by more than one corporation that is included in the Company, the foregoing computation shall be applied to each such corporation based on the portion of the Plan Year during which the Participant was employed by such corporation. Notwithstanding the above, the Committee reserves the right to change or eliminate the Employer Matching Contribution in its sole discretion for any subsequent Plan Year.

(b) The Employer Matching Contribution for a Plan Year shall be credited to a Participant's Employer Matching Account in the manner determined by the Committee or the Administrator.

3.4 FICA and Other Taxes.

(a) Withholding, Generally. The Company shall have the right to withhold from any payments due under the Plan (or with respect to amounts credited to the Plan) any taxes required by law to be withheld in respect of such payment (or credit).

(b) Annual Deferral Amounts. For each Plan Year in which a Participant who is an employee makes a deferral under Section 3.1, the Participant's employer shall withhold from that portion of the Participant's Compensation that is not being deferred, in a manner determined by the employer, the Participant's share of FICA and other employment taxes on such amount. If necessary, the Committee or the Administrator may reduce the Participant's deferrals under Section 3.1 or make deductions from his Deferral Account in order to comply with this Section 3.4, to the extent permitted under Section 409A of the Code.

(c) Employer Matching Amounts. For each Plan Year in which a Participant is credited with a contribution to his Employer Matching Account under Section 3.3, the Participant's employer shall withhold from the Participant's Compensation that is not deferred, in a manner determined by the employer, the Participant's share of FICA and other employment taxes. If necessary, the Committee or the Administrator may reduce the Participant's Employer Matching Account in order to comply with this Section 3.4, to the extent permitted under Section 409A of the Code.

(d) Sempra Energy Stock Fund. With respect to distributions of all or a portion of balances invested in the Sempra Energy Stock Fund, withholding obligations shall be satisfied through the surrender of the applicable withholding percentage of such distributed balances (or portion thereof) in the Sempra Energy Stock Fund. Unless otherwise approved by the Committee, withholding obligations for Restricted Stock Units deferred into the Plan shall be satisfied by payment by the applicable Participant, deducted from other Compensation payable to such Participant which has not been deferred under the Plan, or a combination of these methods.

ARTICLE IV.
INVESTMENTS

4.1 Measurement Funds.

(a) Election of Measurement Funds. In the manner designated by the Committee or the Administrator, Participants may elect one or more Measurement Funds to be used to determine the additional amounts to be credited to their Accounts. Although the Participant may designate the available Measurement Funds that will be used to determine additional amounts to be credited to their Accounts, neither the Committee nor the Administrator shall be bound to make actual investments in

such Measurement Funds based on the Participant's election. If the Committee designates a substitute Measurement Fund for a Participant (without regard to the Participant's election), the substitute Measurement Fund must provide the Participant with an investment opportunity reasonably comparable to the original Measurement Funds elected by the Participant, as determined by the Committee in its sole discretion. The Committee shall select from time to time, in its sole discretion, the Measurement Funds to be available under the Plan.

(b) No Actual Investment. Notwithstanding any other provision of this Plan that may be interpreted to the contrary, the Measurement Funds are to be used for measurement purposes only, and a Participant's election of any such Measurement Fund, the allocation to his Accounts thereto, the calculation of additional amounts and the crediting or debiting of such amounts to a Participant's Accounts shall not be considered or construed in any manner as an actual investment of his Accounts in any such Measurement Fund. In the event that the Committee, the Administrator, or the trustee, as applicable, in its own discretion, decides to invest funds in any or all of the Measurement Funds, no Participant shall have any rights in or to such investments themselves. Without limiting the foregoing, a Participant's Accounts shall at all times be a bookkeeping entry only and shall not represent any investment made on his behalf by the Company. The Participant shall at all times remain an unsecured creditor of the Company

4.2 Investment Elections.

(a) Participants.

(1) Deferral Accounts. Except as provided in paragraph 4.2(a)(2) and Section 4.3, Participants may designate how their Deferral Accounts shall be deemed to be invested under the Plan.

(A) Such Participants may make separate investment elections for (I) their future deferrals of Compensation and (II) the existing balances of their Deferral Accounts.

(B) Such Participants may make and change their investment elections by choosing from the Measurement Funds designated by the Committee in accordance with the procedures established by the Committee or the Administrator.

(C) Except as otherwise designated by the Committee, the available Measurement Funds under this paragraph 4.2(a)(1) shall be the investment funds under the 401(k) Plan (excluding the Stable Value Fund and any brokerage account option), the Sempra Energy Stock Fund and the Measurement Fund based on the Moody's Plus Rate.

(D) If a Participant fails to elect a Measurement Fund under this subsection 4.2(a), he shall be deemed to have elected the Measurement Fund based on the Moody's Plus Rate (unless a different default fund is designated by the Committee) for all of his Accounts.

(2) Employer Matching Account and Certain Deferral Subaccounts.

(A) (2) Employer Matching Account and Certain Deferral Subaccounts. Unless otherwise provided by the Committee or the Administrator, Employer Matching Contributions credited to a Participant's Employer Matching Account shall be invested in Measurement Funds in the same proportion as the corresponding deferrals of Compensation that are credited to his Deferral Account. Unless otherwise provided by the Committee, a Participant may, however, transfer the investment of the Employer Matching Contributions credited to his Employer Matching Account into any Measurement Fund and may change their investment elections by choosing from the Measurement Funds designated by the Committee in accordance with the procedures established by the Committee or the Administrator. The deferrals of a Participant's Restricted Stock Units credited to such Participant's Deferral Account shall be deemed invested in the Sempra Energy Stock Fund and may not be moved into any other Measurement Fund.

(B) The deferrals of Elective Phantom Share Amounts and Nonelective Phantom Share Amounts credited to a Participant's Deferral Account shall be initially deemed invested in the Sempra Energy Stock Fund and shall remain deemed invested in the Sempra Energy Stock Fund until the Participant's Separation from Service. After the Participant's Separation from Service, a Participant may direct the investment of the Elective Phantom Share Amount Subaccounts or Nonelective Phantom Share Amount Subaccounts of the Participant's Deferral Account into any other Measurement Fund, as permitted by the Committee.

(b) Continuing Investment Elections. Participants who have had a Separation From Service but not yet commenced distributions under Article VII or Participants or Beneficiaries who are receiving installment payments may continue to make investment elections as permitted under subsection 4.2(a) except as otherwise determined by the Committee.

4.3 Compliance with Section 16 of the Exchange Act.

(a) Any Participant or Beneficiary who is subject to Section 16 of the Exchange Act shall have his Measurement Fund elections under the Plan subject to the requirements of the Exchange Act, as interpreted by the Committee. Any such Participant or Beneficiary who either (i) transferred amounts from another available Measurement Fund under the Plan into the Sempra Energy Stock Fund or (ii) transferred any amounts from the Sempra Energy Stock Fund to another available Measurement Fund under the Plan may not make an election with the opposite effect under this Plan or any other Company-sponsored plan until six (6) months and one (1) day following the original election.

(b) Notwithstanding any other provision of the Plan or any rule, instruction, election form or other form, the Plan and any such rule, instruction or form shall be subject to any additional conditions or limitations set forth in any applicable exemptive rule under Section 16 of the Exchange Act (including any amendment to Rule 16b3) that are requirements for the application of such exemptive rule. To the extent permitted by applicable law, such Plan provision, rule, instruction or form shall be

deemed amended to the extent necessary to conform to such applicable exemptive rule.

ARTICLE V.
ACCOUNTS

5.1 Accounts.

(a) The Committee or the Administrator shall establish and maintain a Deferral Account, and an Employer Matching Account for each Participant under the Plan. Each Participant's Accounts shall be divided into separate Subaccounts in accordance with Section 5.2. Each such Subaccount shall be further divided into separate investment fund Subaccounts, each of which corresponds to a Measurement Fund elected by the Participant pursuant to Section 4.2. In addition, Participants' Deferral Accounts shall be further divided into Subaccounts consisting of deferred Restricted Stock Units, Elective Phantom Share Amounts, and Nonelective Phantom Share Amounts. A separate Subaccount shall be maintained for each deferral of Restricted Stock Units, Nonelective Phantom Share Amount and Elective Phantom Share Amount.

(b) The performance of each elected Measurement Fund (either positive or negative) shall be determined by the Committee or the Administrator, in its reasonable discretion, based on the performance of the Measurement Funds themselves. A Participant's Accounts shall be credited or debited on each Valuation Date, as determined by the Committee or the Administrator in its reasonable discretion, based on the performance of each Measurement Fund selected by the Participant as though (i) a Participant's Accounts were invested in the Measurement Fund(s) selected by the Participant, in the percentages applicable to such period, as of the close of business on the first business day of such period, at the fair market value on such date; (ii) the portion of the Participant's Compensation that was actually deferred pursuant to Section 3.1 during any period were invested in the Measurement Fund(s) selected by the Participant, in the percentages applicable to such period, no later than the close of business on the first business day after the day on which such amounts are actually deferred from the Participant's Compensation, at the fair market value on such date; and (iii) any withdrawal or distribution made to a Participant that decreases such Participant's Accounts ceased being invested in the Measurement Fund(s), in the percentages applicable to such period, no earlier than one (1) business day prior to the distribution, at the fair market value on such date. The Participant's Employer Matching Contribution for a Plan Year shall be credited to his Employer Matching Account for purposes of this subsection 5.1(b), in the manner determined on the first day of the Election Period for such Plan Year, as determined by the Committee or the Administrator.

5.2 Subaccounts.

(a) The Committee or the Administrator shall establish and maintain, with respect to a Participant's Deferral Account, a Subaccount with respect to each Plan Year, to which shall be credited the amount equal to the portion of the Participant's Compensation earned during such Plan Year that he elects to defer pursuant to Section 3.1, debited by amounts equal to distributions to and withdrawals made by the Participant and/or his Beneficiary and adjusted for investment earnings and losses pursuant to Article V.

(b) The Committee or the Administrator shall establish and maintain, with respect to a Participant's Employer Matching Account, a Subaccount with respect to each Plan Year, to which shall be credited the amount equal to the Employer Matching Contributions made pursuant to Section 3.3 on behalf of such Participant in respect of such Participant's Compensation earned during such Plan Year that he elects to defer pursuant to Section 3.1, debited by amounts equal to distributions to and withdrawals made by the Participant and/or his Beneficiary and adjusted for investment earnings and losses pursuant to Article V.

ARTICLE VI.
VESTING

(a) Subject to subsections (c) and (d), each Participant shall be 100% vested in his Deferral Account at all times.

(b) Each Participant shall become 100% vested in his Employer Matching Account after completing one (1) year of continuous employment with the Company; provided, however, that a Participant who had an Employer Matching Account under the Plan immediately prior to the Effective Date shall be 100% vested in his Employer Matching Account at all times.

(c) A Participant's deferred Restricted Stock Units credited to a Subaccount of such Deferred Account shall be subject to the vesting conditions applicable to the Restricted Stock Unit award. The Subaccount of such Participant's Deferral Amount for a deferred Restricted Stock Unit award shall become vested in accordance with the vesting conditions applicable to such Restricted Stock Unit award. To the extent such Restricted Stock Unit award is forfeited, the Subaccount of such Participant's Deferral Account for such award shall be forfeited immediately following the event causing such forfeiture and the amount of such Subaccount shall be debited from such Deferral Account.

(d) A Participant's deferred Elective Phantom Share Amount credited to a Subaccount of such Participant's Deferral Account shall be subject to the vesting conditions applicable to the initial or annual equity award for which such Elective Phantom Share Amount is credited. The Subaccount of such Participant's Deferral Account for a deferred Elective Phantom Share Amount shall become vested in accordance with the vesting conditions applicable to such equity award, except as

provided in subsection 7.3(b). To the extent such equity award is forfeited, the Subaccount of such Participant's Deferral Account for such Elective Phantom Share Amount shall be forfeited immediately following the event causing such forfeiture and the amount of such Subaccount shall be debited from such Deferral Account.

ARTICLE VII.
DISTRIBUTIONS

7.1 Distribution of Accounts.

(a) Distribution at Separation from Service or Disability.

(1) Normal Form.

(A) Except as provided in subparagraph (B), paragraph (2), paragraph (3) or Section 7.3, upon the Separation from Service or Disability of a Participant, a Participant's Distributable Amount with respect to each Plan Year beginning on or after January 1, 2011 shall be paid to the Participant in a lump sum in cash (or shares of Sempra Energy common stock for Restricted Stock Unit Subaccounts) on the Participant's Payment Date. Except as provided in subparagraph (B), paragraph (2), paragraph (3) or Section 7.3, upon the Separation from Service or Disability of a Participant, a Participant's Distributable Amount with respect to each Plan Year beginning prior to January 1, 2011 shall be paid to the Participant in substantially equal annual installments in cash (calculated as set forth in paragraph 7.1(a)(6) over ten (10) years beginning on the Participant's Payment Date.

(B) Upon the Separation from Service of a Participant who is a Specified Employee (determined as of the date of Separation from Service), the distribution of the Participant's Distributable Amount shall be delayed until the first business day which is six (6) months after the date of such Participant's Separation from Service (or, if earlier, the date of such Participant's death) in accordance with Section 409A of the Code and shall be paid on the business day determined by the Committee or the Administrator that is on or within thirty (30) business days thereafter; provided, however, that if the Payment Date applicable to the Distributable Amount is later than the delayed payment date determined pursuant to this subparagraph 7.1(a)(1)(B), payment of the Distributable Amount shall be made on the Payment Date.

(2) Optional Forms. Instead of receiving his Distributable Amount with respect to each Plan Year as described at subparagraph 7.1(a)(1)(A), the Participant may elect in accordance with Section 3.2 one of the following optional forms of payment (on the form provided by Committee or the Administrator) (or shares of Sempra Energy common stock for Restricted Stock Unit Subaccounts) at the time of his deferral election for such Plan Year:

(i) equal annual installments in cash (or shares of Sempra Energy common stock for Restricted Stock Unit Subaccounts) (calculated as set forth in paragraph 7.1(a)(6)) over five (5) years beginning on the Participant's Payment Date,

(ii) equal annual installments in cash (or shares of Sempra Energy common stock for Restricted Stock Unit Subaccounts) (calculated as set forth in paragraph 7.1a(a)(6)) over ten (10) years beginning on the Participant's Payment Date, or

(iii) equal annual installments in cash (or shares of Sempra Energy common stock for Restricted Stock Unit Subaccounts) (calculated as set forth in paragraph 7.1(a)(6)) over fifteen (15) years beginning on the Participant's Payment Date, or

(iv) a lump sum in cash (or shares of Sempra Energy common stock for Restricted Stock Unit Subaccounts) .

The payment of such Participant's Distributable Amount with respect each Plan Year shall be made or commence on such Participant's Payment Date (or, if applicable, the date determined under subparagraph (a)(1)(B)).

(3) Distribution Election Changes. In the event that a Participant changes his distribution form election with respect to a Plan Year in accordance with subsection 3.2(b), and such new distribution form election becomes effective, upon the Separation from Service or Disability of such Participant, the Distributable Amount with respect to such Plan Year shall be paid to the Participant in accordance with such new distribution form election.

(4) Small Accounts. Notwithstanding provision to the contrary, in the event the total of a Participant's Distributable Amounts with respect to all Plan Years is equal to or less than $25,000, such Distributable Amounts shall be distributed to the Participant (or his Beneficiary, as applicable) in a lump sum.

(5) Investment Adjustments. The Participant's Accounts shall continue to be adjusted for investment earnings and losses pursuant to Section 4.2 and Section 4.3 of the Plan until all amounts credited to his Accounts under the Plan have been distributed.

(6) Calculating Payments. All payments made under the Plan shall be determined in accordance with the following:

(i) All installment payments made under the Plan shall be determined in accordance with the annual fractional payment method, calculated as follows: the balance of Subaccounts in the Participant's Accounts with respect to a Plan Year shall be calculated as of the Payment Date. The annual installment shall be calculated by multiplying this balance by a fraction, the numerator of which is one, and the denominator of which is the remaining number of annual payments due the Participant. By way of example, if the Participant elects ten (10) year installments for the distribution of the Subaccounts in his Accounts with respect to a Plan Year, the first payment shall be 1/10 of the balance of such Subaccounts in his Accounts calculated as described in this definition. The following year, the payment shall be 1/9 of such Subaccounts in the balance of the Participant's Accounts, calculated as described in this definition. Each annual installment for an applicable year shall be paid on or as soon as practicable after the Payment Date (but in any event no later than the last business day of such applicable year).

(ii) All lump sum payments made under the Plan shall be calculated as of the close of business on the Payment Date. The lump sum shall be paid in accordance with the provisions of the Plan applicable thereto.

(b) Distribution on a Scheduled Withdrawal Date.

(1) In the case of a Participant who has elected a Scheduled Withdrawal Date for a distribution to be made prior to the Participant's Separation from Service or while still a Director, in each case to the extent permitted by the Plan, such Participant shall receive his Withdrawal Amount as shall have been elected by the Participant to be subject to the Scheduled Withdrawal Date. A Participant's Scheduled Withdrawal Date with respect to amounts of Compensation deferred in a given Plan Year must be at least three (3) years from the last day of the Plan Year for which such deferrals are made.

(2) The Withdrawal Amount shall be paid in a lump sum in cash.

(3) A Participant may elect to change the Scheduled Withdrawal Date for the Withdrawal Amount for any Plan Year in accordance with subsection 3.2(d).

(4) In the event of Participant's Separation from Service or Disability prior to a Scheduled Withdrawal Date, the Participant's entire Withdrawal Amount shall be paid in accordance with the Participant's election with respect to such Plan Year under subsection 7.1(a). In the event of a Participant's death prior to a Scheduled Withdrawal Date, the Participant's entire Withdrawal Amount shall be paid as soon as practicable after the Participant's death in a lump sum in cash.

(c) Distribution upon Death. In the event a Participant dies before he has begun receiving distributions under subsection 7.1(a), his Accounts shall be paid to his Beneficiary in the same manner elected by the Participant. In the event a Participant dies after he has begun receiving distributions under subsection 7.1(a) with a remaining balance in his Accounts, the balance shall continue to be paid to his Beneficiary in the same manner.

7.2 Hardship Distribution.

A Participant shall be permitted to elect a Hardship Distribution of all or a portion of his Accounts under the Plan prior to the Payment Date, subject to the following restrictions:

(a) The election to take a Hardship Distribution shall be made by filing the form provided by the Committee or the Administrator before the date established by the Committee or the Administrator.

(b) The Committee or the Administrator shall have made a determination that the requested distribution constitutes a Hardship Distribution in accordance with subsection 7.2(d).

(c) The amount determined by the Committee or the Administrator as a Hardship Distribution shall be paid in a single lump sum in cash as soon as practicable after the end of the calendar month in which the Hardship Distribution election is made and approved by the Committee or the Administrator. The Hardship Distribution shall be distributed proportionately from the Subaccounts in the Participant's Accounts, excluding the Restricted Stock Unit, Elective Phantom Share Amount or Nonelective Phantom Shares Amount Subaccounts and any amounts invested in the Sempra Energy Stock Fund.

(d) If a Participant receives a Hardship Distribution, the Participant shall be ineligible to contribute deferrals to the Plan for the remainder of the Plan Year in which the Hardship Distribution is received or the immediately following Plan Year. "Hardship Distribution" shall mean a severe financial hardship to the Participant resulting from (i) an illness or accident of the Participant, the Participant's spouse or of his dependent (as defined in Section 152(a) of the Code), (ii) loss of a Participant's property due to casualty, or (iii) other similar extraordinary and unforeseeable circumstances arising as a result of events beyond the control of the Participant, as determined by the Committee or the Administrator in accordance with Section 409A of the Code. The amount of the Hardship Distribution with respect to a severe financial hardship shall not exceed the amounts necessary to satisfy such hardship, plus amounts necessary to pay taxes reasonably anticipated as a result of the distribution, after taking into account the extent to which such hardship is or may be relieved through reimbursement or compensation by insurance or otherwise or by liquidation of the Participant's assets (to the extent the liquidation of such assets would not itself cause severe financial hardship), as determined by the Committee or the Administrator in accordance with Section 409A of the Code.

7.3 Effect of a Change in Control.

(a) In the event there is a Change in Control, the person who is the chief executive officer (or, if not so identified, Sempra Energy's highest ranking officer) shall name a third-party fiduciary as the sole member of the Committee immediately prior to such Change in Control and the appointed fiduciary, shall provide for the immediate distribution of the Accounts under the Plan in lump sum payments and cash to the extent permitted under Section 409A of the Code.

(b) Upon a Change in Control, all unvested Elective Phantom Share Amounts credited to a Director's Account under the Plan shall vest.

(c) Upon and after the occurrence of a Change in Control, the Company must (i) pay all reasonable administrative fees and expenses of the appointed fiduciary, (ii) indemnify the appointed fiduciary against any costs, expenses and liabilities including, without limitation, attorney's fees and expenses arising in connection with the appointed fiduciary's duties hereunder, other than with respect to matters

resulting from the gross negligence of the appointed fiduciary or its agents or employees and (iii) timely provide the appointed fiduciary with all necessary information related to the Plan, the Participants and Beneficiaries.

(d) Notwithstanding Section 9.3, in the event there is a Change in Control no amendment may be made to this Plan except as approved by the third-party fiduciary; provided, however, that in no event shall any amendment approved by the third-party fiduciary have any retroactive effect to reduce any vested amounts allocated to a Participant's Accounts. Upon a Change in Control, assets shall be placed in a rabbi trust in an amount which shall equal the full accrued liability under this Plan as determined by an actuarial firm appointed by the Board immediately prior to such Change in Control or, in the absence of such appointment, Willis Towers Watson or a successor actuarial firm.

7.4 Inability to Locate Participant.

In the event that the Committee or the Administrator is unable to locate a Participant or Beneficiary within two (2) years following the required Payment Date, the amount allocated to the Participant's Accounts shall be forfeited. If, after such forfeiture, the Participant or Beneficiary later claims such benefit, such benefit shall be reinstated without interest or earnings from the date of forfeiture, subject to applicable escheat laws.

7.5 Prohibition on Acceleration of Distributions.

The time or schedule of payment of any withdrawal or distribution under the Plan shall not be subject to acceleration, except as provided or permitted under Section 409A of the Code (including, without limitation, acceleration on termination of the Plan or in connection with a change in control event within the meaning of Section 409A of the Code).

7.6 Distributions Pursuant To QDROs.

Except as otherwise provided by the Committee or the Administrator, distributions to alternate payees pursuant to a QDRO will be made or commence within ninety (90) days of the date on which the domestic relations order is determined to be a QDRO in one of the following forms elected by the alternate payee (including by the terms of the QDRO):

(a) a lump sum,

(b) annual installments (calculated as set forth at paragraph 7.1(a)(6)) over five (5) years,

(c) annual installments (calculated as set forth at paragraph 7.1(a)(6) over ten (10) years, or

(d) annual installments (calculated as set forth at paragraph 7.1(a)(6)) over fifteen (15) years.

If no election is made by the alternate payee within sixty (60) days following the date on which the domestic relations order is determined to be a QDRO, the alternate payee's benefit will be paid in a lump sum in accordance with the provisions of this Section 7.6.

ARTICLE VIII.
ADMINISTRATION

8.1 Committee.

The Committee shall administer the Plan in accordance with this Article.

8.2 Administrator.

The Administrator, unless restricted by the Committee or the Committee otherwise acts, shall have the authority and shall exercise the powers expressly granted hereunder and under Sections 8.4 and 8.5 except when the exercise of such authority would materially affect the cost of the Plan to the Company or materially increase benefits to Participants.

8.3 Committee Action.

The Committee shall act at meetings by affirmative vote of a majority of the members of the Committee present at a meeting at which a quorum is present. Any action permitted to be taken at a meeting may be taken without a meeting if, prior to such action, a written consent to the action is signed by all members of the Committee and such written consent is filed with the minutes of the proceedings of the Committee. A member of the Committee shall not vote or act upon any matter which relates solely to himself or herself as a Participant. The chairman or any other member or members of the Committee designated by the chairman may execute any certificate or other written direction on behalf of the Committee.

8.4 Powers and Duties of the Committee.

Each of the Committee and the Administrator, on behalf of the Participants and their Beneficiaries, shall enforce the Plan in accordance with its terms and shall have all powers necessary to accomplish its purposes as set forth herein, including, but not by way of limitation, the following:

(a) To select the Measurement Funds in accordance with Section 4.1 hereof;

(b) To conclusively construe and interpret the terms and provisions of the Plan and to remedy any inconsistencies or ambiguities hereunder;

(c) To select employees eligible to participate in the Plan;

(d) To compute and certify to the amount and kind of benefits payable to Participants and their Beneficiaries;

(e) To maintain all records that may be necessary for the administration of the Plan;

(f) To provide for the disclosure of all information and the filing or provision of all reports and statements to Participants, Beneficiaries or governmental agencies as shall be required by law;

(g) To make and publish such rules for the regulation and operation of the Plan and procedures for the administration of the Plan as are not inconsistent with the terms hereof;

(h) To delegate to any person or persons such powers and duties in connection with the administration of the Plan as the Committee or the Administrator may from time to time prescribe; and

(i) To take all actions necessary for the administration of the Plan.

8.5 Construction and Interpretation.

Each of the Committee and the Administrator shall have full discretion to conclusively construe and interpret the terms and provisions of this Plan, which interpretations or construction shall be final and binding on all parties, including but not limited to the Company and any Participant or Beneficiary. Each of the Committee and the Administrator shall administer such terms and provisions in accordance with any and all laws applicable to the Plan. The Committee or the Administrator may provide for different rules, rights and procedures for different Participants or Eligible Individuals and there is no requirement under the Plan that all Participants or Eligible Individuals receive the same benefits, payment rights, election rights or any other benefits or rights, subject to the requirements of applicable law

8.6 Information.

The Company shall furnish the Committee or the Administrator with such data and information as may be required for it to discharge its duties. Participants and other persons entitled to benefits under the Plan must furnish the Committee or the Administrator such evidence, data or information as the Committee or the Administrator considers necessary or desirable to carry out the terms of the Plan.

8.7 Compensation, Expenses and Indemnity.

(a) The members of the Committee shall serve without compensation for their services hereunder.

(b) The Committee is authorized at the expense of the Company to employ such legal counsel and other advisors as it may deem advisable to assist in the performance of its duties hereunder. Expenses and fees in connection with the administration of the Plan shall be paid by the Company.

(c) To the extent permitted by applicable state law, the Company shall indemnify and save harmless the Committee and each member thereof, the Board of Directors and any delegate of the Committee who is an employee of the Company or any Affiliate and the Administrator against any and all expenses, liabilities and claims,

including legal fees to defend against such liabilities and claims arising out of their discharge in good faith of responsibilities under or incident to the Plan, other than expenses and liabilities arising out of willful misconduct. This indemnity shall not preclude such further indemnities as may be available under insurance purchased by the Company or provided by the any bylaw, agreement or otherwise, of the Company as such indemnities are permitted under state law.

8.8 Quarterly Statements.

Under procedures established by the Committee or the Administrator, a Participant shall receive a statement with respect to such Participant's Accounts on a quarterly basis as of each March 31, June 30, September 30 and December 31.

8.9 Disputes.

(a) Claim.

A person who believes that he is being denied a benefit to which he is entitled under the Plan (hereinafter referred to as "Claimant") may file a written request for such benefit with the Administrator, setting forth his claim. The request must be addressed to the Administrator at Sempra Energy at its then principal place of business.

(b) Claim Decision.

Upon receipt of a claim, the Administrator shall advise the Claimant that a reply shall be forthcoming within ninety (90) days and shall, in fact, deliver such reply within such period. The Administrator may, however, extend the reply period for an additional ninety (90) days for special circumstances.

If the claim is denied in whole or in part, the Administrator shall inform the Claimant in writing, using language calculated to be understood by the Claimant, setting forth: (i) the specified reason or reasons for such denial; (ii) the specific reference to pertinent provisions of this Plan on which such denial is based; (iii) a description of any additional material or information necessary for the Claimant to perfect his claim and an explanation of why such material or such information is necessary; (iv) appropriate information as to the steps to be taken if the Claimant wishes to submit the claim for review; and (v) the time limits for requesting a review under subsection 8.9(c).

(c) Request For Review.

With sixty (60) days after the receipt by the Claimant of the written opinion described above, the Claimant may request in writing a review the determination of the Administrator. Such review shall be completed by the most senior officer of Human Resources of Sempra Energy for Participants who are Managers and by the Committee for Participants who are Executive Officers or Directors. Such request must be addressed to the Secretary of Sempra Energy, at its then principal place of business. The Claimant or his duly authorized representative may, but need not, review the pertinent documents and submit issues and comments in writing for consideration by the most senior officer of Human Resources of

Sempra Energy or the Committee, as applicable. If the Claimant does not request a review within such sixty (60) day period, he shall be barred and estopped from challenging the Administrator's determination.

(d) Review of Decision.

Within sixty (60) days after the receipt of a request for review by the most senior officer of Human Resources of Sempra Energy or the Committee, as applicable, after considering all materials presented by the Claimant, the most senior officer of Human Resources of Sempra Energy or the Committee, as applicable, shall inform the Participant in writing, in a manner calculated to be understood by the Claimant, the decision setting forth the specific reasons for the decision contained specific references to the pertinent provisions of this Plan on which the decision is based. If special circumstances require that the sixty (60) day period be extended, the most senior officer of Human Resources of Sempra Energy or the Committee, as applicable, shall so notify the Claimant and shall render the decision as soon as possible, but no later than one hundred and twenty (120) days after receipt of the request for review.

ARTICLE IX.
MISCELLANEOUS

9.1 Unsecured General Creditor.

Participants and their Beneficiaries, heirs, successors, and assigns shall have no legal or equitable rights, claims, or interest in any specific property or assets of the Company. No assets of the Company shall be held in any way as collateral security for the fulfilling of the obligations of the Company under this Plan. Any and all of the Company's assets shall be, and remain, the general unpledged, unrestricted assets of the Company. The Company's obligation under the Plan shall be merely that of an unfunded and unsecured promise of the Company to pay money in the future, and the rights of a Participant or Beneficiary shall be no greater than those of an unsecured general creditor of the Company. It is the intention of the Company that this Plan be unfunded for purposes of the Code and Title I of ERISA.

9.2 Restriction Against Assignment.

(a) The Company shall pay all amounts payable hereunder only to the person or persons designated pursuant to the terms of the Plan and not to any other person or entity. No right, title or interest in the Plan or in any Account may be sold, pledged, assigned or transferred in any manner other than by will or the laws of descent and distribution. No right, title or interest in the Plan or in any Account shall be liable for the debts, contracts or engagements of the Participant or his successors in interest or shall be subject to disposition by transfer, alienation, anticipation, pledge, encumbrance, assignment or any other means whether such disposition be voluntary or involuntary or by operation of law by judgment, levy, attachment, garnishment or any other legal or equitable proceedings (including bankruptcy), and any attempted disposition thereof shall be null and void and of no effect, except to the extent that such disposition is permitted by the preceding sentence.

(b) Notwithstanding the provisions of subsection 9.2(a), a Participant's interest in his Account may be transferred by the Participant pursuant to a QDRO.

9.3 Amendment, Modification, Suspension or Termination.

(a) Subject to Section 7.3, the Committee may amend, modify, suspend or terminate the Plan in whole or in part, except that no amendment, modification, suspension or termination shall have any retroactive effect to reduce any vested amounts allocated to a Participant's Accounts. In the event of Plan termination, distributions shall continue to be made in accordance with the terms of the Plan, subject to the provisions of subsection 7.3(a).

(b) Notwithstanding anything to the contrary in the Plan, if and to the extent Sempra Energy shall determine that the terms of the Plan may result in the failure of the Plan, or amounts deferred by or for any Participant under the Plan, to comply with the requirements of Section 409A of the Code, Sempra Energy shall have authority to take such action to amend, modify, cancel or terminate the Plan or distribute any or all of the amounts deferred by or for a Participant, as it deems necessary or advisable, including without limitation:

(1) Any amendment or modification of the Plan to conform the Plan to the requirements of Section 409A of the Code (including, without limitation, any amendment or modification of the terms of any applicable to any Participant's Accounts regarding the timing or form of payment).

(2) Any cancellation or termination of any unvested interest in a Participant's Accounts without any payment to the Participant.

(3) Any cancellation or termination of any vested interest in any Participant's Accounts, with immediate payment to the Participant of the amount otherwise payable to such Participant.

Any such amendment, modification, cancellation, or termination of the Plan may adversely affect the rights of a Participant without the Participant's consent.

9.4 Designation of Beneficiary.

(a) Each Participant shall have the right to designate, revoke and redesignate Beneficiaries hereunder and to direct payment of his Distributable Amount to such Beneficiaries upon his death.

(b) Designation, revocation and redesignation of Beneficiaries must be made in writing in accordance with the procedures established by the Committee or the Administrator and shall be effective upon delivery to the Committee or the Administrator.

(c) If there is no Beneficiary designation in effect, or if no designated beneficiary survives the Participant, then the Participant's spouse shall be the Beneficiary; provided, however, that if there is no surviving spouse, the duly appointed and

currently acting personal representative of the Participant's estate shall be the Beneficiary.

(d) After the Participant's death, any Beneficiary (other than the Participant's estate) who is to receive installment payments may designate a secondary beneficiary to receive amounts due under this Plan to the Beneficiary in the event of the Beneficiary's death prior to receiving full payment from the Plan. If no secondary beneficiary is designated, it shall be the Beneficiary's estate.

9.5 Insurance.

(a) As a condition of participation in this Plan, each Participant shall, if requested by the Committee, the Administrator, or the Company, undergo such examination and provide such information as may be required by the Company with respect to any insurance contracts on the Participant's life and shall authorize the Company to purchase life insurance on his life, payable to the Company

(b) If the Company maintains an insurance policy on a Participant's life to fund benefits under the Plan and such insurance policy is invalidated because (i) the Participant commits suicide during the two (2) year period beginning on the first day of the first Plan Year of such Participant's participation in the Plan or because (ii) the Participant makes any material misstatement of information or nondisclosure of medical history, then, to the extent determined by the Committee or the Administrator in its sole discretion, the only benefits that shall be payable hereunder to such Participant or his Beneficiary are the payment of the amount of deferrals of Compensation then credited to the Participant's Accounts but without any interest including interest theretofore credited under this Plan.

9.6 Governing Law.

Subject to ERISA, this Plan shall be construed, governed and administered in accordance with the laws of the State of California.

9.7 Receipt of Release.

Any payment to a Participant or the Participant's Beneficiary in accordance with the provisions of the Plan shall, to the extent thereof, be in full satisfaction of all claims against the Committee, the Administrator, and the Company with respect to this Plan. The Committee or the Administrator may require such Participant or Beneficiary, as a condition precedent to such payment, to execute a receipt and release to such effect prior to the payment date specified under the Plan.

9.8 Payments Subject to Section 162(m) of the Code.

In the discretion of the Committee or the Administrator and in accordance with Section 409A of the Code, Sempra Energy may delay any distribution (or portion thereof) under the Plan if Sempra Energy reasonably anticipates that if such distribution under the Plan were made as scheduled, Sempra Energy's

deduction with respect to such payment would not be permitted due to the application of Section 162(m) of the Code; provided, however, that any such delayed distribution shall be made (a) during the Participant's first taxable year in which Sempra Energy reasonably anticipates, or should reasonably anticipate, that, if the payment is made during such year, the deduction of such payment will not be barred by application of Section 162(m) of the Code, (b) during the period beginning with the date of the Participant's Separation from Service and ending on the later of (i) the last day of the year in which the Participant's Separation from Service occurs or (ii) within 2-1/2 months following the Participant's Separation from Service, or (c) such date provided or permitted under Section 409A of the Code; and provided further that, where any scheduled payment to a specific Participant is delayed in Sempra Energy's taxable year accordance with this Section 9.8, the delay in payment will be treated as a subsequent deferral election under Section 409A of the Code only to the extent provided by Section 409A of the Code. Any amounts deferred pursuant to this limitation shall continue to be credited/debited with additional amounts in accordance with Article IV, even if such amount is being paid out in installments. Notwithstanding anything to the contrary in this Plan, this Section 9.8 shall not apply to any distributions made after a Change in Control.

9.9 Payments on Behalf of Persons Under Incapacity.

In the event that any amount becomes payable under the Plan to a person who, in the sole judgment of the Committee or the Administrator, is considered by reason of physical or mental condition to be unable to give a valid receipt therefore, the Committee or the Administrator may direct that such payment be made to any person found by the Committee or the Administrator, in its sole judgment, to have assumed the care of such person. Any payment made pursuant to such termination shall constitute a full release and discharge of the Committee, the Administrator, and the Company.

9.10 Limitation of Rights.

Neither the establishment of the Plan nor any modification thereof, nor the creating of any fund or account, nor the payment of any benefits shall be construed as giving to any Participant or other person any legal or equitable right against the Company except as provided in the Plan. In no event shall the terms of employment of, or membership on the Board by, any Participant be modified or in any be effected by the provisions of the Plan.

9.11 Exempt ERISA Plan.

The Plan is intended to be an unfunded plan maintained primarily to provide deferred compensation benefits for directors and a select group of management or highly compensated employees within the meaning of Sections 201, 301 and 401 of ERISA and therefore to be exempt from Parts 2, 3 and 4 of Title I of ERISA.

9.12 Notice.

Any notice or filing required or permitted to be given to the Committee or the Administrator under the Plan shall be sufficient if in writing and hand delivered, sent by overnight courier, or sent by registered or certified mail, to the principal office of Sempra Energy, directed, in the case of the Committee, to the attention of the General Counsel and Secretary of Sempra Energy and in the case of the Administrator, to the Administrator. Such notice shall be deemed given as of the date of delivery or, if

delivery is made by mail, as of the date shown on the postmark on the receipt for registration or certification.

9.13 Errors and Misstatements.

In the event of any misstatement or omission of fact by a Participant to the Committee or the Administrator or any clerical error resulting in payment of benefits in an incorrect amount, the Committee or the Administrator, as applicable, shall promptly cause the amount of future payments to be corrected upon discovery of the facts and shall pay or, if applicable, cause the Plan to pay, the Participant or any other person entitled to payment under the Plan any underpayment in a lump sum or to recoup any overpayment from future payments to the Participant or any other person entitled to payment under the Plan in such amounts as the Committee or the Administrator shall direct or to proceed against the Participant or any other person entitled to payment under the Plan for recovery of any such overpayment.

9.14 Pronouns and Plurality.

The masculine pronoun shall include the feminine pronoun, and the singular the plural where the context so indicates.

9.15 Severability.

In the event that any provision of the Plan shall be declared unenforceable or invalid for any reason, such unenforceability or invalidity shall not affect the remaining provisions of the Plan but shall be fully severable, and the Plan shall be construed and enforced as if such unenforceable or invalid provision had never been included herein.

9.16 Status.

The establishment and maintenance of, or allocations and credits to, the Accounts of any Participant shall not vest in any Participant any right, title or interest in and to any Plan assets or benefits except at the time or times and upon the terms and conditions and to the extent expressly set forth in the Plan.

9.17 Headings.

Headings and subheadings in this Plan are inserted for convenience of reference only and are not to be considered in the construction of the provisions hereof.

ARTICLE X.

EMPLOYEES OF SEMPRA ENERGY TRADING CORPORATION AND SEMPRA ENERGY SOLUTIONS LLC

This Article X includes special provisions relating to the benefits of the Participants in the Plan who are employed by Sempra Energy Trading Corporation (“SET”) and Sempra Energy Solutions LLC (“SES”).

a. Background. Certain SET and SES employees are Participants in this Plan.

On July 9, 2007, Sempra Energy, Sempra Global, Sempra Energy Trading International, B.V. ("SETI") and The Royal Bank of Scotland plc ("RBS") entered into the Master Formation and Equity Interest Purchase Agreement, dated as of July 9, 2007 (the "Master Formation Agreement"), which provides for the formation of a partnership, RBS Sempra Commodities LLP ("RBS Sempra Commodities"), to purchase and operate Sempra Energy's commodity-marketing businesses. Pursuant to a Master Formation Agreement, RBS Sempra Commodities will be formed as a United Kingdom limited liability partnership and RBS Sempra Commodities will purchase Sempra Energy's commodity-marketing subsidiaries.

Prior to the Closing, SET will be converted into a limited liability company ("SET LLC"). Following such conversion, SET employees will be employed by SET LLC. Prior to the Closing, SES will become a wholly-owned subsidiary of SET LLC.

Also, prior to the Closing, Sempra Energy will own, directly or indirectly through wholly-owned subsidiaries, 100% of the membership interests in SET LLC and SES. Prior to the Closing, SET LLC and SES will be disregarded entities for federal income tax purposes.

Effective as of the Closing, RBS Sempra Commodities will purchase 100% of the membership interests in SET LLC.

As provided in the Master Formation Agreement, an employee of SET LLC who is actively at work on the Closing Date will continue to be employed by SET LLC immediately after the Closing Date, and an employee of SES who is actively at work on the Closing Date will continue to be employed by SES (each such employee is referred to as a Transferred Employee).

Also, as provided in the Master Formation Agreement, with respect to an employee of SET LLC or SES who is not actively at work on the Closing Date because such employee is on approved short-term disability or long-term disability leave in accordance with the Sempra Plans (such employee is referred to as an Inactive Employee), if such Inactive Employee returns to active work at the conclusion of such leave, and in any case within six (6) months following the Closing Date (or such longer period as is required by applicable law), such Inactive Employee shall become a Transferred Employee as of the date of such person's return to active employment with the SET LLC or SES (such date is referred to as the Transfer Date).

Effective as of the Closing, SET LLC will be a wholly-owned subsidiary of RBS Sempra Commodities, SES will be an indirect, wholly-owned subsidiary of RBS Commodities, Sempra Global and SETI will be partners in RBS Sempra Commodities, and Sempra Energy will own, indirectly through wholly-owned subsidiaries, at least a 50% profits interest in RBS Sempra Commodities.

(b) Separation from Service

(1) Effective as of the Closing, RBS Sempra Commodities will be a member of a group of trades or businesses (whether or not incorporated) under common control for purposes of Section 414(c) of the Code and Treasury Regulation Section 1.414(c)-2, as determined under Section 409A

of the Code, that includes Sempra Energy and its wholly-owned subsidiaries. Consequently, effective as of the Closing, RBS Sempra Commodities will be included in the “service recipient” that includes Sempra Energy and its wholly-owned subsidiaries, as defined under Section 409A of the Code.

(2) A Participant who is an employee of SET LLC or SES, and who is a Transferred Employee effective as of the Closing Date, will not have a Separation from Service solely as a result of the purchase of the membership interests of SET LLC by RBS Sempra Commodities effective as of the Closing.

(3) A Participant who is an employee of SET LLC or SES, who is an Inactive Employee, and who becomes a Transferred Employee effective on a Transfer Date after the Closing Date, will not have a Separation from Service solely as a result of the purchase of the membership interests of SET LLC by RBS Sempra Commodities or becoming a Transferred Employee on a Transfer Date after the Closing Date.

(4) For purposes of the Plan, a participant in the Plan who is an employee of SET LLC or SES, and who is or becomes a Transferred Employee, will have a Separation from Service on or after the Closing Date (or the Transfer Date, if applicable), as determined under subsection 1.2(rr) and Section 409A of the Code.

(c) Certain Defined Terms.

For purposes of this Article X, the terms “Closing,” “Closing Date,” “Inactive Employee,” “Sempra Plans,” “Transferred Employees” and “Transfer Date” shall have the meanings ascribed to such terms under the Master Formation Agreement.

ARTICLE XI.

SECTION 409A OF THE CODE

Anything in this Plan to the contrary notwithstanding, it is intended that any amounts payable under this Plan shall either be exempt from or comply with Section 409A of the Code so as not to subject any Participant to payment of any additional tax, penalty or interest imposed under Section 409A of the Code. The provisions of this Plan shall be construed and interpreted to avoid the imputation of any such additional tax, penalty or interest under Section 409A of the Code yet preserve (to the nearest extent reasonably possible) the intended benefit payable to Participant. In no event shall the Company guarantee the tax treatment of participation in the Plan or any benefit provided hereunder. Notwithstanding any other provision of the Plan, in the event any of the amounts deferred or payable under the Plan are grandfathered for purposes of Section 409A of the Code, such amounts shall be subject to the terms and conditions “that applied to such amounts prior to the effective date of Section 409A of the Code.

Executed at San Diego, California this ___ day of _____, 2020.

SEMPRA ENERGY

By: _____

Title: Sr. Vice President and Chief Human Resources Officer

Date: _____, 2020

SEMPRA ENERGY
SEVERANCE PAY AGREEMENT

THIS AGREEMENT (this "Agreement"), dated as of March 16, 2019 (the "Effective Date"), is made by and between SEMPRA ENERGY, a California corporation ("Sempra Energy"), and Jeffery L. Walker (the "Executive").

WHEREAS, the Executive is currently employed by Sempra Energy or another corporation or trade or business which is a member of a controlled group of corporations (within the meaning of Section 414(b) or (c) of the Code) of which Sempra Energy is a component member, determined by applying an ownership threshold of 50% rather than 80% (Sempra Energy and such other controlled group members, collectively, the "Company");

WHEREAS, Sempra Energy and the Executive desire to enter into this Agreement; and

WHEREAS, the Board of Directors of Sempra Energy (the "Board") or an authorized committee thereof has authorized this Agreement.

NOW, THEREFORE, in consideration of the premises and mutual covenants herein contained, Sempra Energy and the Executive hereby agree as follows:

Section 1. Definitions. For purposes of this Agreement, the following capitalized terms have the meanings set forth below:

"AAA" has the meaning assigned thereto in Section 13(c) hereof.

"Accounting Firm" has the meaning assigned thereto in Section 8(e) hereof.

"Accrued Obligations" means the sum of (a) the Executive's Annual Base Salary through the Date of Termination to the extent not theretofore paid, (b) an amount equal to any annual Incentive Compensation Awards earned with respect to fiscal years ended prior to the year that includes the Date of Termination to the extent not theretofore paid, (c) any accrued and unpaid vacation, and (d) reimbursement for unreimbursed business expenses, if any, properly incurred by the Executive in the performance of his duties in accordance with Company policies applicable to the Executive from time to time, in each case to the extent not theretofore paid.

"Affiliate" has the meaning set forth in Rule 12b-2 promulgated under the Exchange Act.

"Annual Base Salary" means the Executive's annual base salary from the Company.

"Asset Purchaser" has the meaning assigned thereto in Section 16(e).

"Asset Sale" has the meaning assigned thereto in Section 16(e).

"Average Annual Bonus" means the average of the annual bonuses from the Company earned by the Executive with respect to the three (3) fiscal years of Sempra Energy ending immediately preceding the Date of Termination (the "Bonus Fiscal Years"); *provided*, *however*, that, if the Executive was employed by the Company for less than three (3) Bonus Fiscal Years, "Average Annual Bonus" means the average of the annual bonuses (if any) from the Company earned by the Executive with respect to the Bonus Fiscal Years during which the Executive was employed by the Company; and, *provided, further*, that, if the Executive was not employed by the Company during any of the Bonus Fiscal Years, "Average Annual Bonus" means zero ($0).

"Cause" means:

(a) Prior to a Change in Control, (i) the willful failure by the Executive to substantially perform the Executive's duties with the Company (other than any such failure resulting from the Executive's incapacity due to physical or mental illness), (ii) the grossly negligent performance of such obligations referenced in clause (i) of this definition, (iii) the Executive's gross insubordination; and/or (iv) the Executive's commission of one or more acts of moral turpitude that constitute a violation of applicable law (including but not limited to a felony involving one or more acts of moral turpitude) which have or result in an adverse effect on the Company, monetarily or otherwise, or one or more significant acts of dishonesty. For purposes of clause (i) of this subsection (a), no act, or failure to act, on the Executive's part shall be deemed "willful" unless done, or omitted to be done, by the Executive not in good faith and without reasonable belief that the Executive's act, or failure to act, was in the best interests of the Company.

(b) From and after a Change in Control (or in connection with a termination occurring pursuant to Section 5(g)), (i) the willful and continued failure by the Executive to substantially perform the Executive's duties with the Company (other than any such failure resulting from the Executive's incapacity due to physical or mental illness or other than any such actual or anticipated failure after the issuance of a Notice of Termination for Good Reason by the Executive pursuant to Section 2 hereof and after the Company's cure period relating to the event on which Good Reason is based, if any and if applicable, has expired) and/or (ii) the Executive's commission of one or more acts of moral turpitude that constitute a violation of applicable law (including but not limited to a felony involving one or more acts of moral turpitude) which have or result in an adverse effect on the Company, monetarily or otherwise, or one or more significant acts of dishonesty. For purposes of clause (i) of this subsection (b), no act, or failure to act, on the Executive's part shall be deemed "willful" unless done, or omitted to be done, by the Executive not in good faith and without reasonable belief that the Executive's act, or failure to act, was in the best interests of the Company. Notwithstanding the foregoing, the Executive shall not be deemed terminated for Cause pursuant to clause (i) of this subsection (b) unless and until the Executive shall have been provided with reasonable notice of and, if possible, a reasonable opportunity to cure the facts and circumstances claimed to provide a basis for termination of the Executive's employment for Cause.

"Change in Control" shall be deemed to have occurred on the date that a change in the ownership of Sempra Energy, a change in the effective control of Sempra Energy, or a change in the ownership of a substantial portion of assets of Sempra Energy occurs (each, as defined in subsection (a) below), except as otherwise provided in subsections (b), (c) and (d) below:

(a) (i) a "change in the ownership of Sempra Energy" occurs on the date that any one person, or more than one person acting as a group, acquires ownership of stock of Sempra Energy that, together with stock held by such person or group, constitutes more than fifty percent (50%) of the total fair market value or total voting power of the stock of Sempra Energy,

(ii) a "change in the effective control of Sempra Energy" occurs only on either of the following dates:

(A) the date any one person, or more than one person acting as a group, acquires (or has acquired during the twelve (12) month period ending on the date of the most recent acquisition by such person or persons) ownership of stock of Sempra Energy possessing thirty percent (30%) or more of the total voting power of the stock of Sempra Energy, or

(B) the date a majority of the members of the Board is replaced during any twelve (12) month period by directors whose appointment or election is not endorsed by a majority of the members of the Board before the date of appointment or election, and

(iii) a "change in the ownership of a substantial portion of assets of Sempra Energy" occurs on the date any one person, or more than one person acting as a group, acquires (or has acquired during the twelve (12) month period ending on the date of the most recent acquisition by such person or persons) assets from Sempra Energy that have a total gross fair market value equal to or more than eighty-five percent (85%) of the total gross fair market value of all of the assets of Sempra Energy immediately before such acquisition or acquisitions.

(b) A "change in the ownership of Sempra Energy" or "a change in the effective control of Sempra Energy" shall not occur under clause (a)(i) or (ii) by reason of any of the following:

(i) an acquisition of ownership of stock of Sempra Energy directly from Sempra Energy or its Affiliates other than in connection with the acquisition by Sempra Energy or its Affiliates of a business,

(ii) a merger or consolidation which would result in the voting securities of Sempra Energy outstanding immediately prior to such merger or consolidation continuing to represent (either by remaining outstanding or by being converted into voting securities of the surviving entity or any parent thereof), in combination with the ownership of any trustee or other fiduciary holding securities under an employee benefit plan of the Company, at least sixty percent (60%) of the combined voting power of the securities of Sempra Energy or such surviving entity or any parent thereof outstanding immediately after such merger or consolidation, or

(iii) a merger or consolidation effected to implement a recapitalization of Sempra Energy (or similar transaction) in which no Person is or becomes the "beneficial owner" (within the meaning of Rule 13d-3 promulgated under the Exchange Act), directly or indirectly, of securities of Sempra Energy (not including the securities beneficially owned by such Person any securities acquired directly from Sempra Energy or its Affiliates other than in connection with the acquisition by Sempra Energy or its Affiliates of a business) representing twenty percent (20%) or more of the combined voting power of Sempra Energy's then outstanding securities.

(c) A "change in the ownership of a substantial portion of assets of Sempra Energy" shall not occur under clause (a)(iii) by reason of a sale or disposition by Sempra Energy of the assets of Sempra Energy to an entity, at least sixty percent (60%) of the combined voting power of the voting securities of which are owned by shareholders of Sempra Energy in substantially the same proportions as their ownership of Sempra Energy immediately prior to such sale.

(d) This definition of "Change in Control" shall be limited to the definition of a "change in control event" with respect to the Executive and relating to Sempra Energy under Treasury Regulation Section 1.409A-3(i)(5).

"Change in Control Date" means the date on which a Change in Control occurs.

"Code" means the Internal Revenue Code of 1986, as amended.

"Compensation Committee" means the compensation committee of the Board.

"Consulting Payment" has the meaning assigned thereto in Section 14(e) hereof.

"Consulting Period" has the meaning assigned thereto in Section 14(f) hereof.

"Date of Termination" has the meaning assigned thereto in Section 2(b) hereof.

"Disability" has the meaning set forth in the long-term disability plan or its successor maintained by the Company entity that is the employer of the Executive; *provided*, *however*, that the Executive's employment hereunder may not be terminated by reason of Disability unless (a) at the time of such termination there is no reasonable expectation that the Executive will return to work within the next ninety (90) day period and (b) such termination is permitted by all applicable disability laws.

"Exchange Act" means the Securities Exchange Act of 1934, as amended, and the applicable rulings and regulations thereunder.

"Excise Tax" has the meaning assigned thereto in Section 8(a) hereof.

"Good Reason" means:

(a) Prior to a Change in Control, the occurrence of any of the following without the prior written consent of the Executive, unless such act or failure to act is corrected by the Company prior to the Date of Termination specified in the Notice of Termination (as required under Section 2 hereof):

(i) the assignment to the Executive of any duties materially inconsistent with the range of duties and responsibilities appropriate to a senior executive within the Company (such range determined by reference to past, current and reasonable practices within the Company);

(ii) a material reduction in the Executive's overall standing and responsibilities within the Company, but not including (A) a mere change in title or (B) a transfer within the Company, which, in the case of both (A) and (B), does not adversely affect the Executive's overall status within the Company;

(iii) a material reduction by the Company in the Executive's aggregate annualized compensation and benefits opportunities, except for across-the-board reductions (or modifications of benefit plans) similarly affecting all similarly situated executives of the Company of comparable rank with the Executive;

(iv) the failure by the Company to pay to the Executive any portion of the Executive's current compensation and benefits or any portion of an installment of deferred compensation under any deferred compensation program of the Company within thirty (30) days of the date such compensation is due;

(v) any purported termination of the Executive's employment that is not effected pursuant to a Notice of Termination satisfying the requirements of Section 2 hereof;

(vi) the failure by Sempra Energy to perform its obligations under Section 16(c) or (d) hereof;

(vii) the failure by the Company to provide the indemnification and D&O insurance protection Section 10 of this Agreement requires it to provide; or

(viii) the failure by Sempra Energy (or any of the entities comprising the Company, as applicable) to comply with any material provision of this Agreement.

(b) From and after a Change in Control (or in connection with a termination occurring pursuant to Section 5(g)), the occurrence of any of the following without the prior written consent of the Executive, unless such act or failure to act is corrected by the Company prior to the Date of Termination specified in the Notice of Termination (as required under Section 2 hereof):

(i) an adverse change in the Executive's title, authority, duties, responsibilities or reporting lines as in effect immediately prior to the Change in Control;

(ii) a reduction by the Company in the Executive's aggregate annualized compensation opportunities, except for across-the-board reductions in base salaries, annual bonus opportunities or long-term incentive compensation opportunities of less than ten percent (10%) similarly affecting all similarly situated executives (including, if applicable, of the

Person then in control of Sempra Energy) of comparable rank with the Executive; or the failure by the Company to continue in effect any material benefit plan in which the Executive participates immediately prior to the Change in Control, unless an equitable arrangement (embodied in an ongoing substitute or alternative plan) has been made with respect to such plan, or the failure by the Company to continue the Executive's participation therein (or in such substitute or alternative plan) on a basis not materially less favorable, both in terms of the amount of benefits provided and the level of the Executive's participation relative to other participants, as existed at the time of the Change in Control;

(iii) the relocation of the Executive's principal place of employment immediately prior to the Change in Control Date (the "Principal Location") to a location which is both further away from the Executive's residence and more than thirty (30) miles from such Principal Location, or the Company's requiring the Executive to be based anywhere other than such Principal Location (or permitted relocation thereof), or a substantial increase in the Executive's business travel obligations outside of the Southern California area as of immediately prior to the Change in Control (without regard to any changes therein in anticipation of the Change in Control) other than any such increase that (A) arises in connection with extraordinary business activities of the Company of limited duration and (B) is understood not to be part of the Executive's regular duties with the Company;

(iv) the failure by the Company to pay to the Executive any portion of the Executive's current compensation and benefits or any portion of an installment of deferred compensation under any deferred compensation program of the Company within thirty (30) days of the date such compensation is due;

(v) any purported termination of the Executive's employment that is not effected pursuant to a Notice of Termination satisfying the requirements of Section 2 hereof;

(vi) the failure by Sempra Energy to perform its obligations under Section 16(c) or (d) hereof;

(vii) the failure by the Company to provide the indemnification and D&O insurance protection Section 10 of this Agreement requires it to provide; or

(viii) the failure by Sempra Energy (or any of the entities comprising the Company, as applicable) to comply with any material provision of this Agreement.

Following a Change in Control, the Executive's determination that an act or failure to act constitutes Good Reason shall be presumed to be valid unless such determination is deemed to be unreasonable by an arbitrator pursuant to the procedure described in Section 13 hereof. The Executive's right to terminate the Executive's employment for Good Reason shall not be affected by the Executive's incapacity due to physical or mental illness. The Executive's continued employment shall not constitute consent to, or a waiver of rights with respect to, any act or failure to act constituting Good Reason hereunder.

"Incentive Compensation Awards" means awards granted under Incentive Compensation Plans providing the Executive with the opportunity to earn, on a year-by-year basis, annual and long-term incentive compensation.

"Incentive Compensation Plans" means annual incentive compensation plans and long-term incentive compensation plans of the Company, which long-term incentive compensation plans may include plans offering stock options, restricted stock and other long-term incentive compensation.

"Involuntary Termination" means (a) the Executive's Separation from Service by reason other than for Cause, death, Disability, or Mandatory Retirement, or (b) the Executive's Separation from Service by reason of resignation of employment for Good Reason.

"JAMS" has the meaning assigned thereto in Section 13(c) hereof.

"Mandatory Retirement" means termination of employment pursuant to the Company's mandatory retirement policy.

"Medical Continuation Benefits" has the meaning assigned thereto in Section 4(c) hereof.

"Notice of Termination" has the meaning assigned thereto in Section 2(a) hereof.

"Payment" has the meaning assigned thereto in Section 8(a) hereof.

"Payment in Lieu of Notice" has the meaning assigned thereto in Section 2(b) hereof.

"Person" means any person, entity or "group" within the meaning of Section 13(d)(3) or 14(d)(2) of the Exchange Act, except that such term shall not include (a) Sempra Energy or any of its Affiliates, (b) a trustee or other fiduciary holding securities under an employee benefit plan of Sempra Energy or any of its Affiliates, (c) an underwriter temporarily holding securities pursuant to an offering of such securities, (d) a corporation owned, directly or indirectly, by the shareholders of Sempra Energy in substantially the same proportions as their ownership of stock of Sempra Energy, or (e) a "person" or "group" as used in Rule 13d-1(b) under the Exchange Act.

"Post-Change in Control Severance Payment" has the meaning assigned thereto in Section 5 hereof.

"Pre-Change in Control Severance Payment" has the meaning assigned thereto in Section 4 hereof.

"Principal Location" has the meaning assigned thereto in clause (b)(iii) of the definition of Good Reason, above.

"Proprietary Information" has the meaning assigned thereto in Section 14(a) hereof.

"Pro Rata Bonus" has the meaning assigned thereto in Section 5(b) hereof.

"Release" has the meaning assigned thereto in Section 4 hereof.

"Section 409A Payments" means any payments under this Agreement which are subject to Section 409A of the Code.

"Sempra Energy Control Group" means Sempra Energy and all persons with whom Sempra Energy would be considered a single employer under Section 414(b) or (c) of the Code, as determined from time to time.

"Separation from Service" has the meaning set forth in Treasury Regulation Section 1.409A-1(h).

"Specified Employee" shall be determined in accordance with Section 409A(a)(2)(B)(i) of the Code and Treasury Regulation Section 1.409A-1(i).

"Target Bonus" means, for any year, the target annual bonus from the Company that may be earned by the Executive for such year (regardless of the actual annual bonus earned, if any); *provided, however,* that if, as of the Date of Termination, a target annual bonus has not been established for the Executive for the year in which the Date of Termination occurs, the "Target Bonus" as of the Date of Termination shall be equal to the target annual bonus, if any, for the immediately preceding fiscal year of Sempra Energy.

For purposes of this Agreement, references to any "Treasury Regulation" shall mean such Treasury Regulation as in effect on the date hereof.

Section 2. Notice and Date of Termination.

(a) Any termination of the Executive's employment by the Company or by the Executive shall be communicated by a written notice of termination to the other party (the "Notice of Termination"). Where applicable, the Notice of Termination shall indicate the specific termination provision in this Agreement relied upon and shall set forth in reasonable detail the facts and circumstances claimed to provide a basis for termination of the Executive's employment under the provision so indicated. Unless the Board or a committee thereof, in writing, provides a longer notice period, a Notice of Termination by the Executive alleging a termination for Good Reason must be made within one hundred eighty (180) days of the act or failure to act that the Executive alleges to constitute Good Reason.

(b) The date of the Executive's termination of employment with the Company (the "Date of Termination") shall be determined as follows: (i) if the Executive's Separation from Service is at the volition of the Company, then the Date of Termination shall be the date specified in the Notice of Termination (which, in the case of a termination by the Company other than for Cause, shall not be less than two (2) weeks from the date such Notice of Termination is

given unless the Company elects to pay the Executive, in addition to any other amounts payable hereunder, an amount (the "Payment in Lieu of Notice") equal to two (2) weeks of the Executive's Annual Base Salary in effect on the Date of Termination), and (ii) if the Executive's Separation from Service is by the Executive for Good Reason, the Date of Termination shall be determined by the Executive and specified in the Notice of Termination, but in no event be less than fifteen (15) days nor more than sixty (60) days after the date such Notice of Termination is given. The Payment in Lieu of Notice shall be paid on such date as is required by law, but no later than thirty (30) days after the date of the Executive's Separation from Service.

Section 3. Termination from the Board. Upon the termination of the Executive's employment for any reason, the Executive's membership on the Board, the board of directors of any Affiliates of Sempra Energy, any committees of the Board and any committees of the board of directors of any of the Affiliates of Sempra Energy, if applicable, shall be automatically terminated and the Executive agrees to take any and all actions (including resigning) required by Sempra Energy or any of its Affiliates to evidence and effect such termination of membership.

Section 4. Severance Benefits upon Involuntary Termination Prior to Change in Control. Except as provided in Sections 5(g) and 19(i) hereof, in the event of the Involuntary Termination of the Executive prior to a Change in Control, Sempra Energy shall, or shall cause one of its Affiliates that is the employer of the Executive to, pay the Executive, in one lump sum cash payment, an amount (the "Pre-Change in Control Severance Payment") equal to one-half (0.5) times the sum of (X) the Executive's Annual Base Salary as in effect on the Date of Termination plus (Y) the greater of (I) his Average Annual Bonus or (II) the Target Bonus in effect on the Date of Termination. In addition to the Pre-Change in Control Severance Payment, the Executive shall be entitled to the following additional benefits specified in Section 4(a) through (e). The Company's obligation to pay the Pre-Change in Control Severance Payment or provide the benefits set forth in Section 4(c), (d) and (e) is subject to and conditioned upon the Executive executing a release of all claims substantially in the form attached hereto as Exhibit A (the "Release") within fifty (50) days after the date of Involuntary Termination and the Executive not revoking such Release in accordance with the terms thereof. The Pre-Change in Control Severance Payment shall be paid within sixty (60) days after the date of the Involuntary Termination on such date as is determined by Sempra Energy, but not before the Release becomes effective and irrevocable. If the fifty (50) day period in which the Release could become effective spans more than one taxable year, then the Pre-Change in Control Severance Payment shall not be made until the later taxable year.

(a) Accrued Obligations. The Company shall pay the Executive a lump sum amount in cash equal to Accrued Obligations within the time prescribed by law.

(b) Equity-Based Compensation. The Executive shall retain all rights to any equity-based compensation awards to the extent set forth in the applicable plan and/or award agreement.

(c) Welfare Benefits. Subject to the terms and conditions of this Agreement, for a period of six (6) months following the date of the Involuntary Termination (and an

additional six (6) months if the Executive provides consulting services under Section 14(f) hereof), the Executive and his dependents shall be provided with group medical benefits which are substantially similar to those provided from time to time to similarly situated active employees of the Company (and their eligible dependents) ("Medical Continuation Benefits"). Without limiting the generality of the foregoing, such Medical Continuation Benefits shall be provided on substantially the same terms and conditions and at the same cost to the Executive as apply to similarly situated active employees of the Company. Such benefits shall be provided in a manner that complies with Treasury Regulation Section 1.409A-1(a)(5). Notwithstanding the foregoing, if Sempra Energy determines in its sole discretion that the Medical Continuation Benefits cannot be provided without potentially violating applicable law (including, without limitation, Section 2716 of the Public Health Service Act) or that the provision of Medical Continuation Benefits under this Agreement would subject Sempra Energy or any of its Affiliates to a material tax or penalty, (i) the Executive shall be provided, in lieu thereof, with a taxable monthly payment in an amount equal to the monthly premium that the Executive would be required to pay to continue the Executive's and his covered dependents' group medical benefit coverages under COBRA as then in effect (which amount shall be based on the premiums for the first month of COBRA coverage) or (ii) Sempra Energy shall have the authority to amend the Agreement to the limited extent reasonably necessary to avoid such violation of law or tax or penalty and shall use all reasonable efforts to provide the Executive with a comparable benefit that does not violate applicable law or subject Sempra Energy or any of its Affiliates to such tax or penalty.

(d) Outplacement Services. The Executive shall receive reasonable outplacement services, on an in-kind basis, suitable to his position and directly related to the Executive's Involuntary Termination, for a period of twelve (12) months following the date of the Involuntary Termination, in an aggregate amount of cost to the Company not to exceed $50,000. Notwithstanding the foregoing, the Executive shall cease to receive outplacement services on the date the Executive accepts employment with a subsequent employer. Such outplacement services shall be provided in a manner that complies with Treasury Regulation Section 1.409A-1(b)(9)(v)(A).

(e) Financial Planning Services. The Executive shall receive financial planning services, on an in-kind basis, for a period of twelve (12) months following the Date of Termination. Such financial planning services shall include expert financial and legal resources to assist the Executive with financial planning needs and shall be limited to (i) current investment portfolio management, (ii) tax planning, (iii) tax return preparation, and (iv) estate planning advice and document preparation (including wills and trusts); *provided*, *however*, that the Company shall provide such financial planning services during any taxable year of the Executive only to the extent the cost to the Company for such taxable year does not exceed $25,000. The Company shall provide such financial planning services through a financial planner selected by the Company, and shall pay the fees for such financial planning services. The financial planning services provided during any taxable year of the Executive shall not affect the financial planning services provided in any other taxable year of the Executive. The Executive's right to financial planning services shall not be subject to liquidation or exchange for any other benefit. Such

financial planning services shall be provided in a manner that complies with Treasury Regulation Section 1.409A-3(i)(1)(iv).

Section 5. Severance Benefits upon Involuntary Termination in Connection with and after Change in Control. Notwithstanding the provisions of Section 4 above, and except as provided in Section 19(i) hereof, in the event of the Involuntary Termination of the Executive on or within two (2) years following a Change in Control, in lieu of the payments described in Section 4 above, Sempra Energy shall, or shall cause one of its Affiliates that is the employer of the Executive to, pay the Executive, in one lump sum cash payment, an amount (the "Post-Change in Control Severance Payment") equal to the sum of (X) the Executive's Annual Base Salary as in effect immediately prior to the Change in Control or on the Date of Termination, whichever is greater, plus (Y) the greater of (I) the Executive's Target Bonus determined immediately prior to the Change in Control or the Date of Termination, whichever is greater and (II) the Executive's Average Annual Bonus; *provided, however,* that, in the event that the Involuntary Termination occurs prior to March 16, 2024, the Post-Change in Control Severance Payment shall be increased by twenty-five percent (25%). In addition to the Post-Change in Control Severance Payment, the Executive shall be entitled to the following additional benefits specified in Section 5(a) through (f). The Company's obligation to pay the Post-Change in Control Severance Payment or provide the benefits set forth in Section 5(b), (c), (d), (e), and (f) is subject to and conditioned upon the Executive executing the Release within fifty (50) days after the date of Involuntary Termination and the Executive not revoking such Release in accordance with the terms thereof. Except as provided in Section 5(g), the Post-Change in Control Severance Payment and the Pro Rata Bonus shall be paid within sixty (60) days after the date of Involuntary Termination on such date as is determined by Sempra Energy (or its successor) but not before the Release becomes effective and irrevocable. If the fifty (50) day period in which the Release could become effective spans more than one (1) taxable year, then the Post-Change in Control Severance Payment and the Pro Rata Bonus shall not be made until the later taxable year.

(a) Accrued Obligations. The Company shall pay the Executive a lump sum amount in cash equal to the Accrued Obligations within the time required by law and, to the extent applicable, in accordance with the applicable plan, policy or arrangement pursuant to which such payments are to be made.

(b) Pro Rata Bonus. The Company shall pay the Executive a lump sum amount in cash equal to: (i) the greater of: (X) the Executive's Target Bonus as in effect immediately prior to the Change in Control or on the Date of Termination, whichever is greater, or (Y) the Executive's Average Annual Bonus, multiplied by (ii) a fraction, the numerator of which shall be the number of days from the beginning of such fiscal year to and including the Date of Termination and the denominator of which shall be three hundred sixty-five (365) (the "Pro Rata Bonus").

(c) Equity-Based Compensation. Notwithstanding the provisions of any applicable equity-based compensation plan or award agreement to the contrary, all equity-based Incentive Compensation Awards (including, without limitation, stock options, stock appreciation

rights, restricted stock awards, restricted stock units, performance share awards, awards covered under Section 162(m) of the Code, and dividend equivalents) held by the Executive shall immediately vest and become exercisable or payable, as the case may be, as of the Date of Termination, to be exercised or paid, as the case may be, in accordance with the terms of the applicable Incentive Compensation Plan and Incentive Compensation Award agreement, and any restrictions on any such Incentive Compensation Awards shall automatically lapse; *provided*, *however*, that, in the case of any stock option or stock appreciation rights awards granted on or after June 26, 1998 that remain outstanding on the Date of Termination, such stock options or stock appreciation rights shall remain exercisable until the earlier of (i) the later of eighteen (18) months following the Date of Termination or the period specified in the applicable Incentive Compensation Award agreement or (ii) the expiration of the original term of such Incentive Compensation Award (or, if earlier, the tenth (10th) anniversary of the original date of grant) (it being understood that all Incentive Compensation Awards granted prior to, on or after June 26, 1998 shall remain outstanding and exercisable for a period that is no less than that provided for in the applicable agreement in effect as of the date of grant).

(d) Welfare Benefits. Subject to the terms and conditions of this Agreement, for a period of six (6) months following the date of Involuntary Termination (and an additional twelve (12) months if the Executive provides consulting services under Section 14(f) hereof), the Executive and his dependents shall be provided with life, disability, accident and group medical benefits which are substantially similar to those provided to the Executive and his dependents immediately prior to the date of Involuntary Termination or the Change in Control Date, whichever is more favorable to the Executive. Without limiting the generality of the foregoing, the continuing benefits described in the preceding sentence shall be provided on substantially the same terms and conditions and at the same cost to the Executive as in effect immediately prior to the date of Involuntary Termination or the Change in Control Date, whichever is more favorable to the Executive. Such benefits shall be provided in a manner that complies with Treasury Regulation Section 1.409A-1(a)(5). Notwithstanding the foregoing, if Sempra Energy determines in its sole discretion that the portion of the foregoing continuing benefits that constitute group medical benefits cannot be provided without potentially violating applicable law (including, without limitation, Section 2716 of the Public Health Service Act) or that the provision of such group medical benefits under this Agreement would subject Sempra Energy or any of its Affiliates to a material tax or penalty, (i) the Executive shall be provided, in lieu thereof, with a taxable monthly payment in an amount equal to the monthly premium that the Executive would be required to pay to continue the Executive's and his covered dependents' group medical benefit coverages under COBRA as then in effect (which amount shall be based on the premiums for the first month of COBRA coverage) or (ii) Sempra Energy shall have the authority to amend the Agreement to the limited extent reasonably necessary to avoid such violation of law or tax or penalty and shall use all reasonable efforts to provide the Executive with a comparable benefit that does not violate applicable law or subject Sempra Energy or any of its Affiliates to such tax or penalty.

(e) Outplacement Services. The Executive shall receive reasonable outplacement services, on an in-kind basis, suitable to his position and directly related to the Executive's Involuntary Termination, for a period of eighteen (18) months following the date of

Involuntary Termination (but in no event beyond the last day of the Executive's second (2nd) taxable year following the Executive's taxable year in which the Involuntary Termination occurs), in the aggregate amount of cost to the Company not to exceed $50,000. Notwithstanding the foregoing, the Executive shall cease to receive outplacement services on the date the Executive accepts employment with a subsequent employer. Such outplacement services shall be provided in a manner that complies with Treasury Regulation Section 1.409A-1(b)(9)(v)(A).

(f) Financial Planning Services. The Executive shall receive financial planning services, on an in-kind basis, for a period of eighteen (18) months following the date of Involuntary Termination. Such financial planning services shall include expert financial and legal resources to assist the Executive with financial planning needs and shall be limited to (i) current investment portfolio management, (ii) tax planning, (iii) tax return preparation, and (iv) estate planning advice and document preparation (including wills and trusts); *provided*, *however*, that the Company shall provide such financial services during any taxable year of the Executive only to the extent the cost to the Company for such taxable year does not exceed $25,000. The Company shall provide such financial planning services through a financial planner selected by the Company, and shall pay the fees for such financial planning services. The financial planning services provided during any taxable year of the Executive shall not affect the financial planning services provided in any other taxable year of the Executive. The Executive's right to financial planning services shall not be subject to liquidation or exchange for any other benefit. Such financial planning services shall be provided in a manner that complies with Section 1.409A-3(i)(1)(iv).

(g) Involuntary Termination in Connection with a Change in Control. Notwithstanding anything contained herein, in the event of an Involuntary Termination prior to a Change in Control, if the Involuntary Termination (i) was at the request of a third party who has taken steps reasonably calculated to effect such Change in Control or (ii) otherwise arose in connection with or in anticipation of such Change in Control, then the Executive shall, in lieu of the payments described in Section 4 hereof, be entitled to the Post-Change in Control Severance Payment and the additional benefits described in this Section 5 as if such Involuntary Termination had occurred within two (2) years following the Change in Control. The amounts specified in Section 5 that are to be paid under this Section 5(g) shall be reduced by any amount previously paid under Section 4. The amounts to be paid under this Section 5(g) shall be paid within sixty (60) days after the Change in Control Date of such Change in Control.

Section 6. Severance Benefits upon Termination by the Company for Cause or by the Executive Other than for Good Reason. If the Executive's employment shall be terminated for Cause, or if the Executive terminates employment other than for Good Reason, the Company shall have no further obligations to the Executive under this Agreement other than the pre-Change in Control Accrued Obligations and any amounts or benefits described in Section 10 hereof.

Section 7. Severance Benefits upon Termination due to Death or Disability. If the Executive has a Separation from Service by reason of death or Disability, the Company

shall pay the Executive or his estate, as the case may be, the Accrued Obligations and the Pro Rata Bonus (without regard to whether a Change in Control has occurred) and any amounts or benefits described in Section 10 hereof. Such payments shall be in addition to those rights and benefits to which the Executive or his estate may be entitled under the relevant Company plans or programs. The Company's obligation to pay the Pro Rata Bonus is conditioned upon the Executive, the Executive's representative or the Executive's estate, as the case may be executing the Release within fifty (50) days after the date of the Executive's Separation from Service and not revoking such Release in accordance with the terms thereof. The Accrued Obligations shall be paid within the time required by law and the Pro Rata Bonus shall be paid within sixty (60) days after the date of the Separation from Service on such date determined by Sempra Energy but not before the Release becomes effective and irrevocable. If the fifty (50) day period in which the Release could become effective spans more than one (1) taxable year, then the Pro Rata Bonus shall not be made until the later taxable year.

Section 8. Limitation on Payments by the Company.

(a) Anything in this Agreement to the contrary notwithstanding and except as set forth in this Section 8 below, in the event it shall be determined that any payment or distribution "in the nature of compensation" (within the meaning of Section 280G(b)(2) of the Code) to or for the benefit of the Executive, whether paid or payable pursuant to this Agreement or otherwise (the "Payment") would be subject (in whole or in part) to the excise tax imposed by Section 4999 of the Code, (the "Excise Tax"), then, subject to Section 8(b), the Pre-Change in Control Severance Payment or the Post-Change in Control Severance Payment (whichever is applicable) payable under this Agreement shall be reduced under this Section 8(a) to the amount equal to the Reduced Payment. For such Payment payable under this Agreement, the "Reduced Payment" shall be the amount equal to the greatest portion of the Payment (which may be zero ($0)) that, if paid, would result in no portion of any Payment being subject to the Excise Tax.

(b) The Pre-Change in Control Severance Payment or the Post-Change in Control Severance Payment (whichever is applicable) payable under this Agreement shall not be reduced under Section 8(a) if:

(i) such reduction in such Payment is not sufficient to cause no portion of any Payment to be subject to the Excise Tax, or

(ii) the Net After-Tax Unreduced Payments (as defined below) would equal or exceed one hundred five percent (105%) of the Net After-Tax Reduced Payments (as defined below).

For purposes of determining the amount of any Reduced Payment under Section 8(a), and the Net-After Tax Reduced Payments and the Net After-Tax Unreduced Payments, the Executive shall be considered to pay federal, state and local income and employment taxes at the Executive's applicable marginal rates taking into consideration any reduction in federal income taxes which could be obtained from the deduction of state and local income taxes, and any reduction or disallowance of itemized deductions and personal exemptions under applicable tax

law). The applicable federal, state and local income and employment taxes and the Excise Tax (to the extent applicable) are collectively referred to as the "Taxes."

(c) For purposes of determining the amount of any Reduced Payment under this Section 8, the amount of any Payment shall be reduced in the following order:

(i) first, by reducing the amounts of parachute payments that would not constitute deferred compensation subject to Section 409A of the Code;

(ii) next, if after the reduction described in Section 8(c)(i), additional reductions are required, then by reducing the cash portion of the Payment that constitutes "deferred compensation" (within the meaning of Section 409A) subject to Section 409A, with the reductions to be applied first to the portion of the Payment scheduled for the latest distribution date, and then applied to distributions scheduled for progressively earlier distribution dates, to the extent necessary to decrease the Payment as required under this Section 8; and

(iii) next, if after the reduction described in Section 8(c)(ii), additional reductions are required, then, by reducing the non-cash portion of the Payment that constitutes deferred compensation (within the meaning of Section 409A) subject to Section 409A, with the reductions to be applied first to the portion of the Payment scheduled for the latest distribution date, and then applied to distributions scheduled for progressively earlier distribution dates, to the extent necessary to decrease the Payment as required under this Section 8.

(d) The following definitions shall apply for purposes of this Section 8:

(i) "Net After-Tax Reduced Payments" shall mean the total amount of all Payments that the Executive would retain, on a Net After-Tax Basis, in the event that the Payments payable under this Agreement are reduced pursuant to Section 8(a).

(ii) "Net After-Tax Unreduced Payments" shall mean the total amount of all Payments that the Executive would retain, on a Net After-Tax Basis, in the event that the Payments payable under this Agreement are not reduced pursuant to Section 8(a).

(iii) "Net After-Tax Basis" shall mean, with respect to the Payments, either with or without reduction under Section 8(a) (as applicable), the amount that would be retained by the Executive from such Payments after the payment of all Taxes.

(e) All determinations required to be made under this Section 8 and the assumptions to be utilized in arriving at such determinations, shall be made by a nationally recognized accounting firm as may be agreed by the Company and the Executive (the "Accounting Firm"); *provided*, that the Accounting Firm's determination shall be made based upon "substantial authority" within the meaning of Section 6662 of the Code. The Accounting Firm shall provide detailed supporting calculations to both the Company and the Executive within fifteen (15) business days of the receipt of notice from the Executive that there has been a

Payment or such earlier time as is requested by the Company. All fees and expenses of the Accounting Firm shall be borne solely by the Company. Any determination by the Accounting Firm shall be binding upon the Company and the Executive. For purposes of determining whether and the extent to which the Payments will be subject to the Excise Tax, (i) no portion of the Payments the receipt or enjoyment of which the Executive shall have waived at such time and in such manner as not to constitute a "payment" within the meaning of Section 280G(b) of the Code shall be taken into account, (ii) no portion of the Payments shall be taken into account which, in the written opinion of the Accounting Firm, does not constitute a "parachute payment" within the meaning of Section 280G(b)(2) of the Code (including by reason of Section 280G(b)(4)(A) of the Code) and, in calculating the Excise Tax, no portion of such Payments shall be taken into account which, in the opinion of the Accounting Firm, constitutes "reasonable compensation" for services actually rendered, within the meaning of Section 280G(b)(4)(B) of the Code, in excess of the "base amount" (as defined in Section 280G(b)(3) of the Code) allocable to such reasonable compensation, and (iii) the value of any non-cash benefit or any deferred payment or benefit included in the Payments shall be determined by the Accounting Firm in accordance with the principles of Section 280G(d)(3) and (4) of the Code.

Section 9. Delayed Distribution under Section 409A of the Code. Notwithstanding any other provision of this Agreement to the contrary, if the Executive is a Specified Employee on the date of the Executive's Involuntary Termination (or on the date of the Executive's Separation from Service by reason of Disability), the Section 409A Payments which are payable upon Separation from Service shall be delayed to the extent necessary in order to avoid a prohibited distribution under Section 409A(a)(2)(B)(i) of the Code, and such delayed payments or benefits shall be paid or distributed to the Executive during the thirty (30) day period commencing on the earlier of (a) the expiration of the six (6) month period measured from the date of the Executive's Separation from Service or (b) the date of the Executive's death. Upon the expiration of the applicable six (6) month period, all payments deferred pursuant to this Section 9 (excluding in-kind benefits) shall be paid in a lump sum payment to the Executive, plus interest thereon from the date of the Executive's Involuntary Termination through the payment date at an annual rate equal to Moody's Rate. The "Moody's Rate" shall mean the average of the daily Moody's Corporate Bond Yield Average – Monthly Average Corporates as published by Moody's Investors Service, Inc. (or any successor) for the month next preceding the Date of Termination. Any remaining payments due under the Agreement shall be paid as otherwise provided herein.

Section 10. Nonexclusivity of Rights. Nothing in this Agreement shall prevent or limit the Executive's continuing or future participation in any benefit, plan, program, policy or practice provided by the Company and for which the Executive may qualify (except with respect to any benefit to which the Executive has waived his rights in writing), including, without limitation, any and all indemnification arrangements in favor of the Executive (whether under agreements or under the Company's charter documents or otherwise), and insurance policies covering the Executive, nor shall anything herein limit or otherwise affect such rights as the Executive may have under any other contract or agreement entered into after the Effective Date with the Company. Amounts which are vested benefits or which the Executive is otherwise

entitled to receive under any benefit, plan, policy, practice or program of, or any contract or agreement entered into with, the Company shall be payable in accordance with such benefit, plan, policy, practice or program or contract or agreement except as explicitly modified by this Agreement. At all times during the Executive's employment with the Company and thereafter, the Company shall provide (to the extent permissible under applicable law) the Executive with indemnification and D&O insurance insuring the Executive against insurable events which occur or have occurred while the Executive was a director or executive officer of the Company, that with respect to such insurance is on terms and conditions that, to the extent reasonably practical, are at least as generous as that then currently provided to any other current or former director or executive officer of the Company or any Affiliate. Such indemnification and D&O insurance shall be provided in a manner that complies with Treasury Regulation Section 1.409A-1(b)(10).

Section 11. Clawbacks. Notwithstanding anything herein to the contrary, if Sempra Energy determines, in its good faith judgment, that if the Executive is required to forfeit or to make any repayment of any compensation or benefit(s) to the Company under the Sarbanes-Oxley Act of 2002 or pursuant to the Dodd-Frank Wall Street Reform and Consumer Protection Act or any other law or pursuant to any formal policy of Sempra Energy, such forfeiture or repayment shall not constitute Good Reason.

Section 12. Full Settlement; Mitigation. The Company's obligation to make the payments provided for in this Agreement and otherwise to perform its obligations hereunder shall not be affected by any set-off, counterclaim, recoupment, defense or other claim, right or action which the Company may have against the Executive or others, provided that nothing herein shall preclude the Company from separately pursuing recovery from the Executive based on any such claim. In no event shall the Executive be obligated to seek other employment or take any other action by way of mitigation of the amounts (including amounts for damages for breach) payable to the Executive under any of the provisions of this Agreement, and such amounts shall not be reduced whether or not the Executive obtains other employment.

Section 13. Dispute Resolution.

(a) If any dispute arises between the Executive and Sempra Energy or any of its Affiliates, including, but not limited to, disputes relating to or arising out of this Agreement, any action relating to or arising out of the Executive's employment or its termination, and/or any disputes regarding the interpretation, enforceability, or validity of this Agreement ("Arbitrable Dispute"), the Executive and Sempra Energy waive the right to resolve the dispute through litigation in a judicial forum and agree to resolve the Arbitrable Dispute through final and binding arbitration, except as prohibited by law. Arbitration shall be the exclusive remedy for any Arbitrable Dispute.

(b) As to any Arbitrable Dispute, Sempra Energy and the Executive waive any right to a jury trial or a court bench trial. The Company and the Executive also waive the right to bring, maintain, or participate in any class, collective, or representative proceeding, whether in arbitration or otherwise. Further, Arbitrable Disputes must be brought in the individual capacity

of the party asserting the claim, and cannot be maintained on a class, collective, or representative basis.

(c) Arbitration shall take place at the office of the Judicial Arbitration and Mediation Service ("JAMS") (or, if the Executive is employed outside of California, the American Arbitration Association ("AAA")) nearest to the location where the Executive last worked for the Company. Except to the extent it conflicts with the rules and procedures set forth in this Agreement, arbitration shall be conducted in accordance with the JAMS Employment Arbitration Rules & Procedures (if the Executive is employed outside of California, the AAA Employment Arbitration Rules & Mediation Procedures), copies of which are attached for reference and available at www.jamsadr.com; tel: 800.352.5267 and www.adr.org; tel: 800.778.7879, before a single experienced, neutral employment arbitrator selected in accordance with those rules.

(d) Sempra Energy will be responsible for paying any filing fee and the fees and costs of the arbitrator. Each party shall pay its own attorneys' fees. However, if any party prevails on a statutory claim that authorizes an award of attorneys' fees to the prevailing party, or if there is a written agreement providing for attorneys' fees, the arbitrator may award reasonable attorneys' fees to the prevailing party, applying the same standards a court would apply under the law applicable to the claim.

(e) The arbitrator shall apply the Federal Rules of Evidence, shall have the authority to entertain a motion to dismiss or a motion for summary judgment by any party, and shall apply the standards governing such motions under the Federal Rules of Civil Procedure. The arbitrator does not have the authority to consider, certify, or hear an arbitration as a class action, collective action, or any other type of representative action. Sempra Energy and the Executive recognize that this Agreement arises out of or concerns interstate commerce and that the Federal Arbitration Act shall govern the arbitration and shall govern the interpretation or enforcement of this Agreement or any arbitration award.

(f) EXECUTIVE ACKNOWLEDGES THAT BY ENTERING INTO THIS AGREEMENT, EXECUTIVE IS WAIVING ANY RIGHT HE MAY HAVE TO A TRIAL BY JURY.

Section 14. Executive's Covenants.

(a) Confidentiality. The Executive acknowledges that in the course of his employment with the Company, he has acquired non-public privileged or confidential information and trade secrets concerning the operations, future plans and methods of doing business ("Proprietary Information") of Sempra Energy and its Affiliates; and the Executive agrees that it would be extremely damaging to Sempra Energy and its Affiliates if such Proprietary Information were disclosed to a competitor of Sempra Energy and its Affiliates or to any other person or corporation. The Executive understands and agrees that all Proprietary Information has been divulged to the Executive in confidence and further understands and agrees to keep all Proprietary Information secret and confidential (except for such information which is or becomes publicly available other than as a result of a breach by the Executive of this provision

or information the Executive is required by any governmental, administrative or court order to disclose) without limitation in time. In view of the nature of the Executive's employment and the Proprietary Information the Executive has acquired during the course of such employment, the Executive likewise agrees that Sempra Energy and its Affiliates would be irreparably harmed by any disclosure of Proprietary Information in violation of the terms of this Section 14(a) and that Sempra Energy and its Affiliates shall therefore be entitled to preliminary and/or permanent injunctive relief prohibiting the Executive from engaging in any activity or threatened activity in violation of the terms of this Section 14(a) and to any other relief available to them. Inquiries regarding whether specific information constitutes Proprietary Information shall be directed to the Company's Senior Vice President, Public Policy (or, if such position is vacant, the Company's then Chief Executive Officer); *provided*, that the Company shall not unreasonably classify information as Proprietary Information.

(b) Governmental Reporting. Nothing in this Agreement is intended to interfere with or discourage the Executive's good faith disclosure related to a suspected violation of federal or state law or regulation to any governmental agency or entity or making other disclosures that are protected under the whistleblower provisions of federal or state law or regulation. The Executive cannot and will not be held criminally or civilly liable under any federal or state trade secret law for disclosing otherwise protected trade secrets and/or confidential or proprietary information so long as the disclosure is made in (i) confidence to a federal, state, or local government official, directly or indirectly, or to an attorney and solely for the purpose of reporting or investigating a suspected violation of law; or (ii) a complaint or other document filed in a lawsuit or other proceeding, so long as such filing is made under seal. The Company will not retaliate against the Executive in any way for a disclosure made pursuant to this Section 14(b). Further, in the event the Executive makes such a disclosure, and files a lawsuit against the Company alleging that the Company retaliated against the Executive because of the disclosure, the Executive may disclose the relevant trade secret or confidential information to the Executive's attorney, and may use the same in the court proceeding only if (X) the Executive ensures that any court filing that includes the trade secret or confidential information at issue is made under seal; and (Y) the Executive does not otherwise disclose the trade secret or confidential information except as required by court order.

(c) Non-Solicitation of Employees. The Executive recognizes that he possesses and will possess confidential information about other employees of Sempra Energy and its Affiliates relating to their education, experience, skills, abilities, compensation and benefits, and inter-personal relationships with customers of Sempra Energy and its Affiliates. The Executive recognizes that the information he possesses and will possess about these other employees is not generally known, is of substantial value to Sempra Energy and its Affiliates in developing their business and in securing and retaining customers, and has been and will be acquired by him because of his business position with Sempra Energy and its Affiliates. The Executive agrees that at all times during the Executive's employment with the Company and for a period of one (1) year thereafter, he will not, directly or indirectly, solicit or recruit any employee of the Company or its Affiliates for the purpose of being employed by him or by any competitor of the Company or its Affiliates on whose behalf he is acting as an agent, representative or employee and that he will not convey any such confidential information or

trade secrets about other employees of Sempra Energy and its Affiliates to any other person; *provided, however*, that it shall not constitute a solicitation or recruitment of employment in violation of this Section 14(c) to discuss employment opportunities with any employee of the Company or its Affiliates who has either first contacted the Executive or regarding whose employment the Executive has discussed with and received the written approval of the Company's most senior Vice President, Human Resources (or, if such position is vacant, the Company's then Chief Executive Officer), prior to making such solicitation or recruitment. In view of the nature of the Executive's employment with the Company, the Executive likewise agrees that Sempra Energy and its Affiliates would be irreparably harmed by any solicitation or recruitment in violation of the terms of this Section 14(c) and that Sempra Energy and its Affiliates shall therefore be entitled to preliminary and/or permanent injunctive relief prohibiting the Executive from engaging in any activity or threatened activity in violation of the terms of this Section 14(c) and to any other relief available to them.

(d) Survival of Provisions. The obligations contained in Section 14(a), (b) and (c) above shall survive the termination of the Executive's employment within the Company and shall be fully enforceable thereafter. If it is determined by a court of competent jurisdiction in any state that any restriction in Section 14(a) or (c) above is excessive in duration or scope or is unreasonable or unenforceable under the laws of that state, it is the intention of the parties that such restriction may be modified or amended by the court to render it enforceable to the maximum extent permitted by the law of that state.

(e) Release; Consulting Payment. In the event of the Executive's Involuntary Termination, if the Executive (i) reconfirms and agrees to abide by the covenants described in Section 14(a) and (c) above, (ii) executes the Release within fifty (50) days after the date of Involuntary Termination and does not revoke such Release in accordance with the terms thereof, and (iii) agrees to provide the consulting services described in Section 14(f) below, then in consideration for such covenants and consulting services, the Company shall pay the Executive, in one (1) cash lump sum, an amount (the "Consulting Payment") in cash equal to one-half (0.5) times the sum of (X) the Executive's Annual Base Salary as in effect on the Date of Termination, plus (Y) the greater of the Executive's Average Annual Bonus or the Executive's Target Bonus on the Date of Termination. Except as provided in this Section 14(e), the Consulting Payment shall be paid on such date as is determined by the Company within the ten (10) day period commencing on the sixtieth (60th) day after the date of the Executive's Involuntary Termination; *provided, however*, that if the Executive is a Specified Employee on the date of the Executive's Involuntary Termination, the Consulting Payment shall be paid as provided in Section 9 hereof to the extent required.

(f) Consulting. If the Executive agrees to the provisions of Section 14(e) above, then the Executive shall have the obligation to provide consulting services to the Company as an independent contractor, commencing on the Date of Termination and ending on the first (1st) anniversary of the Date of Termination (the "Consulting Period"). The Executive shall hold himself available at reasonable times and on reasonable notice to render such consulting services as may be so assigned to him by the Board or the Company's then Chief Executive Officer; *provided, however*, that unless the parties otherwise agree, the consulting

services rendered by the Executive during the Consulting Period shall not exceed twenty (20) hours each month; and, *provided, further*, that the consulting services rendered by the Executive during the Consulting Period shall in no event exceed twenty percent (20%) of the average level of services performed by the Executive for the Company over the thirty-six (36) month period immediately preceding the Executive's Separation from Service (or the full period of services to the Company, if the Executive has been providing services to the Company for less than thirty-six (36) months). The Company agrees to use its best efforts during the Consulting Period to secure the benefit of the Executive's consulting services so as to minimize the interference with the Executive's other activities, including requiring the performance of consulting services at the Company's offices only when such services may not be reasonably performed off-site by the Executive.

Section 15. Legal Fees.

(a) Reimbursement of Legal Fees. Subject to Section 15(b), in the event of the Executive's Separation from Service either (i) prior to a Change in Control, or (ii) on or within two (2) years following a Change in Control, the Company shall reimburse the Executive for all legal fees and expenses (including but not limited to fees and expenses in connection with any arbitration) incurred by the Executive in disputing any issue arising under this Agreement relating to the Executive's Separation from Service or in seeking to obtain or enforce any benefit or right provided by this Agreement.

(b) Requirements for Reimbursement. The Company shall reimburse the Executive's legal fees and expenses pursuant to Section 15(a) above only to the extent the arbitrator or court determines the following: (i) the Executive disputed such issue, or sought to obtain or enforce such benefit or right, in good faith, (ii) the Executive had a reasonable basis for such claim, and (iii) in the case of Section 15(a)(i) above, the Executive is the prevailing party. In addition, the Company shall reimburse such legal fees and expenses, only if such legal fees and expenses are incurred during the twenty (20) year period beginning on the date of the Executive's Separation from Service. The legal fees and expenses paid to the Executive for any taxable year of the Executive shall not affect the legal fees and expenses paid to the Executive for any other taxable year of the Executive. The legal fees and expenses shall be paid to the Executive on or before the last day of the Executive's taxable year following the taxable year in which the fees or expenses are determined to be payable pursuant to this Agreement. The Executive's right to reimbursement of legal fees and expenses shall not be subject to liquidation or exchange for any other benefit. Such right to reimbursement of legal fees and expenses shall be provided in a manner that complies with Treasury Regulation Section 1.409A-3(i)(1)(iv).

Section 16. Successors.

(a) Assignment by the Executive. This Agreement is personal to the Executive and without the prior written consent of Sempra Energy shall not be assignable by the Executive otherwise than by will or the laws of descent and distribution. This Agreement shall inure to the benefit of and be enforceable by the Executive's legal representatives.

(b) Successors and Assigns of Sempra Energy. This Agreement shall inure to the benefit of and be binding upon Sempra Energy and its successors and assigns. Sempra Energy may not assign this Agreement to any person or entity (except for a successor described in Section 16(c), (d) or (e) below) without the Executive's written consent.

(c) Assumption. Sempra Energy shall require any successor (whether direct or indirect, by purchase, merger, consolidation or otherwise) to all or substantially all of the business and/or assets of Sempra Energy to assume expressly and agree to perform the obligations and satisfy and discharge the liabilities of this Agreement in the same manner and to the same extent that Sempra Energy would have been required to perform the obligations and satisfy and discharge the liabilities under this Agreement if no such succession had taken place, and Sempra Energy shall have no further obligations and liabilities under this Agreement. Upon such assumption, references to Sempra Energy in this Agreement shall be replaced with references to such successor.

(d) Sale of Subsidiary. In the event that (i) the Executive is employed by a direct or indirect subsidiary of Sempra Energy that is a member of the Sempra Energy Control Group, (ii) Sempra Energy, directly or indirectly through one or more intermediaries, sells or otherwise disposes of such subsidiary, and (iii) such subsidiary ceases to be a member of the Sempra Energy Control Group, then if, on the date such subsidiary ceases to be a member of the Sempra Energy Control Group, the Executive continues in employment with such subsidiary and the Executive does not have a Separation from Service, Sempra Energy shall require such subsidiary or any successor (whether direct or indirect, by purchase merger, consolidation or otherwise) to such subsidiary, or the parent thereof, to assume expressly and agree to perform the obligations and satisfy and discharge the liabilities under this Agreement in the same manner and to the same extent that Sempra Energy would have been required to perform the obligations and satisfy and discharge the liabilities under this Agreement, if such subsidiary had not ceased to be part of the Sempra Energy Control Group, and, upon such assumption, Sempra Energy shall have no further obligations and liabilities under the Agreement. Upon such assumption, references to Sempra Energy in this Agreement shall be replaced with references to such subsidiary, or such successor or parent thereof, assuming this Agreement, and subsection (b) of the definition of "Cause" and subsection (b) of the definition of "Good Reason" shall apply thereafter, as if a Change in Control had occurred on the date of such cessation.

(e) Sale of Assets of Subsidiary. In the event that (i) the Executive is employed by a direct or indirect subsidiary of Sempra Energy, and (ii) such subsidiary sells or otherwise disposes of substantial assets of such subsidiary to an unrelated service recipient, as determined under Treasury Regulation Section 1.409A-1(f)(2)(ii) (the "Asset Purchaser"), in a transaction described in Treasury Regulation Section 1.409A-1(h)(4) (an "Asset Sale"), then if, on the date of such Asset Sale, the Executive becomes employed by the Asset Purchaser, Sempra Energy and the Asset Purchaser may specify, in accordance with Treasury Regulation Section 1.409A-1(h)(4), that the Executive shall not be treated as having a Separation from Service, and in such event, Sempra Energy may require such Asset Purchaser, or the parent thereof, to assume expressly and agree to perform the obligations and satisfy and discharge the liabilities under this Agreement in the same manner and to the same extent that the Company would have been

required to perform the obligations and satisfy and discharge the liabilities under this Agreement, if the Asset Sale had not taken place, and, upon such assumption, Sempra Energy shall have no further obligations and liabilities under the Agreement. Upon such assumption, (i) references to Sempra Energy in this Agreement shall be replaced with references to the Asset Purchaser or the parent thereof, as applicable, and (ii) subsection (b) of the definition of "Cause" and subsection (b) of the definition of "Good Reason" shall apply thereafter, as if a Change in Control had occurred on the date of the Asset Sale.

Section 17. Administration Prior to Change in Control. Prior to a Change in Control, the Compensation Committee shall have full and complete authority to construe and interpret the provisions of this Agreement, to determine an individual's entitlement to benefits under this Agreement, to make in its sole and absolute discretion all determinations contemplated under this Agreement, to investigate and make factual determinations necessary or advisable to administer or implement this Agreement, and to adopt such rules and procedures as it deems necessary or advisable for the administration or implementation of this Agreement. All determinations made under this Agreement by the Compensation Committee shall be final, conclusive and binding on all interested persons. Prior to a Change in Control, the Compensation Committee may delegate responsibilities for the operation and administration of this Agreement to one or more officers or employees of the Company. The provisions of this Section 17 shall terminate and be of no further force and effect upon the occurrence of a Change in Control.

Section 18. Compliance with Section 409A of the Code. All payments and benefits payable under this Agreement (including, without limitation, the Section 409A Payments) are intended to comply with the requirements of Section 409A of the Code. Certain payments and benefits payable under this Agreement are intended to be exempt from the requirements of Section 409A of the Code. This Agreement shall be interpreted in accordance with the applicable requirements of, and exemptions from, Section 409A of the Code and the Treasury Regulations thereunder. To the extent the payments and benefits under this Agreement are subject to Section 409A of the Code, this Agreement shall be interpreted, construed and administered in a manner that satisfies the requirements of Section 409A(a)(2), (3) and (4) of the Code and the Treasury Regulations thereunder. If the Company and the Executive determine that any compensation, benefits or other payments that are payable under this Agreement and intended to comply with Section 409A(a)(2), (3) and (4) of the Code do not comply with Section 409A of the Code, the Treasury Regulations thereunder and other applicable authority issued by the Internal Revenue Service, to the extent permitted under Section 409A of the Code, the Treasury Regulations thereunder and any applicable authority issued by the Internal Revenue Service, the Company and the Executive agree to amend this Agreement, or take such other actions as the Company and the Executive deem reasonably necessary or appropriate, to cause such compensation, benefits and other payments to comply with the requirements of Section 409A of the Code, the Treasury Regulations thereunder and other applicable authority issued by the Internal Revenue Service, while providing compensation, benefits and other payments that are, in the aggregate, no less favorable than the compensation, benefits and other payments provided under this Agreement. In the case of any compensation, benefits or other payments that are payable under this Agreement and intended to comply with

Section 409A(a)(2), (3) and (4) of the Code, if any provision of the Agreement would cause such compensation, benefits or other payments to fail to so comply, such provision shall not be effective and shall be null and void with respect to such compensation, benefits or other payments to the extent such provision would cause a failure to comply, and such provision shall otherwise remain in full force and effect.

Section 19. Miscellaneous.

(a) Governing Law. This Agreement shall be governed by and construed in accordance with the laws of the State of California, without reference to its principles of conflict of laws. The captions of this Agreement are not part of the provisions hereof and shall have no force or effect. Except as provided herein, the Agreement may not be amended, modified, repealed, waived, extended or discharged except by an agreement in writing signed by the parties hereto. No person, other than pursuant to a resolution of the Board or a committee thereof, shall have authority on behalf of Sempra Energy to agree to amend, modify, repeal, waive, extend or discharge any provision of this Agreement or anything in reference thereto.

(b) Notices. All notices and other communications hereunder shall be in writing and shall be given by hand delivery to the other party, by a reputable overnight carrier or by registered or certified mail, return receipt requested, postage prepaid, addressed, in either case, to the Company's headquarters or to such other address as either party shall have furnished to the other in writing in accordance herewith. Notices and communications shall be effective when actually received by the addressee.

(c) Severability. The invalidity or unenforceability of any provision of this Agreement shall not affect the validity or enforceability of any other provision of this Agreement.

(d) Taxes. The Company may withhold from any amounts payable under this Agreement such federal, state or local taxes as shall be required to be withheld pursuant to any applicable law or regulation.

(e) No Waiver. The Executive's or the Company's failure to insist upon strict compliance with any provision hereof or any other provision of this Agreement or the failure to assert any right the Executive or the Company may have hereunder, including, without limitation, the right of the Executive to terminate employment for Good Reason pursuant to Section 1 hereof, or the right of the Company to terminate the Executive's employment for Cause pursuant to Section 1 hereof shall not be deemed to be a waiver of such provision or right or any other provision or right of this Agreement.

(f) Entire Agreement; Exclusive Benefit; Supersession of Prior Agreement. This Agreement contains the entire agreement of the Executive, the Company or any predecessor or subsidiary thereof with respect to any severance or termination pay. The Pre-Change in Control Severance Payment, the Post-Change in Control Severance Payment and all other benefits provided hereunder shall be in lieu of any other severance payments to which the Executive is entitled under any other severance plan or program or arrangement sponsored by the

Company, as well as pursuant to any individual employment or severance agreement that was entered into by the Executive and the Company, and, upon the Effective Date of this Agreement, all such plans, programs, arrangements and agreements are hereby automatically superseded and terminated.

(g) No Right of Employment. Nothing in this Agreement shall be construed as giving the Executive any right to be retained in the employ of the Company or shall interfere in any way with the right of the Company to terminate the Executive's employment at any time, with or without Cause.

(h) Unfunded Obligation. The obligations under this Agreement shall be unfunded. Benefits payable under this Agreement shall be paid from the general assets of the Company. The Company shall have no obligation to establish any fund or to set aside any assets to provide benefits under this Agreement.

(i) Termination upon Sale of Assets of Subsidiary. Notwithstanding anything contained herein, this Agreement shall automatically terminate and be of no further force and effect and no benefits shall be payable hereunder in the event that (i) the Executive is employed by a direct or indirect subsidiary of Sempra Energy, (ii) an Asset Sale (as defined in Section 16(e)) occurs (other than such a sale or disposition which is part of a transaction or series of transactions which would result in a Change in Control), and (iii) as a result of such Asset Sale, the Executive is offered employment by the Asset Purchaser in an executive position with reasonably comparable status, compensation, benefits and severance agreement (including the assumption of this Agreement in accordance with Section 16(e)) and which is consistent with the Executive's experience and education, but the Executive declines to accept such offer and the Executive fails to become employed by the Asset Purchaser on the date of the Asset Sale.

(j) Term. The term of this Agreement shall commence on the Effective Date and shall continue until the third (3rd) anniversary of the Effective Date; *provided, however*, that commencing on the second (2nd) anniversary of the Effective Date (and each anniversary of the Effective Date thereafter), the term of this Agreement shall automatically be extended for one (1) additional year, unless at least ninety (90) days prior to such date, the Company or the Executive shall give written notice to the other party that it or he, as the case may be, does not wish to so extend this Agreement. Notwithstanding the foregoing, if the Company gives such written notice to the Executive (i) at a time when Sempra Energy is a party to an agreement that, if consummated, would constitute a Change in Control or (ii) less than two (2) years after a Change in Control, the term of this Agreement shall be automatically extended until the later of (X) the date that is one (1) year after the anniversary of the Effective Date that follows such written notice or (Y) the second (2nd) anniversary of the Change in Control Date.

(k) Counterparts. This Agreement may be executed in several counterparts, each of which shall be deemed to be an original but all of which together shall constitute one and the same instrument.

[*remainder of page intentionally left blank*]

IN WITNESS WHEREOF, the Executive and, pursuant to due authorization from its Board of Directors, Sempra Energy have caused this Agreement to be executed as of the day and year first above written.

SEMPRA ENERGY

/s/ G. Joyce Rowland

G. Joyce Rowland
Senior Vice President and Chief Culture Officer

April 15, 2019

Date

EXECUTIVE

/s/ Jeffery L. Walker

Jeffery L. Walker
Vice President – Customer Solutions

April 15, 2019

Date

EXHIBIT A

GENERAL RELEASE

This GENERAL RELEASE (the "Agreement"), dated _____, is made by and between _____, a California corporation (the "Company") and _____ ("you" or "your").

WHEREAS, you and the Company have previously entered into that certain Severance Pay Agreement dated _____, 20___ (the "Severance Pay Agreement"); and

WHEREAS, your right to receive certain severance pay and benefits pursuant to the terms of Section 4 or 5 of the Severance Pay Agreement, as applicable, is subject to and conditioned upon your execution and non-revocation of a general release of claims by you against the Company and its subsidiaries and affiliates.

WHEREAS, your right to receive the Consulting Payment provided pursuant to Section 14(e) of the Severance Pay Agreement is subject to and conditioned upon your execution and non-revocation of a general release of claims by you against the Company and its subsidiaries and affiliates; and your adherence to the covenants described under Section 14 of the Severance Pay Agreement.

NOW, THEREFORE, in consideration of the premises and the mutual covenants herein contained, you and the Company hereby agree as follows:

ONE: Your signing of this Agreement confirms that your employment with the Company shall terminate at the close of business on _____, or earlier upon our mutual agreement.

TWO: As a material inducement for the payment of the severance and benefits of the Severance Pay Agreement, and except as otherwise provided in this Agreement, you and the Company hereby irrevocably and unconditionally release, acquit and forever discharge the other from any and all Claims either may have against the other. For purposes of this Agreement and the preceding sentence, the words "Releasee" or "Releasees" and "Claim" or "Claims" shall have the meanings set forth below:

(a) The words "Releasee" or "Releasees" shall refer to you and to the Company and each of the Company's owners, stockholders, predecessors, successors, assigns, agents, directors, officers, employees, representatives, attorneys, advisors, parent companies, divisions, subsidiaries, affiliates (and agents, directors, officers, employees, representatives, attorneys and advisors of such parent companies, divisions, subsidiaries and affiliates) and all persons acting by, through, under or in concert with any of them.

(b) The words "Claim" or "Claims" shall refer to any charges, complaints, claims, liabilities, obligations, promises, agreements, controversies, damages, actions, causes of action, suits, rights, demands, costs, losses, debts and expenses (including attorneys' fees and

costs actually incurred) of any nature whatsoever, known or unknown, suspected or unsuspected, which you or the Company now, in the past or, in the future may have, own or hold against any of the Releasees; *provided, however*, that the word "Claim" or "Claims" shall not refer to any charges, complaints, claims, liabilities, obligations, promises, agreements, controversies, damages, actions, causes of action, suits, rights, demands, costs, losses, debts and expenses (including attorneys' fees and costs actually incurred) arising under [*identify severance, employee benefits, stock option, indemnification and D&O and other agreements containing duties, rights obligations etc. of either party that are to remain operative*]. Claims released pursuant to this Agreement by you and the Company include, but are not limited to, rights arising out of alleged violations of any contracts, express or implied, any tort, claim, any claim that you failed to perform or negligently performed or breached your duties during employment at the Company, any legal restrictions on the Company's right to terminate employment relationships; and any federal, state or other governmental statute, regulation, or ordinance, governing the employment relationship including, without limitation, all state and federal laws and regulations prohibiting discrimination based on protected categories, and all state and federal laws and regulations prohibiting retaliation against employees for engaging in protected activity or legal off-duty conduct. This release does not extend to claims for workers' compensation or other claims which by law may not be waived or released by this Agreement.

THREE: You and the Company expressly waive and relinquish all rights and benefits afforded by any statute (including but not limited to Section 1542 of the Civil Code of the State of California and analogous laws of other states) which limits the effect of a release with respect to unknown claims. You and the Company do so understanding and acknowledging the significance of the release of unknown claims and the waiver of statutory protection against a release of unknown claims (including but not limited to Section 1542). Section 1542 of the Civil Code of the State of California states as follows:

> "A GENERAL RELEASE DOES NOT EXTEND TO CLAIMS WHICH THE CREDITOR DOES NOT KNOW OR SUSPECT TO EXIST IN HIS OR HER FAVOR AT THE TIME OF EXECUTING THE RELEASE, WHICH IF KNOWN BY HIM OR HER MUST HAVE MATERIALLY AFFECTED HIS OR HER SETTLEMENT WITH THE DEBTOR."

Thus, notwithstanding the provisions of Section 1542 or of any similar statute, and for the purpose of implementing a full and complete release and discharge of the Releasees, you and the Company expressly acknowledge that this Agreement is intended to include in its effect, without limitation, all Claims which are known and all Claims which you or the Company do not know or suspect to exist in your or the Company's favor at the time of execution of this Agreement and that this Agreement contemplates the extinguishment of all such Claims.

FOUR: The parties acknowledge that they might hereafter discover facts different from, or in addition to, those they now know or believe to be true with respect to a Claim or Claims released herein, and they expressly agree to assume the risk of possible discovery of

additional or different facts, and agree that this Agreement shall be and remain effective, in all respects, regardless of such additional or different discovered facts.

FIVE: As a further material inducement to the Company to enter into this Agreement, you hereby agree to indemnify and hold each of the Releasees harmless from all loss, costs, damages, or expenses, including without limitation, attorneys' fees incurred by the Releasees, arising out of any breach of this Agreement by you or the fact that any representation made in this Agreement by you was false when made.

As a further material inducement to you to enter into this Agreement, the Company hereby agrees to indemnify and hold each of the Releasees harmless from all loss, costs, damages, or expenses, including without limitation, attorneys' fees incurred by the Releasees, arising out of any breach of this Agreement by it or the fact that any representation made in this Agreement by it was knowingly false when made.

SIX: You and the Company represent and acknowledge that in executing this Agreement, neither is relying upon any representation or statement not set forth in this Agreement or the Severance Agreement.

SEVEN:

(a) This Agreement shall not in any way be construed as an admission by the Company that it has acted wrongfully with respect to you or any other person, or that you have any rights whatsoever against the Company, and the Company specifically disclaims any liability to or wrongful acts against you or any other person, on the part of itself, its employees or its agents. This Agreement shall not in any way be construed as an admission by you that you have acted wrongfully with respect to the Company, or that you failed to perform your duties or negligently performed or breached your duties, or that the Company had good cause to terminate your employment.

(b) If you are a party or are threatened to be made a party to any proceeding by reason of the fact that you were an officer or director of the Company, the Company shall indemnify you against any expenses (including reasonable attorneys' fees; *provided*, that counsel has been approved by the Company prior to retention, which approval shall not be unreasonably withheld), judgments, fines, settlements and other amounts actually or reasonably incurred by you in connection with that proceeding; *provided, further*, that you acted in good faith and in a manner you reasonably believed to be in the best interest of the Company. The limitations of Section 317 of the Corporations Code of the State of California shall apply to this assurance of indemnification.

(c) You agree to cooperate with the Company and its designated attorneys, representatives and agents in connection with any actual or threatened judicial, administrative or other legal or equitable proceeding in which the Company is or may become involved. Upon reasonable notice, you agree to meet with and provide to the Company or its designated attorneys, representatives or agents all information and knowledge you have relating

to the subject matter of any such proceeding. The Company agrees to reimburse you for any reasonable costs you incur in providing such cooperation.

EIGHT: This Agreement is entered into in California and shall be governed by substantive California law, except as provided in this section. If any dispute arises between you and the Company, including but not limited to, disputes relating to this Agreement, or if you prosecute a claim you purported to release by means of this Agreement ("Arbitrable Dispute"), you and the Company agree to resolve that Arbitrable Dispute through final and binding arbitration under this section. You also agree to arbitrate any Arbitrable Dispute which also involves any other released party who offers or agrees to arbitrate the dispute under this section. Your agreement to arbitrate applies, for example, to disputes about the validity, interpretation, or effect of this Agreement or alleged violations of it, claims of discrimination under federal or state law, or other statutory violation claims.

As to any Arbitrable Dispute, you and the Company waive any right to a jury trial or a court bench trial. You and the Company also waive the right to bring, maintain, or participate in any class, collective, or representative proceeding, whether in arbitration or otherwise. Further, Arbitrable Disputes must be brought in the individual capacity of the party asserting the claim, and cannot be maintained on a class, collective, or representative basis.

Arbitration shall take place in San Diego, California under the employment dispute resolution rules of the Judicial Arbitration and Mediation Service, (or, if you are employed outside of California at the time of the termination of your employment, at the nearest location of the American Arbitration Association ("AAA") and in accordance with the AAA rules), before an experienced employment arbitrator selected in accordance with those rules. The arbitrator may not modify or change this Agreement in any way. The Company will be responsible for paying any filing fee and the fees and costs of the Arbitrator; provided, however, that if you are the party initiating the claim, you will contribute an amount equal to the filing fee to initiate a claim in the court of general jurisdiction in the state in which you are employed by the Company. Each party shall pay for its own costs and attorneys' fees, if any. However if any party prevails on a statutory claim which affords the prevailing party attorneys' fees and costs, or if there is a written agreement providing for attorneys' fees and/or costs, the Arbitrator may award reasonable attorney's fees and/or costs to the prevailing party, applying the same standards a court would apply under the law applicable to the claim. The Arbitrator shall apply the Federal Rules of Evidence and shall have the authority to entertain a motion to dismiss or a motion for summary judgment by any party and shall apply the standards governing such motions under the Federal Rules of Civil Procedure. The Federal Arbitration Act shall govern the arbitration and shall govern the interpretation or enforcement of this section or any arbitration award. The arbitrator will not have the authority to consider, certify, or hear an arbitration as a class action, collective action, or any other type of representative action.

To the extent that the Federal Arbitration Act is inapplicable, California law pertaining to arbitration agreements shall apply. Arbitration in this manner shall be the exclusive remedy for any Arbitrable Dispute. Except as prohibited by the Age Discrimination in Employment Act of 1967, as amended, should you or the Company attempt to resolve an

Arbitrable Dispute by any method other than arbitration pursuant to this section, the responding party will be entitled to recover from the initiating party all damages, expenses, and attorneys' fees incurred as a result of this breach. This Section EIGHT supersedes any existing arbitration agreement between the Company and me as to any Arbitrable Dispute. Notwithstanding anything in this Section EIGHT to the contrary, a claim for benefits under an Employee Retirement Income Security Act of 1974, as amended, covered plan shall not be an Arbitrable Dispute.

NINE: Both you and the Company understand that this Agreement is final and binding eight (8) days after its execution and return. Should you nevertheless attempt to challenge the enforceability of this Agreement as provided in Section EIGHT or, in violation of that section, through litigation, as a further limitation on any right to make such a challenge, you shall initially tender to the Company, by certified check delivered to the Company, all monies received pursuant to Section 4 or 5 of the Severance Pay Agreement, as applicable, plus interest, and invite the Company to retain such monies and agree with you to cancel this Agreement and void the Company's obligations under the Severance Pay Agreement. In the event the Company accepts this offer, the Company shall retain such monies and this Agreement shall be canceled and the Company shall have no obligation under Section 14(e) of the Severance Pay Agreement. In the event the Company does not accept such offer, the Company shall so notify you and shall place such monies in an interest-bearing escrow account pending resolution of the dispute between you and the Company as to whether or not this Agreement and the Company's obligations under the Severance Pay Agreement shall be set aside and/or otherwise rendered voidable or unenforceable. Additionally, any consulting agreement then in effect between you and the Company shall be immediately rescinded with no requirement of notice.

TEN: Any notices required to be given under this Agreement shall be delivered either personally or by first class United States mail, postage prepaid, addressed to the respective parties as follows:

To Company: [TO COME]

Attn: [TO COME]

To You: _____
_____
_____

ELEVEN: You understand and acknowledge that you have been given a period of forty-five (45) days to review and consider this Agreement (as well as certain data on other persons eligible for similar benefits, if any) before signing it and may use as much of this forty-five (45) day period as you wish prior to signing. You are encouraged, at your personal expense, to consult with an attorney before signing this Agreement. You understand and acknowledge that whether or not you do so is your decision. You may revoke this Agreement within seven (7) days of signing it. If you wish to revoke, the Company's Vice President, Human Resources must receive written notice from you no later than the close of business on the seventh (7th) day after you have signed the Agreement. If revoked, this Agreement shall not be effective and

enforceable, and you will not receive payments or benefits under Section 4 or 5 of the Severance Pay Agreement, as applicable.

TWELVE: This Agreement constitutes the entire agreement of the parties hereto and supersedes any and all other agreements (except the Severance Pay Agreement) with respect to the subject matter of this Agreement, whether written or oral, between you and the Company. All modifications and amendments to this Agreement must be in writing and signed by the parties.

THIRTEEN: Each party agrees, without further consideration, to sign or cause to be signed, and to deliver to the other party, any other documents and to take any other action as may be necessary to fulfill the obligations under this Agreement.

FOURTEEN: If any provision of this Agreement or the application thereof is held invalid, the invalidity shall not affect other provisions or applications of the Agreement which can be given effect without the invalid provisions or application; and to this end the provisions of this Agreement are declared to be severable.

FIFTEEN: This Agreement may be executed in counterparts.

I have read the foregoing General Release, and I accept and agree to the provisions it contains and hereby execute it voluntarily and with full understanding of its consequences. I am aware it includes a release of all known or unknown claims.

DATED: _____

_____

DATED: _____

_____

You acknowledge that you first received this Agreement on [date].

_____

Exhibit 21.1
Sempra Energy
Schedule of Certain Subsidiaries
at December 31, 2020

Subsidiary	State of Incorporation or Other Jurisdiction
Infraestructura Energética Nova, S.A.B.	Mexico
San Diego Gas & Electric Company	California
Sempra Texas Intermediate Holding Company LLC	Delaware
Southern California Gas Company	California

Exhibit 23.1

CONSENT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

We consent to the incorporation by reference in Registration Statement No. 333-239480 on Form S-3, No. 333-252030 on Form S-4 and Nos. 333-231389, 333-200828, 333-188526, 333-182225, 333-56161, 333-50806, 333-49732, 333-121073, 333-151184, 333-155191, and 333-129774 on Form S-8 of our reports dated February 25, 2021, relating to the consolidated financial statements of Sempra Energy and subsidiaries, and the effectiveness of Sempra Energy and subsidiaries' internal control over financial reporting appearing in this Annual Report on Form 10-K of Sempra Energy for the year ended December 31, 2020.

/s/ DELOITTE & TOUCHE LLP

San Diego, California
February 25, 2021

Exhibit 23.2

CONSENT OF INDEPENDENT AUDITORS

We consent to the incorporation by reference in the Sempra Energy Registration Statement No. 333-239480 on Form S-3, No. 333-252030 on Form S-4 and Nos. 333-231389, 333-200828, 333-188526, 333-182225, 333-56161, 333-50806, 333-49732, 333-121073, 333-151184, 333-155191, and 333-129774 on Form S-8 of our report dated February 25, 2021, relating to the consolidated financial statements of Oncor Electric Delivery Holdings Company LLC and its subsidiaries appearing in this Annual Report on Form 10-K of Sempra Energy for the year ended December 31, 2020.

/s/ DELOITTE & TOUCHE LLP

Dallas, Texas
February 25, 2021

Exhibit 23.3

CONSENT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

We consent to the incorporation by reference in Registration Statement No. 333-239178 on Form S-3 of our reports dated February 25, 2021, relating to the consolidated financial statements of San Diego Gas & Electric Company and the effectiveness of San Diego Gas & Electric Company's internal control over financial reporting appearing in this Annual Report on Form 10-K of San Diego Gas & Electric Company for the year ended December 31, 2020.

/s/ DELOITTE & TOUCHE LLP

San Diego, California
February 25, 2021

Exhibit 23.4

CONSENT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

We consent to the incorporation by reference in Registration Statement No. 333-222770 on Form S-3 of our reports dated February 25, 2021, relating to the financial statements of Southern California Gas Company and the effectiveness of Southern California Gas Company's internal control over financial reporting appearing in this Annual Report on Form 10-K of Southern California Gas Company for the year ended December 31, 2020.

/s/ DELOITTE & TOUCHE LLP

San Diego, California
February 25, 2021

EXHIBIT 31.1

CERTIFICATION OF PRINCIPAL EXECUTIVE OFFICER
PURSUANT TO RULES 13a-14 AND 15d-14

I, J. Walker Martin, certify that:

1. I have reviewed this report on Form 10-K of Sempra Energy;

2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;

3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report;

4. The registrant's other certifying officer and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the registrant and have:

   (a) Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;

   (b) Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;

   (c) Evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report, based on such evaluation; and

   (d) Disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the registrant's most recent fiscal quarter (the registrant's fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the registrant's internal control over financial reporting; and

5. The registrant's other certifying officer and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant's auditors and the audit committee of the registrant's board of directors (or persons performing the equivalent functions):

   (a) All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant's ability to record, process, summarize and report financial information; and

   (b) Any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.

February 25, 2021

/s/ J. Walker Martin

J. Walker Martin
Chief Executive Officer

EXHIBIT 31.2

CERTIFICATION OF PRINCIPAL FINANCIAL OFFICER
PURSUANT TO RULES 13a-14 AND 15d-14

I, Trevor I. Mihalik, certify that:

1. I have reviewed this report on Form 10-K of Sempra Energy;

2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;

3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report;

4. The registrant's other certifying officer and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the registrant and have:

   (a) Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;

   (b) Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;

   (c) Evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report, based on such evaluation; and

   (d) Disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the registrant's most recent fiscal quarter (the registrant's fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the registrant's internal control over financial reporting; and

5. The registrant's other certifying officer and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant's auditors and the audit committee of the registrant's board of directors (or persons performing the equivalent functions):

   (a) All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant's ability to record, process, summarize and report financial information; and

   (b) Any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.

February 25, 2021

/s/ Trevor I. Mihalik
Trevor I. Mihalik
Chief Financial Officer

EXHIBIT 31.3

CERTIFICATION OF PRINCIPAL EXECUTIVE OFFICER
PURSUANT TO RULES 13a-14 AND 15d-14

I, Caroline A. Winn, certify that:

1. I have reviewed this report on Form 10-K of San Diego Gas & Electric Company;

2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;

3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report;

4. The registrant's other certifying officer and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the registrant and have:

   (a) Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;

   (b) Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;

   (c) Evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report, based on such evaluation; and

   (d) Disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the registrant's most recent fiscal quarter (the registrant's fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the registrant's internal control over financial reporting; and

5. The registrant's other certifying officer and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant's auditors and the audit committee of the registrant's board of directors (or persons performing the equivalent functions):

   (a) All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant's ability to record, process, summarize and report financial information; and

   (b) Any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.

February 25, 2021 /s/ Caroline A. Winn

Caroline A. Winn
Chief Executive Officer

EXHIBIT 31.4

CERTIFICATION OF PRINCIPAL FINANCIAL OFFICER
PURSUANT TO RULES 13a-14 AND 15d-14

I, Bruce A. Folkmann, certify that:

1. I have reviewed this report on Form 10-K of San Diego Gas & Electric Company;

2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;

3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report;

4. The registrant's other certifying officer and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the registrant and have:

   (a) Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;

   (b) Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;

   (c) Evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report, based on such evaluation; and

   (d) Disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the registrant's most recent fiscal quarter (the registrant's fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the registrant's internal control over financial reporting; and

5. The registrant's other certifying officer and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant's auditors and the audit committee of the registrant's board of directors (or persons performing the equivalent functions):

   (a) All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant's ability to record, process, summarize and report financial information; and

   (b) Any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.

February 25, 2021 /s/ Bruce A. Folkmann

Bruce A. Folkmann
Chief Financial Officer

EXHIBIT 31.5

CERTIFICATION OF PRINCIPAL EXECUTIVE OFFICER
PURSUANT TO RULES 13a-14 AND 15d-14

I, Scott D. Drury, certify that:

1. I have reviewed this report on Form 10-K of Southern California Gas Company;

2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;

3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report;

4. The registrant's other certifying officer and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the registrant and have:

   (a) Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;

   (b) Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;

   (c) Evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report, based on such evaluation; and

   (d) Disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the registrant's most recent fiscal quarter (the registrant's fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the registrant's internal control over financial reporting; and

5. The registrant's other certifying officer and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant's auditors and the audit committee of the registrant's board of directors (or persons performing the equivalent functions):

   (a) All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant's ability to record, process, summarize and report financial information; and

   (b) Any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.

February 25, 2021 /s/ Scott D. Drury

Scott D. Drury
Chief Executive Officer

EXHIBIT 31.6

CERTIFICATION OF PRINCIPAL FINANCIAL OFFICER
PURSUANT TO RULES 13a-14 AND 15d-14

I, Mia L. DeMontigny, certify that:

1. I have reviewed this report on Form 10-K of Southern California Gas Company;

2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;

3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report;

4. The registrant's other certifying officer and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the registrant and have:

   (a) Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;

   (b) Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;

   (c) Evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report, based on such evaluation; and

   (d) Disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the registrant's most recent fiscal quarter (the registrant's fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the registrant's internal control over financial reporting; and

5. The registrant's other certifying officer and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant's auditors and the audit committee of the registrant's board of directors (or persons performing the equivalent functions):

   (a) All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant's ability to record, process, summarize and report financial information; and

   (b) Any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.

February 25, 2021 /s/ Mia L. DeMontigny

Mia L. DeMontigny
Chief Financial Officer

Exhibit 32.1

CERTIFICATION OF PRINCIPAL EXECUTIVE OFFICER
PURSUANT TO 18 U.S.C. SECTION 1350

Pursuant to 18 U.S.C. Sec 1350, as created by Section 906 of the Sarbanes-Oxley Act of 2002, the undersigned principal executive officer of Sempra Energy (the "Company") certifies that:

(i) the Annual Report on Form 10-K of the Company filed with the Securities and Exchange Commission for the year ended December 31, 2020 (the "Annual Report") fully complies with the requirements of Section 13(a) or Section 15(d), as applicable, of the Securities Exchange Act of 1934, as amended; and

(ii) the information contained in the Annual Report fairly presents, in all material respects, the financial condition and results of operations of the Company.

February 25, 2021 /s/ J. Walker Martin

J. Walker Martin
Chief Executive Officer

Exhibit 32.2

CERTIFICATION OF PRINCIPAL FINANCIAL OFFICER
PURSUANT TO 18 U.S.C. SECTION 1350

Pursuant to 18 U.S.C. Sec 1350, as created by Section 906 of the Sarbanes-Oxley Act of 2002, the undersigned principal financial officer of Sempra Energy (the "Company") certifies that:

(i) the Annual Report on Form 10-K of the Company filed with the Securities and Exchange Commission for the year ended December 31, 2020 (the "Annual Report") fully complies with the requirements of Section 13(a) or Section 15(d), as applicable, of the Securities Exchange Act of 1934, as amended; and

(ii) the information contained in the Annual Report fairly presents, in all material respects, the financial condition and results of operations of the Company.

February 25, 2021 /s/ Trevor I. Mihalik

Trevor I. Mihalik
Chief Financial Officer

Exhibit 32.3

CERTIFICATION OF PRINCIPAL EXECUTIVE OFFICER
PURSUANT TO 18 U.S.C. SECTION 1350

Pursuant to 18 U.S.C. Sec 1350, as created by Section 906 of the Sarbanes-Oxley Act of 2002, the undersigned principal executive officer of San Diego Gas & Electric Company (the "Company") certifies that:

(i) the Annual Report on Form 10-K of the Company filed with the Securities and Exchange Commission for the year ended December 31, 2020 (the "Annual Report") fully complies with the requirements of Section 13(a) or Section 15(d), as applicable, of the Securities Exchange Act of 1934, as amended; and

(ii) the information contained in the Annual Report fairly presents, in all material respects, the financial condition and results of operations of the Company.

February 25, 2021 /s/ Caroline A. Winn

Caroline A. Winn
Chief Executive Officer

Exhibit 32.4

CERTIFICATION OF PRINCIPAL FINANCIAL OFFICER
PURSUANT TO 18 U.S.C. SECTION 1350

Pursuant to 18 U.S.C. Sec 1350, as created by Section 906 of the Sarbanes-Oxley Act of 2002, the undersigned principal financial officer of San Diego Gas & Electric Company (the "Company") certifies that:

(i) the Annual Report on Form 10-K of the Company filed with the Securities and Exchange Commission for the year ended December 31, 2020 (the "Annual Report") fully complies with the requirements of Section 13(a) or Section 15(d), as applicable, of the Securities Exchange Act of 1934, as amended; and

(ii) the information contained in the Annual Report fairly presents, in all material respects, the financial condition and results of operations of the Company.

February 25, 2021 /s/ Bruce A. Folkmann

Bruce A. Folkmann
Chief Financial Officer

Exhibit 32.5

CERTIFICATION OF PRINCIPAL EXECUTIVE OFFICER
PURSUANT TO 18 U.S.C. SECTION 1350

Pursuant to 18 U.S.C. Sec 1350, as created by Section 906 of the Sarbanes-Oxley Act of 2002, the undersigned principal executive officer of Southern California Gas Company (the "Company") certifies that:

(i) the Annual Report on Form 10-K of the Company filed with the Securities and Exchange Commission for the year ended December 31, 2020 (the "Annual Report") fully complies with the requirements of Section 13(a) or Section 15(d), as applicable, of the Securities Exchange Act of 1934, as amended; and

(ii) the information contained in the Annual Report fairly presents, in all material respects, the financial condition and results of operations of the Company.

February 25, 2021 /s/ Scott D. Drury

Scott D. Drury
Chief Executive Officer

Exhibit 32.6

CERTIFICATION OF PRINCIPAL FINANCIAL OFFICER
PURSUANT TO 18 U.S.C. SECTION 1350

Pursuant to 18 U.S.C. Sec 1350, as created by Section 906 of the Sarbanes-Oxley Act of 2002, the undersigned principal financial officer of Southern California Gas Company (the "Company") certifies that:

(i) the Annual Report on Form 10-K of the Company filed with the Securities and Exchange Commission for the year ended December 31, 2020 (the "Annual Report") fully complies with the requirements of Section 13(a) or Section 15(d), as applicable, of the Securities Exchange Act of 1934, as amended; and

(ii) the information contained in the Annual Report fairly presents, in all material respects, the financial condition and results of operations of the Company.

February 25, 2021 /s/ Mia L. DeMontigny

Mia L. DeMontigny
Chief Financial Officer

ONCOR ELECTRIC DELIVERY HOLDINGS COMPANY LLC

CONSOLIDATED FINANCIAL STATEMENTS

AS OF DECEMBER 31, 2020 AND 2019 AND FOR THE THREE YEARS IN THE PERIOD ENDED DECEMBER 31, 2020

AND

INDEPENDENT AUDITORS' REPORT

GLOSSARY

When the following terms and abbreviations appear in the text of this report, they have the meanings indicated below.

acquisition accounting	The acquisition method of accounting for a business combination as prescribed by GAAP, whereby the cost or "acquisition price" of a business combination, including the amount paid for the equity and direct transaction costs, are allocated to identifiable assets and liabilities (including intangible assets) based upon their fair values. The excess of the purchase price over the fair values of assets and liabilities is recorded as goodwill
AMS	Advanced metering system
ASU	Accounting Standards Update
CARES Act	Federal "Coronavirus Aid, Relief, and Economic Security" Act, enacted on March 27, 2020, as amended
Code	The Internal Revenue Code of 1986, as amended
COVID-19	Coronavirus Disease 2019, the disease caused by the novel strain of coronavirus reported to have surfaced in late 2019
CP Notes	Unsecured commercial paper notes issued under Oncor's CP Program
CP Program	Commercial paper program
Credit Facility	Revolving Credit Agreement, dated as of November 17, 2017, among Oncor, as borrower, the lenders from time to time party thereto, JPMorgan Chase Bank, N.A., as administrative agent and swingline lender, and the fronting banks from time to time party thereto, as amended
DCRF	Distribution cost recovery factor
Deed of Trust	Deed of Trust, Security Agreement and Fixture Filing, dated as of May 15, 2008, made by Oncor to and for the benefit of The Bank of New York Mellon Trust Company, N.A. (as successor to The Bank of New York Mellon, formerly The Bank of New York), as collateral agent, as amended
Disinterested Director	Refers to a member of our and Oncor's board of directors who is a "disinterested director" pursuant to each company's limited liability company agreement. The limited liability company agreements of Oncor and Oncor Holdings provide that disinterested directors shall (i) be independent directors in all material respects under the rules of the New York Stock Exchange in relation to Sempra or its subsidiaries and affiliated entities and any entity with a direct or indirect ownership interest in Oncor or Oncor Holdings, and (ii) shall have no material relationship with Sempra or its subsidiaries or affiliated entities or any entity with a direct or indirect ownership interest in Oncor or Oncor Holdings, currently or within the previous ten years
EECRF	Energy efficiency cost recovery factor
EFH Bankruptcy Proceedings	Refers to voluntary petitions for relief under Chapter 11 of the U.S. Bankruptcy Code filed in U.S. Bankruptcy Court for the District of Delaware on April 29, 2014 by EFH Corp. and the substantial majority of its direct and indirect subsidiaries. The Oncor Ring-Fenced Entities were not parties to the EFH Bankruptcy Proceedings
EFH Corp.	Refers to Energy Future Holdings Corp., a holding company, and/or its subsidiaries, depending on context. Renamed Sempra Texas Holdings Corp. upon closing of the Sempra Acquisition

EFIH	Refers to Energy Future Intermediate Holding Company LLC, a direct, wholly owned subsidiary of EFH Corp. and the direct parent of Oncor Holdings. Renamed Sempra Texas Intermediate Holding Company LLC upon closing of the Sempra Acquisition
ERCOT	Electric Reliability Council of Texas, Inc., the independent system operator and the regional coordinator of various electricity systems within Texas
ERISA	Employee Retirement Income Security Act of 1974, as amended
FASB	Financial Accounting Standards Board
FERC	U.S. Federal Energy Regulatory Commission
Fitch	Fitch Ratings, Ltd. (a credit rating agency)
GAAP	Generally accepted accounting principles of the U.S.
InfraREIT	InfraREIT, Inc., which was merged with and into a wholly owned subsidiary of Oncor on May 16, 2019 in the InfraREIT Acquisition, with the surviving entity being a wholly owned subsidiary of Oncor renamed Oncor NTU Holdings Company LLC
InfraREIT Acquisition	Refers to Oncor's acquisition of all of the equity interests of InfraREIT and InfraREIT Partners on May 16, 2019 pursuant to the transactions contemplated by the InfraREIT Merger Agreement and the SDTS-SU Asset Exchange
InfraREIT Merger Agreement	Refers to the Agreement and Plan of Merger, dated as of October 18, 2018, among Oncor, 1912 Merger Sub LLC (a wholly owned, subsidiary of Oncor), Oncor T&D Partners, LP (a wholly owned indirect subsidiary of Oncor), InfraREIT and InfraREIT Partners, which was completed on May 16, 2019
InfraREIT Partners	InfraREIT Partners, LP, a subsidiary of InfraREIT, which, as a result of the InfraREIT Acquisition, became an indirect wholly owned subsidiary of Oncor and was renamed Oncor NTU Partnership LP
IRS	U.S. Internal Revenue Service
kV	Kilovolts
kWh	Kilowatt-hours
LIBOR	London Interbank Offered Rate, an interest rate at which banks can borrow funds, in marketable size, from other banks in the London interbank market
LP&L	Lubbock Power & Light
Moody's	Moody's Investors Service, Inc. (a credit rating agency)
MW	Megawatts
MWh	Megawatt-hours
NERC	North American Electric Reliability Corporation
Note Purchase Agreement	Refers to the Note Purchase Agreement, dated May 6, 2019, pursuant to which Oncor issued its 3.86% Senior Notes, Series A, due December 3, 2025 and 3.86% Senior Notes, Series B, due January 14, 2026
NTU	Oncor Electric Delivery Company NTU LLC (formerly SDTS until the closing of the InfraREIT Acquisition), a wholly owned, indirect subsidiary of Oncor acquired as part of the InfraREIT Acquisition
Oncor	Oncor Electric Delivery Company LLC, a direct, majority-owned subsidiary of Oncor Holdings
Oncor Holdings	Oncor Electric Delivery Holdings Company LLC, the direct majority owner (80.25% equity interest) of Oncor. Oncor Holdings is wholly owned by STIH
Oncor OPEB Plans	Refers to plans sponsored by Oncor that offer certain postretirement health care and life insurance benefits to eligible current and former Oncor employees, certain eligible current and former EFH Corp. and Vistra employees, and their eligible dependents
Oncor Retirement Plan	Refers to a defined benefit pension plan sponsored by Oncor

Oncor Ring-Fenced Entities	Refers to Oncor Holdings and its direct and indirect subsidiaries, including Oncor and Oncor's direct and indirect subsidiaries
OPEB	Other postretirement employee benefits
PUCT	Public Utility Commission of Texas
PURA	Texas Public Utility Regulatory Act
REP	Retail electric provider
ROU	Right-of-use
S&P	S&P Global Ratings, a division of S&P Global Inc. (a credit rating agency)
SDTS	Sharyland Distribution & Transmission Services, L.L.C., an indirect subsidiary of InfraREIT, which was renamed Oncor Electric Delivery Company NTU LLC in connection with the InfraREIT Acquisition
SDTS-SU Asset Exchange	Refers to the transactions contemplated by the Agreement and Plan of Merger, dated as of October 18, 2018, by and among SU, SDTS and Oncor pursuant to which SU and SDTS exchanged certain assets as a condition to the closing of the transactions contemplated by the InfraREIT Merger Agreement
Sempra	Sempra Energy
Sempra Acquisition	Refers to the transactions contemplated by the plan of reorganization confirmed in the EFH Bankruptcy Proceedings and that certain Agreement and Plan of Merger, dated as of August 21, 2017, by and among EFH Corp., EFIH, Sempra and one of Sempra's wholly owned subsidiaries, pursuant to which Sempra indirectly acquired the 80.03% of Oncor's membership interests owned indirectly by EFH Corp. and EFIH. The transactions closed March 9, 2018
Sempra-Sharyland Transaction	Refers to Sempra's May 16, 2019 acquisition of an indirect 50% ownership interest in Sharyland Holdings, L.P.
Sempra Order	Refers to the final order issued by the PUCT in PUCT Docket No. 47675 approving the Sempra Acquisition
Sharyland	Refers to Sharyland Utilities, L.L.C. (formerly SU), a subsidiary of Sharyland Holdings, L.P
Sponsor Group	Refers collectively to certain investment funds affiliated with Kohlberg Kravis Roberts & Co. L.P., TPG Global, LLC and GS Capital Partners, an affiliate of Goldman, Sachs & Co., that controlled Texas Holdings
STH	Refers to Sempra Texas Holdings Corp., a Texas corporation (formerly EFH Corp. prior to the closing of the Sempra Acquisition), which is wholly owned by Sempra and the direct parent of STIH
STIH	Refers to Sempra Texas Intermediate Holding Company LLC., a Delaware limited liability company (formerly EFIH prior to the closing of the Sempra Acquisition), and the sole member of Oncor Holdings following the Sempra Acquisition
SU	Refers to Sharyland Utilities, L.P., which was converted into Sharyland on May 16, 2019
Supplemental Retirement Plan	Refers to the Oncor Supplemental Retirement Plan
TCJA	"Tax Cuts and Jobs Act," enacted on December 22, 2017
TCOS	Transmission cost of service
TCRF	Transmission cost recovery factor
Texas Holdings	Refers to Texas Energy Future Holdings Limited Partnership, a limited partnership controlled by the Sponsor Group that owned substantially all of the common stock of EFH Corp. prior to the closing of the Sempra Acquisition
Texas margin tax	A privilege tax imposed on taxable entities chartered/organized or doing business in the State of Texas that, for accounting purposes, is reported as an income tax

Texas Transmission	Refers to Texas Transmission Investment LLC, a limited liability company that owns a 19.75% equity interest in Oncor. Texas Transmission is an entity indirectly owned by OMERS Administration Corporation (acting through its infrastructure investment entity, OMERS Infrastructure Management Inc.) and GIC Private Limited
U.S.	United States of America
Vistra	Refers to Vistra Energy Corp., and/or its subsidiaries, depending on context, formerly a subsidiary of EFH Corp. until October 2016
Vistra Retirement Plan	Refers to a defined benefit pension plan sponsored by an affiliate of Vistra

These consolidated financial statements occasionally make references to Oncor Holdings or Oncor when describing actions, rights or obligations of their respective subsidiaries. References to “we,” “our,” “us” and “the company” are to Oncor Holdings and/or its direct or indirect subsidiaries as apparent in the context. These references reflect the fact that the subsidiaries are consolidated with their respective parent companies for financial reporting purposes. However, these references should not be interpreted to imply that the parent company is actually undertaking the action or has the rights or obligations of the relevant subsidiary company or that the subsidiary company is undertaking an action or has the rights or obligations of its parent company or any other affiliate.

INDEPENDENT AUDITORS' REPORT

To the Board of Directors and Member of Oncor Electric Delivery Holdings Company LLC

We have audited the accompanying consolidated financial statements of Oncor Electric Delivery Holdings Company LLC and its subsidiaries (the "Company"), which comprise the consolidated balance sheets as of December 31, 2020 and 2019, and the related consolidated statements of income, comprehensive income, membership interests, and cash flows for each of the three years in the period ended December 31, 2020, and the related notes to the consolidated financial statements.

Management's Responsibility for the Consolidated Financial Statements

Management is responsible for the preparation and fair presentation of these consolidated financial statements in accordance with accounting principles generally accepted in the United States of America; this includes the design, implementation, and maintenance of internal control relevant to the preparation and fair presentation of consolidated financial statements that are free from material misstatement, whether due to fraud or error.

Auditors' Responsibility

Our responsibility is to express an opinion on these consolidated financial statements based on our audits. We conducted our audits in accordance with auditing standards generally accepted in the United States of America. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the consolidated financial statements are free from material misstatement.

An audit involves performing procedures to obtain audit evidence about the amounts and disclosures in the consolidated financial statements. The procedures selected depend on the auditor's judgment, including the assessment of the risks of material misstatement of the consolidated financial statements, whether due to fraud or error. In making those risk assessments, the auditor considers internal control relevant to the Company's preparation and fair presentation of the consolidated financial statements in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the Company's internal control. Accordingly, we express no such opinion. An audit also includes evaluating the appropriateness of accounting policies used and the reasonableness of significant accounting estimates made by management, as well as evaluating the overall presentation of the consolidated financial statements.

We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our audit opinion.

Opinion

In our opinion, the consolidated financial statements referred to above present fairly, in all material respects, the financial position of Oncor Electric Delivery Holdings Company LLC and its subsidiaries as of December 31, 2020 and 2019, and the results of their operations and their cash flows for each of the three years in the period ended December 31, 2020, in accordance with accounting principles generally accepted in the United States of America.

/s/ Deloitte & Touche LLP

Dallas, Texas

February 25, 2021

ONCOR ELECTRIC DELIVERY HOLDINGS COMPANY LLC
STATEMENTS OF CONSOLIDATED INCOME
(millions of dollars)

	Year Ended December 31,		
	2020	**2019**	**2018**
Operating revenues (Note 3)	$ 4,511	$ 4,347	$ 4,101
Operating expenses:			
Wholesale transmission service	975	1,005	962
Operation and maintenance (Note 12)	925	899	875
Depreciation and amortization	786	723	671
Income taxes (Notes 1, 4 and 12)	149	138	152
Taxes other than amounts related to income taxes	538	508	496
Total operating expenses	3,373	3,273	3,156
Operating income	1,138	1,074	945
Other deductions and (income) - net (Note 13)	33	63	84
Nonoperating income tax benefit (Note 4)	(3)	(7)	(10)
Interest expense and related charges (Note 13)	405	375	351
Net income	703	643	520
Net income attributable to noncontrolling interests	(141)	(129)	(107)
Net income attributable to Oncor Holdings	$ 562	$ 514	$ 413

ONCOR ELECTRIC DELIVERY HOLDINGS COMPANY LLC
STATEMENTS OF CONSOLIDATED COMPREHENSIVE INCOME
(millions of dollars)

	Year Ended December 31,		
	2020	**2019**	**2018**
Net income	$ 703	$ 643	$ 520
Other comprehensive income (loss):			
Cash flow hedges – derivative value net gain (loss) recognized in net income (net of tax expense (benefit) of ($5), $- and $1) (Notes 1 and 8)	(21)	2	2
Defined benefit pension plans (net of tax expense of $2, $4 and $6) (Notes 8 and 10)	7	22	(25)
Total other comprehensive income (loss)	(14)	24	(23)
Comprehensive income	689	667	497
Comprehensive income attributable to noncontrolling interests	(139)	(134)	(95)
Comprehensive income attributable to Oncor Holdings	$ 550	$ 533	$ 402

See Notes to Financial Statements.

ONCOR ELECTRIC DELIVERY HOLDINGS COMPANY LLC
STATEMENTS OF CONSOLIDATED CASH FLOWS
(millions of dollars)

	Year Ended December 31,		
	2020	**2019**	**2018**
Cash flows — operating activities:			
Net income	$ 703	$ 643	$ 520
Adjustments to reconcile net income to cash provided by operating activities:			
Depreciation and amortization, including regulatory amortization	866	806	777
Deferred income taxes – net	47	58	29
Other – net	(1)	(4)	(3)
Changes in operating assets and liabilities:	-		
Accounts receivable — trade	(78)	(53)	68
Inventories	4	(30)	(25)
Accounts payable — trade	(29)	21	30
Regulatory accounts related to reconcilable tariffs (Note 2)	33	(44)	66
Other — assets	(78)	(208)	28
Other — liabilities	58	76	(26)
Cash provided by operating activities	1,525	1,265	1,464
Cash flows — financing activities:			
Issuances of long-term debt (Note 6)	1,810	2,460	1,150
Repayments of long-term debt (Note 6)	(1,164)	(1,094)	(825)
Proceeds of business acquisition bridge loan	-	600	-
Repayment of business acquisition bridge loan	-	(600)	-
Net increase (decrease) in short-term borrowings (Note 5)	24	(882)	(137)
Equity contribution from member	632	1,587	256
Equity contribution from noncontrolling interest	156	391	54
Distributions to member (Note 8)	(286)	(246)	(149)
Distributions to noncontrolling interests	(70)	(63)	(42)
Purchase of 0.22% interest in Oncor from noncontrolling interest	-	-	(26)
Debt discount, financing and reacquisition costs – net	(54)	(39)	(14)
Cash provided by financing activities	1,048	2,114	267
Cash flows — investing activities:			
Capital expenditures (Note 12)	(2,540)	(2,097)	(1,767)
Business acquisition (Note 14)	-	(1,324)	-
Expenditures for third party in joint project	(96)	-	-
Reimbursement from third party in joint project	66	-	-
Other – net	20	43	18
Cash used in investing activities	(2,550)	(3,378)	(1,749)
Net change in cash and cash equivalents	23	1	(18)
Cash and cash equivalents — beginning balance	4	3	21
Cash and cash equivalents — ending balance	$ 27	$ 4	$ 3

See Notes to Financial Statements.

ONCOR ELECTRIC DELIVERY HOLDINGS COMPANY LLC
CONSOLIDATED BALANCE SHEETS
(millions of dollars)

	At December 31,	
	2020	**2019**
ASSETS		
Current assets:		
Cash and cash equivalents	$ 27	$ 4
Trade accounts receivable – net (Note 13)	760	661
Income taxes receivable from member (Note 12)	14	4
Materials and supplies inventories — at average cost	144	148
Prepayments and other current assets	100	96
Total current assets	1,045	913
Investments and other property (Note 13)	142	133
Property, plant and equipment – net (Note 13)	21,225	19,370
Goodwill (Notes 1 and 13)	4,628	4,628
Regulatory assets (Note 2)	1,779	1,775
Operating lease ROU, third-party joint project and other assets (Notes 1 and 7)	248	106
Total assets	$ 29,067	$ 26,925
LIABILITIES AND MEMBERSHIP INTERESTS		
Current liabilities:		
Short-term borrowings (Note 5)	$ 70	$ 46
Long-term debt due currently (Note 6)	-	608
Trade accounts payable	392	394
Income taxes payable to member (Note 12)	23	22
Accrued taxes other than income taxes	269	236
Accrued interest	87	83
Operating lease and other current liabilities (Note 7)	279	237
Total current liabilities	1,120	1,626
Long-term debt, less amounts due currently (Note 6)	9,229	8,017
Accumulated deferred income taxes (Notes 1, 4 and 12)	1,312	1,223
Regulatory liabilities (Note 2)	2,855	2,793
Employee benefit obligations (Note 10)	1,808	1,834
Operating lease, third-party joint project and other obligations (Note 13)	407	258
Total liabilities	16,731	15,751
Commitments and contingencies (Note 7)		
Membership interests (Note 8):		
Capital account	9,701	8,793
Accumulated other comprehensive loss	(102)	(92)
Oncor Holdings membership interest	9,599	8,701
Noncontrolling interests in subsidiary	2,737	2,473
Total membership interests	12,336	11,174
Total liabilities and membership interests	$ 29,067	$ 26,925

See Notes to Financial Statements.

ONCOR ELECTRIC DELIVERY HOLDINGS COMPANY LLC
STATEMENTS OF CONSOLIDATED MEMBERSHIP INTERESTS
(millions of dollars)

	Year Ended December 31,		
	2020	**2019**	**2018**
Oncor Holdings Membership Interests (Note 8)			
Capital account:			
Balance at beginning of period	$ 8,793	$ 6,920	$ 6,411
Net income attributable to Oncor Holdings	562	514	413
Distributions to member	(286)	(246)	(149)
Fair value of purchase of 0.22% interest in Oncor from noncontrolling interest over carrying value	-	-	(11)
Equity contribution from member	632	1,587	256
ASU 2018-02 stranded tax effects (Note 1)	-	18	-
Balance at end of period	9,701	8,793	6,920
Accumulated other comprehensive income (loss), net of tax effects:			
Balance at beginning of period	(92)	(92)	(81)
Net effects of cash flow hedges (net of tax expense (benefit) of ($4), $- and $1)	(16)	1	2
Defined benefit pension plans (net of tax of $-, $4 and $3)	6	17	(13)
ASU 2018-02 stranded tax effects (Note 1)	-	(18)	-
Balance at end of period	(102)	(92)	(92)
Oncor Holdings membership interests at end of period	$ 9,599	$ 8,701	$ 6,828
Noncontrolling interests in subsidiary (Note 9):			
Balance at beginning of period	$ 2,473	$ 1,951	$ 1,822
Net income attributable to noncontrolling interests	141	129	107
Distributions to noncontrolling interests	(70)	(63)	(42)
Purchase of 0.22% interest in Oncor from noncontrolling interest	-	-	(15)
Equity contribution from noncontrolling interests	156	391	54
Change related to future tax distributions from Oncor	39	60	37
Net effects of cash flow hedges (net of tax expense (benefit) of ($1), $- and $-)	(4)	-	-
Defined benefit pension plans (net of tax expense of $-, $- and $9)	2	6	(12)
ASU 2018-02 stranded tax effects (Note 1)	-	(1)	-
Noncontrolling interests in subsidiary at end of period	$ 2,737	$ 2,473	$ 1,951
Total membership interests at end of period	$ 12,336	$ 11,174	$ 8,779

See Notes to Financial Statements.

ONCOR ELECTRIC DELIVERY HOLDINGS COMPANY LLC
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

1. DESCRIPTION OF BUSINESS AND SIGNIFICANT ACCOUNTING POLICIES

Description of Business

References in this report to "we," "our," "us" and "the company" are to Oncor Holdings and/or its direct or indirect subsidiaries as apparent in the context. See "Glossary" for definition of terms and abbreviations.

We are a Dallas, Texas-based holding company whose financial statements are comprised almost entirely of the operations of our direct, majority (80.25%) owned subsidiary, Oncor. Oncor is a regulated electricity transmission and distribution company principally engaged in providing delivery services to REPs that sell power in the north-central, eastern and western parts of Texas. Oncor Holdings is indirectly wholly owned by Sempra. We are managed as an integrated business; consequently, there are no separate reportable business segments.

Our consolidated financial statements includes the results of Oncor's wholly owned indirect subsidiary, NTU, which Oncor acquired as part of the InfraREIT Acquisition that closed on May 16, 2019. NTU is a regulated utility that primarily provides electricity transmission delivery service in the north-central, western and panhandle regions of Texas.

Ring-Fencing Measures

Since 2007, various ring-fencing measures have been taken to enhance our credit quality and the separateness between the Oncor Ring-Fenced Entities and entities with ownership interests in Oncor or Oncor Holdings. These ring-fencing measures serve to mitigate the Oncor Ring-Fenced Entities' credit exposure to owners of Oncor and Oncor Holdings, and to reduce the risk that the assets and liabilities of Oncor Ring-Fenced Entities would be substantively consolidated with the assets and liabilities of any direct or indirect owners of Oncor and Oncor Holdings in connection with a bankruptcy of any such entities. These measures include the November 2008 sale of 19.75% of Oncor's equity interests to Texas Transmission.

In March 2018, Sempra indirectly acquired Oncor Holdings through the Sempra Acquisition. The Sempra Acquisition was consummated after obtaining the approval of the bankruptcy court in the EFH Bankruptcy Proceedings and the PUCT. The PUCT approval was obtained in Docket No. 47675, and the final order issued in that docket (Sempra Order) outlines certain ring-fencing measures, governance mechanisms and restrictions that apply after the Sempra Acquisition. As a result of these ring-fencing measures, Sempra does not control Oncor or Oncor Holdings, and the ring-fencing measures limit Sempra's ability to direct the management, policies and operations of Oncor and Oncor Holdings, including the deployment or disposition of Oncor's assets, declarations of dividends, strategic planning and other important corporate issues and actions.

None of the assets of the Oncor Ring-Fenced Entities are available to satisfy the debt or obligations of any Sempra entity or any other direct or indirect owner of Oncor or Oncor Holdings. The assets and liabilities of the Oncor Ring-Fenced Entities are separate and distinct from those of any Sempra entities and any other direct or indirect owner of Oncor or Oncor Holdings. We do not bear any liability for debt or contractual obligations of Sempra and its affiliates or any other direct or indirect owner of Oncor or Oncor Holdings, and vice versa. Accordingly, our operations are conducted, and our cash flows are managed, independently from Sempra and its affiliates and any other direct or indirect owner of Oncor or Oncor Holdings.

Oncor and Oncor Holdings are each a limited liability company governed by a board of directors, not its members. The Sempra Order and Oncor's limited liability company agreement require that the board of directors of Oncor consist of thirteen members, constituted as follows:

- seven Disinterested Directors, who (i) shall be independent directors in all material respects under the rules of the New York Stock Exchange in relation to Sempra or its subsidiaries and affiliated entities and any entity with a direct or indirect ownership interest in Oncor or Oncor Holdings, and (ii) shall have no material relationship with Sempra or its subsidiaries or affiliated entities or any entity with a direct or indirect ownership interest in Oncor or Oncor Holdings, currently or within the previous ten years;
- two members designated by Sempra (through Oncor Holdings);
- two members designated by Texas Transmission; and
- two current or former officers of Oncor (the Oncor Officer Directors), currently Robert S. Shapard and E. Allen Nye, Jr., who are Oncor's Chairman of the Board and Chief Executive, respectively.

Until March 9, 2028, in order for a current or former officer of Oncor to be eligible to serve as an Oncor Officer Director, the officer cannot have worked for Sempra or any of its affiliates (excluding Oncor Holdings and Oncor) or any other entity with a direct or indirect ownership interest in Oncor or Oncor Holdings in the ten-year period prior to serving as an Oncor Officer Director. Oncor Holdings, at the direction of STIH, has the right to nominate and/or seek the removal of the Oncor Officer Directors, subject to approval by a majority of the Oncor board of directors. STIH is a wholly owned indirect subsidiary of, and controlled by, Sempra following the Sempra Acquisition.

The Sempra Order and our limited liability company agreement require that the board of directors of Oncor Holdings consist of eleven members, made up of six Disinterested Directors, two current or former officers of Oncor Holdings (currently Mr. Shapard and Mr. Nye) and two members designated by Sempra (through STIH).

In addition, the Sempra Order provides that the boards of directors of Oncor and Oncor Holdings cannot be overruled by the board of Sempra or any of its subsidiaries on dividend policy, the issuance of dividends or other distributions (except for contractual tax payments), debt issuance, capital expenditures, operation and maintenance expenditures, management and service fees, and appointment or removal of board members, provided that certain actions may also require the additional approval of the Oncor Holdings board of directors. The Sempra Order also provides that any changes to the size, composition, structure or rights of the boards of directors of each of Oncor Holdings and Oncor must first be approved by the PUCT. In addition, if Sempra acquires Texas Transmission's interest in Oncor, the two board positions on Oncor's board of directors that Texas Transmission is entitled to appoint will be eliminated and the size of Oncor's board of directors will be reduced by two.

Additional regulatory commitments, governance mechanisms and restrictions provided in the Sempra Order and the limited liability company agreements of Oncor and Oncor Holdings to ring-fence Oncor and Oncor Holdings from their owners include, among others:

- A majority of the Disinterested Directors of Oncor and the directors designated by Texas Transmission that are present and voting (of which at least one must be present and voting) must approve any Oncor annual or multi-year budget if the aggregate amount of capital expenditures or operating and maintenance expenditures in such budget is more than a 10% increase or decrease from the corresponding amounts of such expenditures in the budget for the preceding fiscal year or multi-year period, as applicable;

- Oncor and Oncor Holdings may not pay any dividends or make any other distributions (except for contractual tax payments) if a majority of its Disinterested Directors determines that it is in the best interests of the company to retain such amounts to meet expected future requirements;

- At all times, Oncor will remain in compliance with the debt-to-equity ratio established by the PUCT from time to time for ratemaking purposes, and Oncor will not pay dividends or other distributions (except for contractual tax payments), if that payment would cause its debt-to-equity ratio to exceed the debt-to-equity ratio approved by the PUCT;

- If the credit rating on Oncor's senior secured debt by any of the three major rating agencies falls below BBB (or the equivalent), Oncor will suspend dividends and other distributions (except for contractual tax payments), unless otherwise allowed by the PUCT;

- Without the prior approval of the PUCT, neither Sempra nor any of its affiliates (excluding Oncor) will incur, guaranty or pledge assets in respect of any indebtedness that is dependent on the revenues of Oncor in more than a proportionate degree than the other revenues of Sempra or on the membership interests of Oncor, and there will be no debt at STH or STIH at any time following the closing of the Sempra Acquisition;

- Neither Oncor nor Oncor Holdings will lend money to or borrow money from Sempra or any of its affiliates (other than Oncor subsidiaries), or any entity with a direct or indirect ownership interest in Oncor or Oncor Holdings, and neither Oncor nor Oncor Holdings will share credit facilities with Sempra or any of its affiliates (other than Oncor subsidiaries), or any entity with a direct or indirect ownership interest in Oncor or Oncor Holdings;

- There must be maintained certain "separateness measures" that reinforce the legal and financial separation of Oncor and Oncor Holdings from their owners, including a requirement that dealings between Oncor, Oncor Holdings and their subsidiaries with Sempra, any of Sempra's other affiliates or any entity with a direct or indirect ownership interest in Oncor or Oncor Holdings, must be on an arm's-length basis, limitations on affiliate transactions, separate recordkeeping requirements and a prohibition on Sempra or its affiliates pledging Oncor assets or membership interests for any entity other than Oncor; and

- Sempra will continue to hold indirectly at least 51% of the ownership interests in Oncor and Oncor Holdings for at least five years following the closing of the Sempra Acquisition, unless otherwise specifically authorized by the PUCT.

Basis of Presentation

Our consolidated financial statements have been prepared in accordance with GAAP governing rate-regulated operations. All dollar amounts in the financial statements and tables in the notes are stated in millions of U.S. dollars unless otherwise indicated. Subsequent events have been evaluated through the date these consolidated financial statements were issued.

Use of Estimates

Preparation of our financial statements requires management to make estimates and assumptions about future events that affect the reporting of assets and liabilities at the balance sheet dates and the reported amounts of revenue and expense, including fair value measurements. In the event estimates and/or assumptions prove to be different from actual amounts, adjustments are made in subsequent periods to reflect more current information. No material adjustments were made to previous estimates or assumptions during the current year.

Revenue Recognition

Oncor's revenue is billed under tariffs approved by the PUCT and the majority of revenues are related to providing electric delivery service to consumers. Tariff rates are designed to recover the cost of providing electric delivery service including a reasonable rate of return on invested capital. Revenues are generally recognized when the underlying service has been provided in an amount prescribed by the related tariff. See Note 3 for additional information regarding revenues.

Impairment of Long-Lived Assets and Goodwill

We evaluate long-lived assets (including intangible assets with finite lives) for impairment whenever events or changes in circumstances indicate that the carrying amount of an asset may not be recoverable. We also evaluate goodwill for impairment annually on October 1 and whenever events or changes in circumstances indicate that an impairment may exist. The determination of the existence of these and other indications of impairment involves judgments that are subjective in nature and may require the use of estimates in forecasting future results and cash flows.

For our annual goodwill impairment testing, we have the option to first make a qualitative assessment of whether it is more likely than not that our enterprise fair value is less than our enterprise carrying amount before applying the quantitative goodwill impairment test. If we elect to perform the qualitative assessment, we evaluate relevant events and circumstances, including but not limited to, macroeconomic conditions, industry and market considerations, cost factors and the overall financial performance. If, after assessing these qualitative factors, we determine that it is more-likely-than-not that our enterprise fair value is less than our enterprise carrying amount, then we perform a quantitative goodwill impairment test. If, after performing the quantitative goodwill impairment test, we determine that goodwill is impaired, we record the amount of goodwill impairment as the excess of carrying amount over fair value, not to exceed the carrying amount of goodwill.

In each of 2020, 2019 and 2018, we concluded, based on a qualitative assessment, that our estimated enterprise fair value was more likely than not greater than our carrying value. As a result, no quantitative goodwill impairment tests were required and no impairments were recognized.

Income Taxes

Oncor is a partnership for US federal income tax purposes. Our tax sharing agreement with Oncor and STH, as successor to EFH Corp., includes Texas Transmission. The tax sharing agreement provides for the calculation of tax liability substantially as if we and Oncor file our own income tax returns, and requires tax payments to members determined on that basis (without duplication for any income taxes paid by our subsidiaries). Deferred income taxes are provided for temporary differences between our book and tax bases of assets and liabilities.

Amounts of deferred income tax assets and liabilities, as well as current and noncurrent accruals, are determined in accordance with the provisions of accounting guidance for income taxes and for uncertainty in income taxes. The accounting guidance for rate-regulated enterprises requires the recognition of regulatory assets or liabilities if it is probable such deferred tax amounts will be recovered from, or returned to customers in future rates. Investment tax credits are amortized to income over the estimated lives of the related properties.

We classify any interest and penalties expense related to uncertain tax positions as current income taxes as discussed in Note 4.

Defined Benefit Pension Plans and Oncor OPEB Plans

Oncor has liabilities under pension plans that offer benefits based on either a traditional defined benefit formula or a cash balance formula and Oncor OPEB plans that offer certain health care and life insurance benefits to eligible employees and their eligible dependents upon the retirement of such employees. Costs of pension and Oncor OPEB plans are dependent upon numerous factors, assumptions and estimates. See Note 10 for additional information regarding pension and OPEB plans.

System of Accounts

Our accounting records have been maintained in accordance with the FERC Uniform System of Accounts as adopted by the PUCT.

Property, Plant and Equipment

Properties are stated at original cost. The cost of self-constructed property additions includes materials and both direct and indirect labor and applicable overhead and an allowance for funds used during construction.

Depreciation of property, plant and equipment is calculated on a straight-line basis over the estimated service lives of the properties based on depreciation rates approved by the PUCT. As is common in the industry, depreciation expense is recorded using composite depreciation rates that reflect blended estimates of the lives of major asset groups as compared to depreciation expense calculated on a component asset-by-asset basis. Depreciation rates include plant removal costs as a component of depreciation expense, consistent with regulatory treatment. Actual removal costs incurred are charged to accumulated depreciation. Accrued removal costs in excess of incurred removal costs are reclassified as a regulatory liability to retire assets in the future.

Regulatory Assets and Liabilities

Oncor is subject to rate regulation and our financial statements reflect regulatory assets and liabilities in accordance with accounting standards related to the effect of certain types of regulation. Regulatory assets and liabilities represent probable future revenues that will be recovered from or refunded to customers through the ratemaking process based on PURA and/or the PUCT's orders, precedents or substantive rules. Rate regulation is premised on the full recovery of prudently incurred costs and a reasonable rate of return on invested capital subject to PUCT review for reasonableness. Regulatory decisions can have an impact on the recovery of costs, the rate earned on invested capital and the timing and amount of assets to be recovered by rates. See Note 2 for more information regarding regulatory assets and liabilities.

Franchise Taxes

Franchise taxes are assessed to Oncor by local governmental bodies, based on kWh delivered and are a principal component of taxes other than income taxes as reported in the income statement. Franchise taxes are not a "pass through" item. The rates Oncor charges customers are intended to recover the franchise taxes, but Oncor is not acting as an agent to collect the taxes from customers.

Allowance for Funds Used During Construction (AFUDC)

AFUDC is a regulatory cost accounting procedure whereby both interest charges on borrowed funds and a return on equity capital used to finance construction are included in the recorded cost of utility plant and equipment being constructed. AFUDC is capitalized on all projects involving construction periods lasting greater than thirty days. The interest portion of capitalized AFUDC is accounted for as a reduction to interest expense and the equity portion of capitalized AFUDC is accounted for as other income. See Note 13 for detail of amounts reducing interest expense and increasing other income.

Cash and Cash Equivalents

For purposes of reporting cash and cash equivalents, highly liquid investments with original maturities of three months or less at the date of purchase are considered to be cash equivalents.

Fair Value of Nonderivative Financial Instruments

The carrying amounts for financial assets classified as current assets and the carrying amounts for financial liabilities classified as current liabilities approximate fair value due to the short maturity of such instruments. The fair values of other financial instruments, for which carrying amounts and fair values have not been presented, are not materially different than their related carrying amounts. The following discussion of fair value accounting standards applies primarily to our determination of the fair value of assets in the pension and Oncor OPEB plans' trusts (see Note 10) and long-term debt (see Note 6).

Accounting standards related to the determination of fair value define fair value as the price that would be received to sell an asset or paid to transfer a liability in an orderly transaction between market participants at the measurement date. We use a “mid-market” valuation convention (the mid-point price between bid and ask prices) as a practical expedient to measure fair value for the majority of our assets and liabilities subject to fair value measurement on a recurring basis. We primarily use the market approach for recurring fair value measurements and use valuation techniques to maximize the use of observable inputs and minimize the use of unobservable inputs.

We categorize our assets and liabilities recorded at fair value based upon the following fair value hierarchy:

- Level 1 valuations use quoted prices in active markets for identical assets or liabilities that are accessible at the measurement date. An active market is a market in which transactions for the asset or liability occur with sufficient frequency and volume to provide pricing information on an ongoing basis.

- Level 2 valuations use inputs that, in the absence of actively quoted market prices, are observable for the asset or liability, either directly or indirectly. Level 2 inputs include: (a) quoted prices for similar assets or liabilities in active markets, (b) quoted prices for identical or similar assets or liabilities in markets that are not active, (c) inputs other than quoted prices that are observable for the asset or liability such as interest rates and yield curves observable at commonly quoted intervals and (d) inputs that are derived principally from or corroborated by observable market data by correlation or other means. Our Level 2 valuations utilize over-the-counter broker quotes, quoted prices for similar assets or liabilities that are corroborated by correlations or other mathematical means and other valuation inputs.

- Level 3 valuations use unobservable inputs for the asset or liability. Unobservable inputs are used to the extent observable inputs are not available, thereby allowing for situations in which there is little, if any, market activity for the asset or liability at the measurement date. We use the most meaningful information available from the market combined with internally developed valuation methodologies to develop our best estimate of fair value.

We utilize several different valuation techniques to measure the fair value of assets and liabilities, relying primarily on the market approach of using prices and other market information for identical and/or comparable assets and liabilities for those items that are measured on a recurring basis.

The fair value of certain investments is measured using the net asset value (NAV) per share as a practical expedient. Such investments measured at NAV are not required to be categorized within the fair value hierarchy.

Derivative Instruments and Mark-to-Market Accounting

From time-to-time Oncor enters into derivative instruments to hedge interest rate risk. If the instrument meets the definition of a derivative under accounting standards related to derivative instruments and hedging activities, the fair value of each derivative is recognized on the balance sheet as a derivative asset or liability and changes in the fair value are recognized in net income, unless criteria for cash flow hedge accounting are met. This recognition is referred to as “mark-to-market” accounting.

Changes in Accounting Standards

Topic 326, “Financial Instruments—Credit Losses” – In June 2016, the FASB issued ASU No. 2016-13, which changes how entities account for credit losses on receivables and certain other financial assets. The guidance requires use of a current expected credit loss model, which may result in earlier recognition of credit losses than under previous accounting standards. We adopted the new standard effective January 1, 2020. The adoption of the new standard did not have a material impact on our consolidated financial statements.

Topic 848, "Facilitation of the Effects of Reference Rate Reform on Financial Reporting" – In March 2020, the FASB issued ASU No. 2020-04, which provides optional expedients and exceptions for applying GAAP to contracts, hedging relationships, and other transactions that reference LIBOR or another reference rate expected to be discontinued because of reference rate reform. ASU No. 2020-04 is effective for all entities as of March 12, 2020 through December 31, 2022. The standard allows entities to account for contract modifications as an event that does not require reassessment or remeasurement (i.e., as a continuation of the existing contract). Oncor's Credit Facility uses LIBOR as a benchmark for establishing interest rates. Implementation has not had an impact on our consolidated financial statements. In the event Oncor modifies its Credit Facility related to the phase-out of LIBOR, we will evaluate the optional expedients and exceptions under the standard.

2. REGULATORY MATTERS

Regulatory Assets and Liabilities

Recognition of regulatory assets and liabilities and the periods over which they are to be recovered or refunded through rate regulation reflect the decisions of the PUCT. Components of regulatory assets and liabilities and their remaining recovery periods as of December 31, 2020 are provided in the table below. Amounts not earning a return through rate regulation are noted.

	Remaining Rate Recovery/Amortization Period at December 31, 2020	At December 31, 2020	At December 31, 2019
Regulatory assets:			
Employee retirement liability (a)(b)(c)	To be determined	$ 672	$ 623
Employee retirement costs being amortized	7 years	227	262
Employee retirement costs incurred since the last rate review period (b)	To be determined	67	79
Self-insurance reserve (primarily storm recovery costs) being amortized	7 years	266	309
Self-insurance reserve incurred since the last rate review period (primarily storm related) (b)	To be determined	256	238
Debt reacquisition costs	Lives of related debt	25	29
Under-recovered AMS costs	7 years	149	170
Energy efficiency performance bonus (a)	1 year or less	14	9
Wholesale distribution substation service	To be determined	55	34
Unrecovered expenses related to COVID-19 (d)	To be determined	27	-
Other regulatory assets	Various	21	22
Total regulatory assets		1,779	1,775
Regulatory liabilities:			
Estimated net removal costs	Lives of related assets	1,262	1,178
Excess deferred taxes	Primarily over lives of related assets	1,508	1,574
Over-recovered wholesale transmission service expense (a)	1 year or less	52	30
Unamortized gain on reacquisition of debt	Lives of related debt	27	-
Other regulatory liabilities	Various	6	11
Total regulatory liabilities		2,855	2,793
Net regulatory assets (liabilities)		$ (1,076)	$ (1,018)

(a) Not earning a return in the regulatory rate-setting process.
(b) Recovery is specifically authorized by statute or by the PUCT, subject to reasonableness review.
(c) Represents unfunded liabilities recorded in accordance with pension and OPEB accounting standards.
(d) Includes $21 million incremental costs incurred resulting from the effects of the COVID-19 pandemic, including costs related to Oncor's pandemic response plan and $6 million related to the COVID-19 Electricity Relief Program.

PUCT Project No. 50664 ***Issues Related to the State of Disaster for the Coronavirus Disease 2019***

In March 2020, the PUCT issued an order in PUCT Project No. 50664, *Issues Related to the State of Disaster for the Coronavirus Disease 2019*, creating the COVID-19 Electricity Relief Program (COVID-19 ERP) to aid certain eligible residential customers unable to pay their electricity bills as a result of the COVID-19 pandemic impacts. Customer enrollment in the COVID-19 ERP closed on August 31, 2020, and financial assistance under the program was available to enrolled residential customers for electricity bills issued on or after March 26, 2020 through September 30, 2020. In connection with the COVID-19 ERP, the PUCT suspended service disconnections due to nonpayment for customers enrolled in the program through September 30, 2020.

To fund the COVID-19 ERP, the PUCT authorized a $0.33 per MWh surcharge to be collected by transmission and distribution utilities through rates and directed ERCOT to provide loans to those transmission and distribution utilities for the initial funding of the COVID-19 ERP. As a result, in April 2020 Oncor filed a tariff rider implementing the surcharge and received an unsecured loan from ERCOT in the principal amount of $7 million, which was repaid in December 2020. Surcharge collections were recorded as a regulatory liability until the funds were used. Surcharge collections could only be used to reimburse transmission and distribution utilities and REPs for eligible unpaid bills from residential customers enrolled in the COVID-19 ERP and to cover costs of a third-party administrator to administer the eligibility process. At December 31, 2020, Oncor had billed $32 million under the rider surcharge. Reimbursements paid by us pursuant to the COVID-19 ERP totaled $38 million through December 31, 2020 (including $18 million of reimbursements to Oncor for electricity delivery charges). As of February 9, 2021, Oncor had billed amounts under the tariff surcharge approximately equal to the reimbursements paid by us pursuant to the COVID-19 ERP and ceased billing the tariff rider surcharge.

The PUCT also authorized the transmission and distribution utilities to use a regulatory asset accounting mechanism and a subsequent process to seek future recovery of expenses resulting from the effects of the COVID-19 pandemic. Therefore, Oncor is recording incremental costs incurred by Oncor resulting from the effects of the COVID-19 pandemic, including costs relating to the implementation of Oncor's pandemic response plan, as a regulatory asset. At December 31, 2020, Oncor recorded $21 million with respect to this regulatory asset. For more information on regulatory assets and liabilities, see Note 1.

InfraREIT Acquisition Approval (PUCT Docket No. 48929)

On May 9, 2019, the PUCT issued a final order in Docket No. 48929 approving the transactions contemplated by the InfraREIT Acquisition, including the SDTS-SU Asset Exchange, and Sempra's acquisition of an indirect 50% ownership interest in Sharyland Holdings, L.P., the parent of Sharyland. For more information on these transactions, see Note 14.

Regulatory Status of the TCJA

The excess deferred tax related balances above are primarily the result of the TCJA corporate federal income tax rate reduction from 35% to 21%. These regulatory liabilities reflect Oncor's obligation, as required by PUCT order in Docket No. 46957, to refund to utility customers any excess deferred tax related balances created by the reduction in the corporate federal income tax rate through reductions in Oncor's tariffs.

In 2018, Oncor made filings to incorporate the impacts of the TCJA into Oncor's tariffs, including the reduction in the corporate income tax rate from 35% to 21% and amortization of excess deferred federal income taxes. In September 2018, Oncor reached an unopposed stipulation regarding an overall settlement of the TCJA impacts. The settlement included, on an annual basis, a $144 million decrease in Oncor's revenue requirement related to the reduction of income tax expense currently in rates and a $75 million decrease related to amortization of excess deferred federal income taxes. Excess deferred federal income taxes are being refunded as required by the PUCT generally over the lives of the related assets.

The settlement rates were implemented on an interim basis during 2018 and were approved by the PUCT on April 4, 2019. During 2018, interim TCOS rates included refunds of excess deferred federal income taxes that were lower than the amount ultimately approved by the PUCT. Therefore, the PUCT approved in Docket 49160 an additional one time refund of $9 million, which was made in April and May of 2019.

AMS Final Reconciliation (PUCT Docket No. 49721)

On July 9, 2019, Oncor filed a request with the PUCT for a final reconciliation of Oncor's AMS costs. Effective with the implementation of rates pursuant to the Docket No. 46957 rate review, Oncor ceased recovering AMS charges through a surcharge on November 26, 2017, and AMS costs are now being recovered through base rates. Oncor made the following requests in Oncor's AMS reconciliation filing:

- a reconciliation of all costs incurred with the $87 million of revenues collected during the final period of the AMS surcharge from January 1, 2017 to November 26, 2017,
- a final PUCT determination of the net operating cost savings of $16 million from the final period of Oncor's AMS deployment that were used to reduce the amount of costs that were ultimately recovered through Oncor's AMS surcharge,
- authorization to add the under-recovery of the 2017 AMS costs from this reconciliation proceeding of $6 million to the existing AMS regulatory asset currently being recovered through base rates, and
- authorization to establish a regulatory asset to capture the costs associated with this reconciliation proceeding (if approved, Oncor would seek recovery of that regulatory asset in a future Oncor rate case).

On October 8, 2019, Oncor filed a joint motion to admit evidence and for approval of a joint proposed order that implements the requests detailed above, as agreed to by the PUCT staff and the Steering Committee of Cities. On December 16, 2019, the PUCT signed a Final Order approving Oncor's requests as listed above.

We and Oncor are involved in various other regulatory proceedings in the normal course of business, the ultimate resolution of which, in the opinion of management, should not have a material effect upon our financial position, results of operations or cash flows.

3. REVENUES

General

Oncor's revenue is billed monthly under tariffs approved by the PUCT and the majority of revenues are related to providing electric delivery service to consumers. Tariff rates are designed to recover the cost of providing electric delivery service to customers including a reasonable rate of return on invested capital. As the volumes delivered can be directly measured, Oncor revenues are recognized when the underlying service has been provided in an amount prescribed by the related tariff. Oncor recognizes revenue in the amount that it has the right to invoice. Substantially all of Oncor's revenues are from contracts with customers except for alternative revenue program revenues discussed below.

Reconcilable Tariffs

The PUCT has designated certain tariffs (primarily TCRF and EECRF) as reconcilable, which means the differences between amounts billed under these tariffs and the related incurred costs are deferred as either regulatory assets or regulatory liabilities. Accordingly, at prescribed intervals, future tariffs are adjusted to either repay regulatory liabilities or collect regulatory assets.

Alternative Revenue Program

The PUCT has implemented an incentive program allowing Oncor to earn performance bonuses by exceeding PURA-mandated energy efficiency program targets. This incentive program and the related performance bonus revenues are considered an "alternative revenue program" under GAAP. Annual performance bonuses are recognized as revenue when approved by the PUCT, typically in the third or fourth quarter each year. In 2020 and 2019, the PUCT approved a $14 million and $9 million bonus that Oncor recognized in revenues in 2020 and 2019, respectively.

Disaggregation of Revenues

The following table reflects electric delivery revenues disaggregated by tariff:

	Year Ended December 31,	
	2020	**2019**
Operating revenues		
Revenues contributing to earnings:		
Distribution base revenues	$ 2,156	$ 2,143
Transmission base revenues (TCOS revenues)		
Billed to third-party wholesale customers	803	681
Billed to REPs serving Oncor distribution customers, through TCRF	446	391
Total transmission base revenues	1,249	1,072
Other miscellaneous revenues	87	77
Total revenues contributing to earnings	3,492	3,292
Revenues collected for pass-through expenses:		
TCRF – third-party wholesale transmission service	975	1,005
EECRF	44	50
Revenues collected for pass-through expenses	1,019	1,055
Total operating revenues	$ 4,511	$ 4,347

Customers

Oncor's distribution customers consist of approximately 95 REPs and certain electric cooperatives in Oncor's certificated service area. The consumers of the electricity Oncor delivers are free to choose their electricity supplier from REPs who compete for their business. Oncor's transmission base revenues are collected from load serving entities benefitting from Oncor's transmission system. Oncor's transmission customers consist of municipalities, electric cooperatives and other distribution companies. REP subsidiaries of Oncor's two largest customers collectively represented 25% and 18% of Oncor's total operating revenues for the year ended 2020, 23% and 18% for the year ended 2019 and 23% and 19% for the year ended 2018. No other customer represented more than 10% of ours or Oncor's total operating revenues.

Variability

Our revenues and cash flows are subject to seasonality, timing of customer billings, weather conditions and other electricity usage drivers, with revenues being highest in the summer. Payment is due 35 days after invoicing. Under a PUCT rule relating to the Certification of Retail Electric Providers, write-offs of uncollectible amounts owed by REPs are recoverable as a regulatory asset.

Pass-through Expenses

Revenue equal to expenses that are allowed to be passed-through to customers (primarily third-party wholesale transmission service and energy efficiency program costs) are recognized at the time the expense is recognized. Franchise taxes are assessed by local governmental bodies, based on kWh delivered and are not a "pass-through" item. The rates Oncor charges customers are intended to recover the franchise taxes, but Oncor is not acting as an agent to collect the taxes from customers; therefore, franchise taxes are reported as a principal component of "taxes other than amounts related to income taxes" instead of a reduction to "revenues" in the income statement.

Lubbock Joint Project with LP&L

Oncor is currently involved in an estimated $400 million joint project with LP&L, with costs and resulting assets to ultimately be split by Oncor and LP&L, that involves the build out of transmission lines to join the City of Lubbock to the ERCOT market. Oncor is completing the construction, with LP&L reimbursing Oncor during the project for its portion of the construction costs. The LP&L related assets and a corresponding liability will remain on Oncor's balance sheet until the end of the project when title to the LP&L portion of the assets transfers to LP&L. As a unique and nonrecurring construction project, the transfer of title will be accounted for as a sale of nonfinancial assets once construction is complete.

4. INCOME TAXES

Components of Deferred Income Taxes

The components of our deferred income taxes not attributable to noncontrolling interests are provided in the table below.

	At December 31,	
	2020	**2019**
Deferred Tax Assets:		
Section 704c income	$ 211	$ 199
Total	211	199
Deferred Tax Liabilities:		
Partnership outside basis difference	85	85
Basis difference in partnership	1,438	1,337
Total	1,523	1,422
Deferred tax liability - net	$ 1,312	$ 1,223

The components of our income tax expense (benefit) are as follows:

	Year Ended December 31,		
	2020	2019	2018
Reported in operating expenses:			
Current:			
U.S. federal	$ 101	$ 69	$ 112
State	22	22	21
Deferred U.S. federal	27	49	21
Amortization of investment tax credits	(1)	(2)	(2)
Total reported in operating expenses	149	138	152
Reported in other income and deductions:			
Current U.S. federal	(23)	(16)	(18)
Deferred U.S. federal	20	9	8
Total reported in other income and deductions	(3)	(7)	(10)
Total provision for income taxes	$ 146	$ 131	$ 142

Reconciliation of income taxes computed at the U.S. federal statutory rate to income taxes:

	Year Ended December 31,		
	2020	2019	2018
Income before income taxes	$ 849	$ 774	$ 662
Income taxes at the U.S. federal statutory rate of 21%	$ 178	$ 163	$ 139
Amortization of investment tax credits – net of deferred tax effect	(1)	(2)	(2)
Amortization of excess deferred taxes	(52)	(52)	(18)
Texas margin tax, net of federal tax benefit	18	17	17
Other	3	5	6
Income tax expense	$ 146	$ 131	$ 142
Effective rate	17.2%	16.9%	21.5%

At December 31, 2020, net amounts of $1.3 billion were reported in the balance sheets as accumulated deferred income taxes. At December 31, 2019, net amounts of $1.2 billion were reported in the balance sheets as accumulated deferred income taxes. These amounts include $1.4 billion related to our investment in Oncor in both years. Additionally, at December 31, 2020 and 2019, we have net deferred tax assets of $126 million and $114 million, respectively, related to our outside basis differences in Oncor and zero in both years related to our other temporary differences.

Accounting For Uncertainty in Income Taxes

We had no uncertain tax positions in 2020, 2019 and 2018.

Noncurrent liabilities included no accrued interest related to uncertain tax positions at December 31, 2020 and 2019. There were no amounts recorded related to interest and penalties in the years ended December 31, 2020, 2019 and 2018. The federal income tax benefit on the interest accrued on uncertain tax positions, if any, is recorded as accumulated deferred income taxes.

5. SHORT-TERM BORROWINGS

According to our organizational documents, Oncor Holdings (parent) is prohibited from directly incurring indebtedness for borrowed money. At December 31, 2020 and 2019, Oncor's outstanding short-term borrowings under its CP Program and Credit Facility consisted of the following:

	At December 31,	
	2020	2019
Total credit facility borrowing capacity	$ 2,000	$ 2,000
Commercial paper outstanding (a)	(70)	(46)
Credit facility outstanding (b)	-	-
Letters of credit outstanding (c)	(9)	(10)
Available unused credit	$ 1,921	$ 1,944

(a) The weighted average interest rates for commercial paper were 0.17% and 1.84% at December 31, 2020 and December 31, 2019, respectively.
(b) At December 31, 2020, the applicable interest rate for any outstanding borrowings was LIBOR plus 1.25%.
(c) Interest rates on outstanding letters of credit at December 31, 2020 and December 31, 2019 were 1.45% and 1.20%, respectively, based on Oncor's credit ratings.

CP Program

In March 2018, Oncor established the CP Program, under which it may issue CP Notes on a private placement basis up to a maximum aggregate face or principal amount outstanding at any time of $2.0 billion. The proceeds of CP Notes issued under the CP Program are used for working capital and general corporate purposes. The CP Program obtains liquidity support from Oncor's Credit Facility discussed below. Oncor may utilize either CP Program or the Credit Facility at their option, to meet funding needs.

Credit Facility

In November 2017, Oncor entered into a $2.0 billion unsecured Credit Facility to be used for working capital and general corporate purposes, issuances of letters of credit and support for any commercial paper issuances. In November 2020, Oncor entered into an amendment to the Credit Facility that extended its maturity date for one year to November 2023. Oncor may request increases in its borrowing capacity in increments of not less than $100 million, not to exceed $400 million in the aggregate, provided certain conditions are met, including lender approvals. The Credit Facility also gives Oncor the option of requesting up to two one-year extensions, with such extensions subject to certain conditions and lender approvals.

The Credit Facility contains terms pursuant to which the interest rates charged under the agreement may be adjusted depending on Oncor's credit ratings. Borrowings under the Credit Facility bear interest at per annum rates equal to, at Oncor's option, (i) adjusted LIBOR plus a spread ranging from 1.125% to 1.750% depending on credit ratings assigned to Oncor's senior secured non-credit enhanced long-term debt or (ii) an alternate base rate (the highest of (1) the prime rate of JPMorgan Chase, (2) the greater of the federal funds effective rate or the overnight banking rate, plus 0.50%, and (3) adjusted LIBOR plus 1.00%) plus a spread ranging from 0.125% to 0.750% depending on credit ratings assigned to Oncor's senior secured non-credit enhanced long-term debt. Amounts borrowed under the Credit Facility, once repaid, can be borrowed again from time to time.

An unused commitment fee is payable quarterly in arrears and upon termination or commitment reduction at a rate equal to 0.075% to 0.225% (such spread depending on certain credit ratings assigned to Oncor's senior secured debt) of the daily unused commitments under the Credit Facility. Letter of credit fees on the stated amount of letters of credit issued under the Credit Facility are payable to the lenders quarterly in arrears and upon termination at a rate per annum equal to the spread over adjusted LIBOR. Customary fronting and administrative fees are also payable to letter of credit fronting banks. At December 31, 2020, letters of credit bore interest at 1.45%, and a commitment fee (at a rate of 0.10% per annum) was payable on the unfunded commitments under the Credit Facility, each based on Oncor's current credit ratings.

Under the terms of the Credit Facility, the commitments of the lenders to make loans to Oncor are several and not joint. Accordingly, if any lender fails to make loans to Oncor, Oncor's available liquidity could be reduced by an amount up to the aggregate amount of such lender's commitments under the facility.

6. LONG-TERM DEBT

According to our organizational documents, Oncor Holdings (parent) is prohibited from directly incurring indebtedness for borrowed money. Oncor's secured debt is secured by a first priority lien on certain transmission and distribution assets equally and ratably with all of Oncor's other secured indebtedness. See "Deed of Trust" below for additional information. At December 31, 2020 and 2019, Oncor's long-term debt consisted of the following:

	December 31,	
	2020	2019
Fixed Rate Secured:		
5.75% Senior Notes due September 30, 2020	$ -	$ 126
8.50% Senior Notes, Series C, due December 30, 2020	-	14
4.10% Senior Notes, due June 1, 2022	400	400
7.00% Debentures due September 1, 2022	482	482
2.75% Senior Notes due June 1, 2024	500	500
2.95% Senior Notes due April 1, 2025	350	350
0.55% Senior Notes due October 1, 2025	450	-
3.86% Senior Notes, Series A, due December 3, 2025	174	174
3.86% Senior Notes, Series B, due January 14, 2026	38	38
3.70% Senior Notes due November 15, 2028	650	650
5.75% Senior Notes due March 15, 2029	318	318
7.25% Senior Notes, Series B, due December 30, 2029	-	36
2.75% Senior Notes due May 15, 2030	400	-
6.47% Senior Notes, Series A, due September 30, 2030	-	83
7.00% Senior Notes due May 1, 2032	494	500
7.25% Senior Notes due January 15, 2033	323	350
7.50% Senior Notes due September 1, 2038	300	300
5.25% Senior Notes due September 30, 2040	475	475
4.55% Senior Notes due December 1, 2041	400	400
5.30% Senior Notes due June 1, 2042	348	500
3.75% Senior Notes due April 1, 2045	550	550
3.80% Senior Notes due September 30, 2047	325	325
4.10% Senior Notes due November 15, 2048	450	450
3.80% Senior Notes, due June 1, 2049	500	500
3.10% Senior Notes, due September 15, 2049	700	700
3.70% Senior Notes due May 15, 2050	400	-
5.35% Senior Notes due October 1, 2052	300	-
Secured long-term debt	9,327	8,221
Variable Rate Unsecured:		
Term loan credit agreement maturing October 6, 2020	-	460
Total long-term debt	9,327	8,681
Unamortized discount and debt issuance costs	(98)	(56)
Less amount due currently	-	(608)
Long-term debt, less amounts due currently	$ 9,229	$ 8,017

Long-Term Debt-Related Activity in 2020

Senior Secured Notes

2030 Notes and 2050 Notes Issuances

On March 20, 2020, Oncor completed a sale of $400 million aggregate principal amount of 2.75% Senior Secured Notes due May 15, 2030 (2030 Notes) and $400 million aggregate principal amount of 3.70% Senior Secured Notes due May 15, 2050 (2050 Notes). Oncor used the proceeds (net of the initial purchasers' discount, fees and expenses) of approximately $790 million from the sale of the 2030 Notes and 2050 Notes for general corporate purposes, including the repayment of short-term and long-term debt.

The 2030 and 2050 Notes were issued pursuant to the provisions of an Indenture, dated as of August 1, 2002, between Oncor and The Bank of New York Mellon Trust Company, N.A. (as successor to The Bank of New York Mellon, formerly The Bank of New York) (as amended and supplemented, the Indenture). The 2030 Notes and the 2050 Notes each constitute a separate series of notes under the Indenture, but will be treated together with Oncor's other outstanding debt securities issued under the Indenture for amendments and waivers and for taking certain other actions.

The 2030 Notes bear interest at a rate of 2.75% per annum and mature on May 15, 2030. The 2050 Notes bear interest at a rate of 3.70% per annum and mature on May 15, 2050. Interest on the 2030 Notes and 2050 Notes is payable in cash semiannually in arrears on May 15 and November 15 of each year, and the first interest payment was due on November 15, 2020. Prior to February 15, 2030, in the case of the 2030 Notes and November 15, 2049, in the case of the 2050 Notes, Oncor may redeem such notes at any time, in whole or in part, at a price equal to 100% of their principal amount, plus accrued and unpaid interest and a "make-whole" premium. On and after February 15, 2030, in the case of the 2030 Notes and November 15, 2049, in the case of the 2050 Notes, Oncor may redeem such Notes at any time, in whole or in part, at a redemption price equal to 100% of the principal amount of such Notes, plus accrued and unpaid interest.

The 2030 Notes and 2050 Notes were issued in a private placement and were not registered under the Securities Act. In August 2020, Oncor completed an offering with the holders of the 2030 Notes and 2050 Notes to exchange their respective notes for notes that have terms identical in all material respects to the 2030 Notes and 2050 Notes (Exchange Notes), except that the Exchange Notes do not contain terms with respect to transfer restrictions, registration rights and payment of additional interest for failure to observe certain obligations in a certain registration rights agreement. The Exchange Notes were registered on a Form S-4, which was declared effective in July 2020.

Debt Exchange and 2052 Notes Issuance

On September 23, 2020, Oncor issued $300 million aggregate principal amount of 5.35% Senior Secured Notes due 2052 (the 2052 Notes) in exchange for a like aggregate principal amount of certain of Oncor's existing senior secured debt, consisting of (i) $35 million aggregate principal amount of Oncor's 7.25% Senior Notes, Series B, due December 30, 2029 (Series B Notes), (ii) $80 million aggregate principal amount of Oncor's 6.47% Senior Notes, Series A, due September 30, 2030 (Series A Notes), (iii) $6 million aggregate principal amount of Oncor's 7.00% Senior Secured Notes due May 1, 2032, (iv) $27 million aggregate principal amount of Oncor's 7.25% Senior Secured Notes due January 15, 2033, and (v) $152 million aggregate principal amount of Oncor's 5.30% Senior Secured Notes due June 1, 2042. Oncor received no proceeds from the exchange.

The 2052 Notes were issued pursuant to the provisions of the Indenture. The 2052 Notes constitute a separate series of notes under the Indenture, but will be treated together with Oncor's other outstanding debt securities issued under the Indenture for amendments and waivers and for taking certain other actions.

The 2052 Notes bear interest at a rate of 5.35% per annum and mature on October 1, 2052. Interest on the 2052 Notes is payable in cash semi-annually in arrears on April 1 and October 1 of each year, and the first interest payment is due on April 1, 2021. Prior to April 1, 2052, Oncor may redeem the 2052 Notes at any time, in whole or in part, at a price equal to 100% of their principal amount, plus accrued and unpaid interest and a "make-whole" premium. On and after April 1, 2052, Oncor may redeem the 2052 Notes at any time, in whole or in part, at a redemption price equal to 100% of the principal amount of such 2052 Notes, plus accrued and unpaid interest.

The 2052 Notes were issued in a private placement and were not registered under the Securities Act. Oncor has agreed, subject to certain exceptions, to register with the SEC notes having substantially identical terms as the 2052 Notes (except for provisions relating to the transfer restriction and payment of additional interest) as part of Oncor's offer to exchange freely tradable exchange notes for the 2052 Notes. Oncor has agreed to use commercially reasonable efforts to cause the exchange offer to be completed within 315 days after the issue date of the 2052 Notes. If a registration statement for the exchange offer is not declared effective by the SEC within 270 days after the issue date of the 2052 Notes or the exchange offer is not completed within 315 days after the issue date of the 2052 Notes (an exchange default), then the annual interest rate of the 2052 Notes will increase 50 basis points per annum until the earlier of the expiration of the exchange default or the second anniversary of the issue date of the 2052 Notes.

2025 Notes Issuance

On September 28, 2020, Oncor issued $450 million aggregate principal amount of 0.55% Senior Secured Notes due 2025 (the 2025 Notes). Oncor intends to use the proceeds (net of the initial purchasers' discount, fees and expenses) of approximately $443 million from the sale of the 2025 Notes to finance or refinance, in whole or in part, eligible projects consisting of investments in or expenditures with minority- and women-owned business suppliers pursuant to Oncor's sustainable bond framework. The net proceeds may be temporarily invested in cash, cash equivalents and/or U.S. government securities in accordance with Oncor's cash management policies or used to repay certain other indebtedness, or both.

The 2025 Notes were issued pursuant to the provisions of the Indenture. The 2025 Notes constitute a separate series of notes under the Indenture, but will be treated together with Oncor's other outstanding debt securities issued under the Indenture for amendments and waivers and for taking certain other actions.

The 2025 Notes bear interest at a rate of 0.55% per annum and mature on October 1, 2025. Interest on the 2025 Notes is payable in cash semi-annually in arrears on April 1 and October 1 of each year, and the first interest payment is due on April 1, 2021. Prior to September 1, 2025, Oncor may redeem the 2025 Notes at any time, in whole or in part, at a price equal to 100% of their principal amount, plus accrued and unpaid interest and a "make-whole" premium. On and after September 1, 2025, Oncor may redeem the 2025 Notes at any time, in whole or in part, at a redemption price equal to 100% of the principal amount of the 2025 Notes, plus accrued and unpaid interest.

The 2025 Notes were issued in a private placement and were not registered under the Securities Act. Oncor has agreed, subject to certain exceptions, to register with the SEC notes having substantially identical terms as the 2025 Notes (except for provisions relating to the transfer restriction and payment of additional interest) as part of Oncor's offer to exchange freely tradable exchange notes for the 2025 Notes. Oncor has agreed to use commercially reasonable efforts to cause the exchange offer to be completed within 315 days after the issue date of the 2025 Notes. If a registration statement for the exchange offer is not declared effective by the SEC within 270 days after the issue date of the 2025 Notes or the exchange offer is not completed within 315 days after the issue date of the 2025 Notes (an exchange default), then the annual interest rate of the 2025 Notes will increase 50 basis points per annum until the earlier of the expiration of the exchange default or the second anniversary of the issue date of the 2025 Notes.

January 2020 Term Loan Credit Agreement

On January 28, 2020, Oncor entered into a $450 million unsecured term loan credit agreement that had a maturity date of June 1, 2021 (January 2020 Term Loan Credit Agreement). Oncor borrowed an aggregate of $450 million under the January 2020 Term Loan Credit Agreement, consisting of $163 million on January 29, 2020, $55 million on February 28, 2020 and $232 million on March 17, 2020. The proceeds from each borrowing were used for general corporate purposes, including the repayment of notes outstanding under Oncor's CP Program. Loans under the January 2020 Term Loan Credit Agreement bore interest at per annum rates equal to LIBOR plus 0.50%. On December 23, 2020, Oncor repaid all outstanding borrowings under the January 2020 Term Loan Credit Agreement, and as a result it is no longer in effect.

March 2020 Term Loan Credit Agreement

On March 23, 2020, Oncor entered into an unsecured term loan credit agreement (March 2020 Term Loan Credit Agreement) with a commitment equal to an aggregate principal amount of $350 million. Oncor entered into an amendment to the March 2020 Term Loan Credit Agreement in June 2020. As amended, the March 2020 Term Loan Credit Agreement had a maturity date of June 30, 2021 and provided for loans to bear interest at per annum rates equal to LIBOR plus 0.95%. Oncor borrowed an aggregate of $110 million under the March 2020 Term Loan Credit Agreement, consisting of $15 million and $95 million on June 30, 2020 and July 31, 2020, respectively. The proceeds from each borrowing were used for general corporate purposes, including the repayment of notes outstanding under Oncor's CP Program. On September 28, 2020, Oncor repaid all outstanding borrowings under the March 2020 Term Loan Credit Agreement, and as a result it is no longer in effect.

Interest Rate Hedge Transactions

In February and March of 2020, Oncor entered into interest rate hedge transactions hedging the variability of benchmark bond rates used to determine interest rates on anticipated issuances of ten-year and thirty-year senior secured notes. The hedges were terminated in March 2020 upon Oncor's issuance of the 2030 Notes and 2050 Notes. Oncor recognized a $29 million ($23 million after-tax) loss related to the fair value of the hedge transactions in accumulated other comprehensive loss. Oncor expects approximately $4 million of the amount reported in accumulated other comprehensive loss at December 31, 2020 related to interest rate hedges to be reclassified into net income as an increase to interest expense within the next 12 months, including $2 million from the current year transactions.

Debt Repayments

Repayments of long-term debt during the year ended December 31, 2020 included $14 million principal amount of Oncor's 8.50% Senior Secured Notes, Series C, due December 30, 2020 (Series C Notes), $126 million aggregate principal amount of Oncor's 5.75% Senior Secured Notes due September 30, 2020, $110 million principal amount borrowed under the March 2020 Term Loan Credit Agreement, $450 million principal amount borrowed under the January 2020 Term Loan Credit Agreement, $460 million principal amount borrowed under a term loan credit agreement entered into in September 2019 (2019 Term Loan Credit Agreement) and $5 million principal amount of the quarterly amortizing debt for Oncor's Series A Notes, Series B Notes, and Series C Notes. The Series A Notes, Series B Notes, and Series C Notes were issued pursuant to a note purchase agreement, dated as of May 3, 2019. As a result of the September 2020 senior secured notes exchange, in which all of the outstanding Series A Notes and Series B Notes were exchanged for a like principal amount of 2052 Notes, and the December 30, 2020 repayment of the Series C Notes upon maturity, no notes remain outstanding under that note purchase agreement. The $460 million principal amount repaid under the 2019 Term Loan Credit Agreement, the $450 million principal amount repaid under the January 2020 Term Loan Credit Agreement and the $110 million principal amount repaid under the March 2020 Term Loan Credit Agreement constituted all amounts outstanding under those respective agreements, and as a result of those repayments, the 2019 Term Loan Credit Agreement, January 2020 Term Loan Credit Agreement and March 2020 Term Loan Credit Agreement are no longer in effect.

Deed of Trust

Oncor's secured debt is secured equally and ratably by a first priority lien on certain Oncor transmission and distribution assets. The property is mortgaged under the Deed of Trust. The Deed of Trust permits us to secure indebtedness with the lien of the Deed of Trust up to the aggregate of (i) the amount of available bond credits, and (ii) 85% of the lower of the fair value or cost of certain property additions that could be certified to the Deed of Trust collateral agent. At December 31, 2020, the amount of available bond credits was $2.115 billion and the amount of future debt Oncor could secure with property additions, subject to those property additions being certified to the Deed of Trust collateral agent, was $3.328 billion.

Borrowings under the CP Program, the Credit Facility and term loan credit agreements are not secured.

Maturities

Oncor's long-term debt maturities at December 31, 2020, are as follows:

Year	Amount
2021	$ -
2022	882
2023	-
2024	500
2025	974
Thereafter	6,971
Unamortized discount and debt issuance costs	(98)
Total	$ 9,229

Fair Value of Long-Term Debt

At December 31, 2020 and 2019, the estimated fair value of long-term debt (including current maturities) totaled $11.638 billion and $10.003 billion, respectively, and the carrying amount totaled $9.229 billion and $8.625 billion, respectively. The fair value is estimated using observable market data, representing Level 2 valuations under accounting standards related to the determination of fair value.

7. COMMITMENTS AND CONTINGENCIES

Leases

General

A lease exists when a contract conveys the right to control the use of an identified asset for a period of time in exchange for consideration. As lessee, Oncor's leased assets primarily consist of Oncor's vehicle fleet and real estate leased for company offices and service centers. Oncor's leases are accounted for as operating leases for both GAAP and rate-making purposes. Oncor generally recognizes operating lease costs on a straight-line basis over the lease term in operating expenses. We or Oncor are not a lessor to any material lease contracts.

As of the lease commencement date, Oncor recognizes a lease liability for Oncor's obligation to make lease payments, which is initially measured at present value using Oncor's incremental borrowing rate at the date of lease commencement, unless the rate implicit in the lease is readily determinable. Oncor determines its incremental borrowing rate based on the rate of interest that it would have to pay to borrow an amount equal to the lease payments on a collateralized basis over a similar term in a similar economic environment. Oncor also records a ROU asset for its right to use the underlying asset, which is initially equal to the lease liability and adjusted for any lease payments made at or before lease commencement, lease incentives and any initial direct costs.

Some of Oncor's lease agreements contain nonlease components, which represent items or activities that transfer a good or service. Oncor separates lease components from nonlease components, if any, for Oncor's fleet vehicle and real estate leases for purposes of calculating the related lease liability and ROU asset.

Certain of Oncor's leases include options to extend the lease terms for up to 20 years, while others include options to terminate early. Oncor's lease liabilities and ROU assets are based on lease terms that may include such options to extend or terminate the lease when it is reasonably certain that Oncor will exercise that option.

Short-term Leases

Some of Oncor's contracts are short-term leases, which have a lease term of 12 months or less at lease commencement. As allowed by GAAP, we and Oncor do not recognize a lease liability or ROU asset arising from short-term leases for all existing classes of underlying assets. We and Oncor recognize short-term lease costs on a straight-line basis over the lease term.

Lease Obligations, Lease Costs and Other Supplemental Data

The following tables summarize lease information on the consolidated balance sheet at December 31, 2020 and 2019.

	At December 31,	
	2020	**2019**
Operating Leases:		
ROU assets:		
Operating lease ROU, third-party joint project and other assets	$ 132	$ 92
Lease liabilities:		
Operating lease and other current liabilities	$ 29	$ 26
Operating lease, third-party joint project and other obligations	124	66
Total operating lease liabilities	$ 153	$ 92
Weighted-average remaining lease term (in years)	7	4
Weighted-average discount rate	2.8%	3.3%

The components of lease costs and cash paid for amounts included in the measurement of lease liabilities in 2020 and 2019 were as follows:

	Year Ended December 31,	
	2020	2019
Operating lease cost:		
Operating lease costs (including amounts allocated to property, plant and equipment)	$ 42	$ 40
Short-term lease costs	10	34
Total operating lease costs	$ 52	$ 74
Operating lease payments:		
Cash paid for amounts included in the measurement of lease liabilities	$ 35	$ 32

The table below presents the maturity analysis of lease liabilities and reconciliation to the present value of lease liabilities:

Year	Amount
2021	$ 33
2022	30
2023	23
2024	17
2025	9
Thereafter	58
Total undiscounted lease payments	170
Less imputed interest	(17)
Total operating lease obligations	$ 153

Capital Expenditures

As part of the Sempra Acquisition, Oncor has committed to make minimum aggregate capital expenditures equal to at least $7.5 billion over the five year period ending December 31, 2022. Oncor's capital expenditures from January 1, 2018 to December 31, 2020 totaled $6.4 billion.

Energy Efficiency Spending

Oncor is required to annually invest in programs designed to improve customer electricity demand efficiencies to satisfy ongoing regulatory requirements. The requirement for the year 2021 is $52 million which is recoverable in rates.

Legal/Regulatory Proceedings

We and Oncor are involved in various legal and administrative proceedings in the normal course of business, the ultimate resolution of which, in the opinion of management, should not have a material effect upon our financial position, results of operations or cash flows.

Labor Contracts

At December 31, 2020, approximately 17% of Oncor's full time employees were represented by a labor union and covered by a collective bargaining agreement that expires in October 2022.

Environmental Contingencies

Oncor must comply with environmental laws and regulations applicable to the handling and disposal of hazardous waste. Oncor is in compliance with all current laws and regulations; however, the impact, if any, of changes to existing regulations or the implementation of new regulations is not determinable. The costs to comply with environmental regulations can be significantly affected by the following external events or conditions:

- changes to existing state or federal regulation by governmental authorities having jurisdiction over control of toxic substances and hazardous and solid wastes, and other environmental matters, and
- the identification of additional sites requiring clean-up or the filing of other complaints in which Oncor may be asserted to be a potential responsible party.

We have not identified any significant potential environmental liabilities at this time.

8. MEMBERSHIP INTERESTS - ONCOR HOLDINGS

Cash Contributions

On February 16, 2021, Oncor Holdings received cash capital contributions from its member totaling $50 million. During 2020, Oncor Holdings received the following capital cash contributions from its member, each of which it subsequently contributed to Oncor.

Received		Amount
December 23, 2020	$	290
December 22, 2020		70
October 27, 2020		62
July 28, 2020		70
April 27, 2020		70
February 18, 2020		70
	$	632

Cash Distributions

While there are no direct restrictions on our ability to distribute our net income that are currently material, substantially all of our net income is derived from Oncor. Our board of directors and Oncor's board of directors, which are each composed of a majority of Disinterested Directors, can withhold distributions to the extent such board determines that it is necessary to retain such amounts to meet the respective company's expected future requirements.

Oncor's distributions are limited by the requirement to maintain its regulatory capital structure at or below the debt-to-equity ratio established periodically by the PUCT for ratemaking purposes. The PUCT has the authority to determine what types of debt and equity are included in a utility's debt-to-equity ratio. For purposes of this ratio, debt is calculated as long-term debt including any finance leases plus unamortized gains on reacquired debt less unamortized issuance expenses, premiums and losses on reacquired debt. Equity is calculated as membership interests determined in accordance with GAAP, excluding accumulated other comprehensive loss and the effects of acquisition accounting from a 2007 transaction.

The PUCT order issued in the Sempra Acquisition and each of our and Oncor's limited liability company agreements set forth various restrictions on distributions to members. Among those restrictions is the commitment that Oncor will make no distributions that would cause Oncor to exceed the PUCT's authorized debt-to-equity ratio. Oncor's current authorized regulatory capital structure is 57.5% debt to 42.5% equity. The distribution restrictions also include the ability of Oncor's board, a majority of the Disinterested Directors, or either of the two member directors designated by Texas Transmission to limit distributions to the extent each determines it is necessary to meet expected future requirements of Oncor (including continuing compliance with the PUCT debt-to-equity ratio commitment). At December 31, 2020, Oncor's regulatory capitalization was 52.8% debt to 47.2% equity, and as a result Oncor had $1.426 billion available to distribute to its members.

On February 17, 2021, our board of directors declared a cash distribution of $77 million, which was paid to our member on February 18, 2021. During 2020, our board of directors declared, and we paid, the following cash distributions to our member:

Declaration Date	Payment Date	Amount
October 28, 2020	October 29, 2020	$ 66
July 29, 2020	July 30, 2020	74
April 29, 2020	April 30, 2020	73
February 19, 2020	February 20, 2020	73
		$ 286

During 2019, our board of directors declared, and we paid, the following cash distributions to our member:

Declaration Date	Payment Date	Amount
October 29, 2019	October 31, 2019	$ 85
July 30, 2019	July 31, 2019	53
May 1, 2019	May 2, 2019	54
February 20, 2019	February 22, 2019	54
		$ 246

Accumulated Other Comprehensive Income (Loss)* (AOCI) - *Oncor Holdings

The following table presents the changes to AOCI attributable to Oncor Holdings for the years ended December 31, 2020, 2019 and 2018 net of tax:

	Cash Flow Hedges – Interest Rate Swap	Defined Benefit Pension and OPEB Plans	Accumulated Other Comprehensive Income (Loss)
Balance at December 31, 2017	$ (14)	$ (67)	$ (81)
Defined benefit pension plans	-	(13)	(13)
Cash flow hedge amounts reclassified from AOCI and reported in interest expense and related charges	2	-	2
Balance at December 31, 2018	$ (12)	$ (80)	$ (92)
Defined benefit pension plans	-	17	17
Cash flow hedge amounts reclassified from AOCI and reported in interest expense and related charges	1	-	1
ASU 2018-02 stranded tax effects	(4)	(14)	(18)
Balance at December 31, 2019	$ (15)	$ (77)	$ (92)
Defined benefit pension plans	-	6	6
Cash flow hedge amounts reclassified from AOCI and reported in interest expense and related charges	(16)	-	(16)
Balance at December 31, 2020	$ (31)	$ (71)	$ (102)

9. NONCONTROLLING INTERESTS

At December 31, 2020, Oncor's ownership was 80.25% held by us and 19.75% held by Texas Transmission. The book value of the noncontrolling interests exceeds its ownership percentage due to the portion of Oncor's deferred taxes not attributable to the noncontrolling interests.

10. EMPLOYEE BENEFIT PLANS

Regulatory Recovery of Pension and OPEB Costs

PURA provides for Oncor's recovery of pension and OPEB costs applicable to services of its active and retired employees, as well as services of certain EFH Corp./Vistra active and retired employees for periods prior to the deregulation and disaggregation of EFH Corp.'s electric utility businesses effective January 1, 2002 (recoverable service). Accordingly, in 2005, Oncor entered into an agreement with a predecessor of EFH Corp. whereby it assumed responsibility for applicable pension and OPEB costs related to those personnel's recoverable service. Oncor subsequently entered into agreements with EFH Corp. and a Vistra affiliate regarding provision of these benefits. Pursuant to the agreement with the Vistra affiliate, Oncor sponsors an OPEB plan that provides certain retirement healthcare and life insurance benefits to eligible former Oncor, EFH Corp. and Vistra employees for whom both Oncor and Vistra bear a portion of the benefit responsibility. See "OPEB Plans" below for more information.

Oncor is authorized to establish a regulatory asset or liability for the difference between the amounts of pension and OPEB costs approved in current billing rates and the actual amounts that would otherwise have been recorded as charges or credits to earnings related to recoverable service. Amounts deferred are ultimately subject to regulatory approval. At December 31, 2020 and 2019, Oncor had recorded regulatory assets totaling $966 million and $964 million, respectively, related to pension and OPEB costs, including amounts related to deferred expenses as well as amounts related to unfunded liabilities that otherwise would be recorded as other comprehensive income.

Oncor also assumed primary responsibility for pension benefits of a closed group of retired and terminated vested plan participants not related to Oncor's regulated utility business (non-recoverable service) in a 2012 transaction. Any retirement costs associated with non-recoverable service is not recoverable through rates.

Pension Plans

Oncor sponsors the Oncor Retirement Plan and also has liabilities related to the Vistra Retirement Plan, both of which are qualified pension plans under Section 401(a) of the Code, and are subject to the provisions of ERISA. Employees do not contribute to either plan. These pension plans provide benefits to participants under one of two formulas: (i) a Cash Balance Formula under which participants earn monthly contribution credits based on their compensation and a combination of their age and years of service, plus monthly interest credits or (ii) a Traditional Retirement Plan Formula based on years of service and the average earnings of the three years of highest earnings. The interest component of the Cash Balance Formula is variable and is determined using the yield on 30-year Treasury bonds. The weighted-average interest crediting rate assumption for the Cash Balance Formula was 3.0% for 2020. Under the Cash Balance Formula, future increases in earnings will not apply to prior service costs.

All eligible employees hired after January 1, 2001 participate under the Cash Balance Formula. Certain employees, who, prior to January 1, 2002, participated under the Traditional Retirement Plan Formula, continue their participation under that formula. It is Oncor's policy to fund its plans on a current basis to the extent required under existing federal tax and ERISA regulations.

Oncor also has the Supplemental Retirement Plan for certain employees whose retirement benefits cannot be fully earned under the qualified retirement plan. Supplemental Retirement Plan amounts are included in the reported pension amounts below.

At December 31, 2020, the pension plans' projected benefit obligation included a net actuarial loss of $302 million for 2020 due primarily to a decrease in the discount rate. Actual returns on the plans' assets in 2020 were more than the expected return on assets by $241 million. Oncor expects the pension plans' amortizations of net actuarial losses to be $52 million in 2021.

OPEB Plans

Oncor currently sponsors two OPEB Plans. One plan covers Oncor's eligible current and future retirees whose services are 100% attributed to the regulated business. Effective January 1, 2018, Oncor established a second plan to cover eligible retirees of Oncor and EFH Corp./Vistra whose employment services were assigned to both Oncor (or a predecessor regulated utility business) and the non-regulated business of EFH Corp./Vistra. Vistra is solely responsible for its portion of the liability for retiree benefits related to those retirees.

Oncor's contribution policy for the OPEB Plans is to place in irrevocable external trusts dedicated to the payment of OPEB expenses an amount at least equal to the OPEB expense recovered in rates.

At December 31, 2020, the Oncor OPEB Plans' projected benefit obligation included a net actuarial loss of $20 million for 2020, including $65 million gain associated with mortality assumption changes, and updates to health care claims and trend assumptions, offset by a loss of $85 million due to a decrease in the discount rate. Actual returns on Oncor OPEB Plans' assets in 2020 were more than the expected return on assets by $7 million. Oncor expects its OPEB Plans' amortizations of net actuarial losses to increase by $8 million in 2021 reflecting these changes.

Pension and OPEB Costs Recognized as Expense

Pension and OPEB amounts provided herein include amounts related only to Oncor's obligations with respect to the various plans based on actuarial computations and reflect Oncor's employee and retiree demographics as described above. Oncor's net costs related to pension and Oncor OPEB Plans were comprised of the following:

	Year Ended December 31,		
	2020	**2019**	**2018**
Pension costs	$ 71	$ 63	$ 77
OPEB costs	19	41	70
Total benefit costs	90	104	147
Less amounts recognized principally as property or a regulatory asset	(13)	(27)	(69)
Net amounts recognized as operation and maintenance expense or other deductions	$ 77	$ 77	$ 78

The calculated value method is used to determine the market-related value of the assets held in the trust for purposes of calculating pension costs. Realized and unrealized gains or losses in the market-related value of assets are included over a rolling four-year period. Each year, 25% of such gains and losses for the current year and for each of the preceding three years is included in the market-related value. Each year, the market-related value of assets is increased for contributions to the plan and investment income and is decreased for benefit payments and expenses for that year.

The fair value method is used to determine the market-related value of the assets held in the trust for purposes of calculating OPEB cost.

Detailed Information Regarding Pension and OPEB Benefits

The following pension and OPEB information is based on December 31, 2020, 2019 and 2018 measurement dates:

	Pension Plans			OPEB Plans		
	Year Ended December 31,			Year Ended December 31,		
	2020	2019	2018	2020	2019	2018
Assumptions Used to Determine Net Periodic Pension and OPEB Costs:						
Discount rate	3.13%	4.18%	3.54%	3.29%	4.41%	3.73%
Expected return on plan assets	4.94%	5.42%	5.11%	5.90%	6.19%	6.20%
Rate of compensation increase	4.64%	4.53%	4.46%	-	-	-
Components of Net Pension and OPEB Costs:						
Service cost	$ 29	$ 25	$ 27	$ 6	$ 6	$ 8
Interest cost	103	128	121	32	43	44
Expected return on assets	(109)	(119)	(120)	(8)	(7)	(9)
Amortization of prior service cost (credit)	-	-	-	(20)	(20)	(30)
Amortization of net loss	48	29	49	10	19	57
Curtailment cost (credit)	-	-	-	(1)	-	-
Net periodic pension and OPEB costs	$ 71	$ 63	$ 77	$ 19	$ 41	$ 70
Other Changes in Plan Assets and Benefit Obligations Recognized as Regulatory Assets or in Other Comprehensive Income:						
Curtailment	$ -	$ -	$ -	$ 2	$ -	$ -
Net loss (gain)	61	-	67	14	(22)	(177)
Amortization of net loss	(48)	(29)	(49)	(10)	(19)	(57)
Amortization of prior service (cost) credit	-	-	-	20	20	30
Total recognized as regulatory assets or other comprehensive income	13	(29)	18	26	(21)	(204)
Total recognized in net periodic pension and OPEB costs and as regulatory assets or other comprehensive income	$ 84	$ 34	$ 95	$ 45	$ 20	$ (134)

	Pension Plans			OPEB Plans		
	Year Ended December 31,			Year Ended December 31,		
	2020	2019	2018	2020	2019	2018
Assumptions Used to Determine Benefit Obligations at Period End:						
Discount rate	2.40%	3.13%	4.18%	2.58%	3.29%	4.41%
Rate of compensation increase	4.80%	4.64%	4.53%	-	-	-

	Pension Plans		OPEB Plans	
	Year Ended December 31,		Year Ended December 31,	
	2020	2019	2020	2019
Change in Projected Benefit Obligation:				
Projected benefit obligation at beginning of year	$ 3,400	$ 3,162	$ 999	$ 1,006
Service cost	29	25	6	6
Interest cost	103	128	32	43
Participant contributions	-	-	18	19
Actuarial loss (gain)	302	367	20	(5)
Benefits paid	(165)	(164)	(63)	(70)
Curtailment	-	-	1	-
Settlements	(73)	(118)	-	-
Projected benefit obligation at end of year	$ 3,596	$ 3,400	$ 1,013	$ 999
Accumulated benefit obligation at end of year	$ 3,433	$ 3,283	$ -	$ -
Change in Plan Assets:				
Fair value of assets at beginning of year	$ 2,494	$ 2,249	$ 141	$ 132
Actual return on assets	350	486	14	25
Employer contributions	134	41	35	35
Participant contributions	-	-	18	19
Benefits paid	(165)	(164)	(63)	(70)
Settlements	(73)	(118)	-	-
Fair value of assets at end of year	$ 2,740	$ 2,494	$ 145	$ 141
Funded Status:				
Projected benefit obligation at end of year	$ (3,596)	$ (3,400)	$ (1,013)	$ (999)
Fair value of assets at end of year	2,740	2,494	145	141
Funded status at end of year	$ (856)	$ (906)	$ (868)	$ (858)

	Pension Plans		OPEB Plans	
	Year Ended December 31,		Year Ended December 31,	
	2020	2019	2020	2019
Amounts Recognized in the Balance Sheet Consist of:				
Liabilities:				
Other current liabilities	$ (5)	$ (5)	$ (14)	$ (15)
Other noncurrent liabilities	(863)	(901)	(854)	(843)
Net liability recognized	$ (868)	$ (906)	$ (868)	$ (858)
Assets:				
Other noncurrent assets	$ 12	$ -	$ -	$ -
Regulatory assets:				
Net loss	556	531	132	129
Prior service credit	-	-	(16)	(37)
Net regulatory assets recognized	556	531	116	92
Net assets recognized	$ 568	$ 531	$ 116	$ 92
Accumulated other comprehensive net loss	$ 108	$ 120	$ 3	$ 1

The following tables provide information regarding the assumed health care cost trend rates.

	Year Ended December 31,	
	2020	2019
Assumed Health Care Cost Trend Rates – Not Medicare Eligible:		
Health care cost trend rate assumed for next year	6.90%	7.20%
Rate to which the cost trend is expected to decline (the ultimate trend rate)	4.50%	4.50%
Year that the rate reaches the ultimate trend rate	2029	2029
Assumed Health Care Cost Trend Rates – Medicare Eligible:		
Health care cost trend rate assumed for next year	7.80%	8.00%
Rate to which the cost trend is expected to decline (the ultimate trend rate)	4.50%	4.50%
Year that the rate reaches the ultimate trend rate	2030	2029

The following table provides information regarding pension plans with projected benefit obligations (PBO) and accumulated benefit obligations (ABO) in excess of the fair value of plan assets.

	At December 31,	
	2020	2019
Pension Plans with PBO and ABO in Excess of Plan Assets (a):		
Projected benefit obligations	$ 3,596	$ 3,400
Accumulated benefit obligations	3,433	3,283
Plan assets	2,740	2,494

(a) PBO, ABO and the plan assets relating to Oncor's obligations with respect to the Vistra Retirement Plan are included. Oncor's obligations with respect to the Vistra Retirement Plan are overfunded. As of December 31, 2020, PBO, ABO and the plan assets relating to Oncor's obligations with respect to the Vistra Retirement Plan were $196 million, $194 million and $208 million, respectively. As of December 31, 2019, PBO, ABO and the plan assets relating to Oncor's obligations with respect to the Vistra Retirement Plan were $187 million, $184 million and $197 million, respectively.

The following table provides information regarding OPEB plans with accumulated projected benefit obligations (APBO) in excess of the fair value of plan assets.

	At December 31,	
	2020	2019
OPEB Plans with APBO in Excess of Plan Assets		
Accumulated postretirement benefit obligations	$ 1,013	$ 999
Plan assets	145	141

Pension and OPEB Plans Investment Strategy and Asset Allocations

Oncor's investment objective for the retirement plans is to invest in a suitable mix of assets to meet the future benefit obligations at an acceptable level of risk, while minimizing the volatility of contributions. Equity securities are held to achieve returns in excess of passive indexes by participating in a wide range of investment opportunities. International equity, real estate securities and credit strategies (high yield bonds, emerging market debt and bank loans) are used to further diversify the equity portfolio. International equity securities may include investments in both developed and emerging international markets. Fixed income securities include primarily corporate bonds from a diversified range of companies, U.S. Treasuries and agency securities and money market instruments. The investment strategy for fixed income investments is to maintain a high grade portfolio of securities, which assists Oncor in managing the volatility and magnitude of plan contributions and expense while maintaining sufficient cash and short-term investments to pay near-term benefits and expenses.

The Oncor Retirement Plan's investments are managed in two pools: one pool associated with the recoverable service portion of plan obligations related to Oncor's regulated utility business, and a second pool associated with the non-recoverable service portion of plan obligations not related to Oncor's regulated utility business. Each pool is invested in a broadly diversified portfolio as shown below. The second pool represents 25% of total investments at December 31, 2020.

The target asset allocation ranges of the pension plan’s investments by asset category are as follows:

Asset Category	Target Allocation Ranges	
	Recoverable	Non-recoverable
International equities	13% - 21%	6% - 12%
U.S. equities	16% - 24%	8% - 14%
Real estate	3% - 7%	-
Credit strategies	5% - 10%	5% - 9%
Fixed income	45% - 55%	68% - 78%

The investment objective for the Oncor OPEB Plans primarily follows the objectives of the pension plans discussed above, while maintaining sufficient cash and short-term investments to pay near-term benefits and expenses. The actual amounts at December 31, 2020 provided below are consistent with the asset allocation targets.

Fair Value Measurement of Pension Plans' Assets

At December 31, 2020 and 2019, pension plans' assets measured at fair value on a recurring basis consisted of the following:

	At December 31, 2020			
	Level 1	**Level 2**	**Level 3**	**Total**
Asset Category				
Equity securities:				
U.S.	$ 220	$ 1	$ -	$ 221
International	330	1	-	331
Fixed income securities:				
Corporate bonds (a)	-	910	-	910
U.S. Treasuries	-	46	-	46
Other (b)	-	57	-	57
Total assets in the fair value hierarchy	$ 550	$ 1,015	$ -	1,565
Total assets measured at net asset value (c)				1,175
Total fair value of plan assets				$ 2,740

	At December 31, 2019			
	Level 1	**Level 2**	**Level 3**	**Total**
Asset Category				
Equity securities:				
U.S.	$ 194	$ 2	$ -	$ 196
International	290	1	-	291
Fixed income securities:				
Corporate bonds (a)	-	908	-	908
U.S. Treasuries	-	147	-	147
Other (b)	-	63	-	63
Real estate	-	-	3	3
Total assets in the fair value hierarchy	$ 484	$ 1,121	$ 3	1,608
Total assets measured at net asset value (c)				886
Total fair value of plan assets				$ 2,494

(a) Substantially all corporate bonds are rated investment grade by Fitch, Moody's or S&P.
(b) Other consists primarily of municipal bonds, emerging market debt, bank loans and fixed income derivative instruments.
(c) Fair value was measured using the net asset value (NAV) per share as a practical expedient as the investments did not have a readily determinable fair value and are not required to be classified in the fair value hierarchy. The NAV fair value amounts presented here are intended to permit a reconciliation to the total fair value of plan assets.

Fair Value Measurement of Oncor OPEB Plans' Assets

At December 31, 2020 and 2019, the Oncor OPEB Plans' assets measured at fair value on a recurring basis consisted of the following:

	At December 31, 2020			
	Level 1	**Level 2**	**Level 3**	**Total**
Asset Category				
Interest-bearing cash	$ 9	$ -	$ -	$ 9
Equity securities:				
U.S.	24	-	-	24
International	25	-	-	25
Fixed income securities:				
Corporate bonds (a)	-	34	-	34
U.S. Treasuries	-	1	-	1
Other (b)	19	3	-	22
Total assets in the fair value hierarchy	$ 77	$ 38	$ -	115
Total assets measured at net asset value (c)				30
Total fair value of plan assets				$ 145

	At December 31, 2019			
	Level 1	**Level 2**	**Level 3**	**Total**
Asset Category				
Interest-bearing cash	$ 6	$ -	$ -	$ 6
Equity securities:				
U.S.	24	-	-	24
International	28	-	-	28
Fixed income securities:				
Corporate bonds (a)	-	31	-	31
U.S. Treasuries	-	3	-	3
Other (b)	22	2	-	24
Total assets in the fair value hierarchy	$ 80	$ 36	$ -	116
Total assets measured at net asset value (c)				25
Total fair value of plan assets				$ 141

(a) Substantially all corporate bonds are rated investment grade by Fitch, Moody's or S&P.
(b) Other consists primarily of diversified bond mutual funds.
(c) Fair value was measured using the net asset value (NAV) per share as a practical expedient as the investments did not have a readily determinable fair value and are not required to be classified in the fair value hierarchy. The NAV fair value amounts presented here are intended to permit a reconciliation to the total fair value of plan assets.

Expected Long-Term Rate of Return on Assets Assumption

The retirement plans' strategic asset allocation is determined in conjunction with the plans' advisors and utilizes a comprehensive Asset-Liability modeling approach to evaluate potential long-term outcomes of various investment strategies. The modeling incorporates long-term rate of return assumptions for each asset class based on historical and future expected asset class returns, current market conditions, rate of inflation, current prospects for economic growth, and taking into account the diversification benefits of investing in multiple asset classes and potential benefits of employing active investment management.

Pension Plans		Oncor OPEB Plans	
Asset Class	**Expected Long-Term Rate of Return**	**Asset Class**	**Expected Long-Term Rate of Return**
International equity securities	7.58%	401(h) accounts	5.59%
U.S. equity securities	6.50%	Life insurance VEBA	5.10%
Real estate	5.60%	Union VEBA	5.10%
Credit strategies	3.90%	Non-union VEBA	1.10%
Fixed income securities	2.32%	Shared retiree VEBA	1.10%
Weighted average (a)	4.57%	Weighted average	5.24%

(a) The 2021 expected long-term rate of return for the nonregulated portion of the Oncor Retirement Plan is 3.75%, and for Oncor's obligations with respect to the Vistra Retirement Plan is 4.20%.

Significant Concentrations of Risk

The plans' investments are exposed to risks such as interest rate, capital market and credit risks. Oncor seeks to optimize return on investment consistent with levels of liquidity and investment risk which are prudent and reasonable, given prevailing capital market conditions and other factors specific to participating employers. While Oncor recognizes the importance of return, investments will be diversified in order to minimize the risk of large losses unless, under the circumstances, it is clearly prudent not to do so. There are also various restrictions and guidelines in place including limitations on types of investments allowed and portfolio weightings for certain investment securities to assist in the mitigation of the risk of large losses.

Assumed Discount Rate

For the Oncor retirement plans at December 31, 2020, Oncor selected the assumed discount rate using the Aon AA-AAA Bond Universe yield curve, which is based on corporate bond yields and at December 31, 2020 consisted of 862 corporate bonds with an average rating of AA and AAA using Moody's, S&P and Fitch ratings. For Oncor's obligations with respect to the Vistra Retirement Plan and the Oncor OPEB Plans at December 31, 2020, Oncor selected the assumed discount rate using the Aon AA Above Median yield curve, which is based on corporate bond yields and at December 31, 2020 consisted of 305 corporate bonds with an average rating of AA using Moody's, S&P and Fitch ratings.

Pension and Oncor OPEB Plans Cash Contributions

Oncor's contributions to the benefit plans were as follows:

	Year Ended December 31,		
	2020	2019	2018
Pension plans contributions	$ 134	$ 41	$ 82
Oncor OPEB Plans contributions	35	35	41
Total contributions	$ 169	$ 76	$ 123

Oncor's funding for the pension plans and the Oncor OPEB Plans is expected to total $24 million and $35 million, respectively in 2021 and approximately $560 million and $176 million, respectively, in the five-year period 2021 to 2025.

Future Benefit Payments

Estimated future benefit payments to participants are as follows:

	2021	2022	2023	2024	2025	2026-30
Pension plans	$ 186	$ 189	$ 192	$ 195	$ 197	$ 975
Oncor OPEB Plans	$ 49	$ 51	$ 52	$ 53	$ 54	$ 271

Thrift Plan

Oncor's employees are eligible to participate in a qualified savings plan, the Oncor Thrift Plan, which is a participant-directed defined contribution plan subject to the provisions of ERISA and intended to qualify under Section 401(a) of the Code, and to meet the requirements of Code Sections 401(k) and 401(m). Under the plan, employees may contribute, through pre-tax salary deferrals and/or after-tax applicable payroll deductions, a portion of their regular salary or wages as permitted under law. Employer matching contributions are made in an amount equal to 100% of the first 6% of employee contributions for employees who are covered under the Cash Balance Formula of the Oncor Retirement Plan, and 75% of the first 6% of employee contributions for employees who are covered under the Traditional Retirement Plan Formula of the Oncor Retirement Plan. Employer matching contributions are made in cash and may be allocated by participants to any of the plan's investment options. Oncor's contributions to the Oncor Thrift Plan totaled $23 million, $20 million and $19 million for the years ended December 31, 2020, 2019 and 2018, respectively.

11. STOCK-BASED COMPENSATION

Oncor currently does not offer stock-based compensation to its employees or directors. In 2008 and 2009, Oncor established the stock appreciation rights (SARs) plans under which certain of its executive officers, key employees and non-employee members of Oncor's board of directors were granted SARs payable in cash, or in some circumstances, Oncor membership interests.

In November 2012, Oncor accepted the early exercise for cash payments of all outstanding SARs (both vested and unvested) issued to date pursuant to both SARs plans. As part of the 2012 early exercise of SARs Oncor began accruing interest on dividends declared with respect to the SARs. Under both SARs plans, dividends that were paid in respect of Oncor membership interests while the SARs were outstanding were credited to the SARs holder's account as if the SARs were units, payable upon the earliest to occur of death, disability, separation from service, unforeseeable emergency, a change in control, or the occurrence of an event triggering SAR exercisability. As a result of the Sempra Acquisition, the dividend and interest accounts were distributed in 2018, totaling $15 million. For accounting purposes, the liability was discounted based on an employee's or director's expected retirement date. Oncor recognized $4 million in accretion and interest with respect to such dividend and interest accounts in 2018. No SARs liability remained at December 31, 2020 and 2019.

12. RELATED-PARTY TRANSACTIONS

The following represent our significant related-party transactions and related matters.

- We are a member of Sempra's federal consolidated tax group and therefore Sempra's federal consolidated income tax return includes our results. Included in our results as reported in Sempra's federal consolidated tax return is our portion of Oncor's taxable income. Under the terms of a tax sharing agreement, we are obligated to make payments to STH in an aggregate amount that is substantially equal to the amount of federal income taxes that we would have been required to pay if we were filing our own corporate income tax return. Also under the terms of the tax sharing agreement, Oncor makes similar payments to Texas Transmission, pro rata in accordance with its respective membership interest in Oncor, in an aggregate amount that is substantially equal to the amount of federal income taxes that Oncor would have been required to pay if it were filing its own corporate income tax return. STH also includes Oncor's results in its combined Texas state margin tax return, and consistent with the tax sharing agreement, Oncor remits to STH Texas margin tax payments, which are accounted for as income taxes and calculated as if Oncor was filing its own return. See discussion in Note 1 to Financial Statements under "Income Taxes."

  Amounts payable to (receivable from) STH related to income taxes under the agreement and reported on our balance sheet consisted of the following:

	At December 31, 2020	At December 31, 2019
Federal income taxes payable (receivable)	$ (14)	$ (4)
Texas margin tax payable	23	22
Total payable (receivable)	$ 9	$ 18

Cash payments made to (received from) Sempra related to income taxes consisted of the following:

	Year Ended December 31, 2020	Year Ended December 31, 2019	Year Ended December 31, 2018		
	STH	STH	STH	EFH Corp.	Total
Federal income taxes	$ 70	$ 54	$ 77	$ (19)	$ 58
Texas margin tax	22	22	21	-	21
Total payments (receipts)	$ 92	$ 76	$ 98	$ (19)	$ 79

- As of March 8, 2018, approximately 16% of the equity in an existing vendor of the company was owned by a member of the Sponsor Group. As a result of the Sempra Acquisition, the Sponsor Group ceased to be a related party as of March 9, 2018. During 2018, this vendor performed transmission and distribution system construction and maintenance services for Oncor. Cash payments were made for such services to this vendor and/or its subsidiaries totaling $35 million for the year-to-date period ended March 8, 2018, of which approximately $33 million was capitalized and $2 million was recorded as an operation and maintenance expense.

- Sempra acquired an indirect 50% interest in Sharyland Holdings, L.P., the parent of Sharyland, in the Sempra-Sharyland Transaction. As a result of the Sempra-Sharyland Transaction, Sharyland is now Oncor's affiliate for purposes of PUCT rules. Pursuant to the PUCT order in Docket No. 48929 approving the InfraREIT Acquisition, upon closing of the InfraREIT Acquisition Oncor entered into an operation agreement pursuant to which Oncor will provide certain operations services to Sharyland at cost with no markup or profit. Sharyland provided wholesale transmission service to Oncor in the amount of $13 million and $9 million in the year ended December 31, 2020 and in the period between the May 16, 2019 InfraREIT Acquisition date through December 31, 2019, respectively. Oncor provided substation monitoring and switching service to Sharyland in the amount of $629,000 and $303,000 in the year ended December 31, 2020 and in the period between the May 16, 2019 InfraREIT Acquisition date through December 31, 2019, respectively.

- Oncor paid Sempra $119,000 and $109,000 for the years ended December 31, 2020 and 2019, respectively for tax work.

See Note 8 for information regarding distributions to member.

13. SUPPLEMENTARY FINANCIAL INFORMATION

Other Deductions and (Income)

	Year Ended December 31,		
	2020	**2019**	**2018**
Professional fees	$ 6	$ 10	$ 12
Sempra Acquisition related costs	-	-	12
InfraREIT Acquisition related costs	-	9	-
Recoverable Pension and OPEB - non-service costs	55	57	53
Non-recoverable pension and OPEB	4	4	6
AFUDC equity income	(29)	(10)	-
Interest income	(4)	(5)	(1)
Other	1	(2)	2
Total other deductions and (income) - net	$ 33	$ 63	$ 84

Interest Expense and Related Charges

	Year Ended December 31,		
	2020	2019	2018
Interest	$ 413	$ 382	$ 358
Amortization of debt issuance costs and discounts	11	9	6
Less AFUDC – capitalized interest portion	(19)	(16)	(13)
Total interest expense and related charges	$ 405	$ 375	$ 351

Trade Accounts and Other Receivables

Trade accounts and other receivables reported on our balance sheet consisted of the following:

	At December 31,	
	2020	2019
Gross trade accounts and other receivables	$ 767	$ 666
Allowance for uncollectible accounts	(7)	(5)
Trade accounts receivable – net	$ 760	$ 661

At December 31, 2020, REP subsidiaries of two of Oncor's largest customers represented 21% and 15% of the trade accounts receivable balance and no other customers represented 10% or more of the trade accounts receivable balance. At December 31, 2019, REP subsidiaries of two of Oncor's largest customers represented 15% and 11% of the trade accounts receivable balance.

Under a PUCT rule relating to the Certification of Retail Electric Providers, write-offs of uncollectible amounts owed by REPs are deferred as a regulatory asset.

Investments and Other Property

Investments and other property reported on our balance sheet consist of the following:

	At December 31,	
	2020	2019
Assets related to employee benefit plans	$ 124	$ 119
Land	16	12
Other	2	2
Total investments and other property	$ 142	$ 133

The majority of these assets represent cash surrender values of life insurance policies that are purchased to fund liabilities under deferred compensation plans. At December 31, 2020 and 2019, the face amount of these policies totaled $181 million and $172 million, respectively, and the net cash surrender values (determined using a Level 2 valuation technique) totaled $97 million and $95 million at December 31, 2020 and 2019, respectively. Changes in cash surrender value are netted against premiums paid. Other investment assets held to satisfy deferred compensation liabilities are recorded at market value.

Property, Plant and Equipment

Property, plant and equipment reported on our balance sheet consisted of the following:

	Composite Depreciation Rate/ Avg. Life at December 31, 2020	At December 31, 2020	At December 31, 2019
Assets in service:			
Distribution	2.5% / 39.4 years	$ 14,937	$ 14,007
Transmission	2.9% / 34.8 years	12,156	11,094
Other assets	6.7% / 14.9 years	1,855	1,648
Total		28,948	26,749
Less accumulated depreciation		8,336	7,986
Net of accumulated depreciation		20,612	18,763
Construction work in progress		593	585
Held for future use		20	22
Property, plant and equipment – net		$ 21,225	$ 19,370

Depreciation expense as a percent of average depreciable property approximated 2.7%, 2.7% and 2.8% for the years ended December 31, 2020, 2019 and 2018, respectively.

Intangible Assets

Intangible assets (other than goodwill) reported on our balance sheet as part of property, plant and equipment consisted of the following:

	At December 31, 2020			At December 31, 2019		
	Gross Carrying Amount	Accumulated Amortization	Net	Gross Carrying Amount	Accumulated Amortization	Net
Identifiable intangible assets subject to amortization:						
Land easements	$ 623	$ 112	$ 511	$ 575	$ 107	$ 468
Capitalized software	1,027	484	543	933	430	503
Total	$ 1,650	$ 596	$ 1,054	$ 1,508	$ 537	$ 971

Aggregate amortization expense for intangible assets totaled $62 million, $52 million and $50 million for the years ended December 31, 2020, 2019 and 2018, respectively. At December 31, 2020, the weighted average remaining useful lives of capitalized land easements and software were 84 years and 9 years, respectively. The estimated aggregate amortization expense for each of the next five fiscal years is as follows:

Year	Amortization Expense
2021	$ 68
2022	68
2023	68
2024	67
2025	67

Goodwill totaling $4.628 billion was reported on our balance sheet at both December 31, 2020 and 2019. None of this goodwill is being deducted for tax purposes. See Note 1 regarding goodwill impairment assessment and testing.

Operating Lease, Third-Party Joint Project and Other Obligations

Operating lease, third-party joint project and other obligations reported on our balance sheet consisted of the following:

	At December 31,	
	2020	2019
Liabilities related to tax sharing agreement with noncontrolling interest	$ 102	$ 112
Operating lease liabilities (Notes 1 and 7)	124	66
Investment tax credits	5	6
Third-party joint project obligation (Note 1) (a)	100	4
Other	76	70
Total operating lease, third-party joint project and other obligations	$ 407	$ 258

(a) Oncor is currently involved in a joint project with LP&L. See Note 3 for more information.

Supplemental Cash Flow Information

	Year Ended December 31,		
	2020	**2019**	**2018**
Cash payments related to:			
Interest	$ 406	$ 368	$ 368
Less capitalized interest	(19)	(16)	(13)
Interest payments (net of amounts capitalized)	$ 387	$ 352	$ 355
Income taxes:			
Federal	$ 87	$ 65	$ 68
State	22	22	21
Total payments (refunds) of income taxes	$ 109	$ 87	$ 89
Noncash increase in operating lease obligation for ROU assets	$ 72	$ 38	$ -
Noncash investing and financing activity:			
Acquisition (a):			
Assets acquired	$ -	$ 2,547	$ -
Liabilities assumed	-	(1,223)	-
Cash paid	$ -	$ 1,324	$ -
Debt exchange (b):			
Debt issued in debt exchange offering	$ 300	$ -	$ -
Debt exchanged in debt exchange offering	(300)	-	-
	$ -	$ -	$ -
Noncash construction expenditures (c)	$ 254	$ 278	$ 174

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(a) See Note 14 for more information on noncash debt exchange related to InfraREIT Acquisition.
(b) See Note 6 for more information on noncash debt exchanges related to 2052 Notes issuance.
(c) Represents end-of-period accruals.

14. ACQUISITION ACTIVITY

InfraREIT Acquisition

In May 2019, Oncor completed the InfraREIT Acquisition, pursuant to which Oncor acquired all of the equity interests of InfraREIT and its subsidiary, InfraREIT Partners for a total cash consideration of $1.275 billion. In addition, Oncor paid certain transaction costs incurred by InfraREIT (including a management agreement termination fee of $40 million that InfraREIT paid an affiliate of Hunt Consolidated, Inc. at closing), with the aggregate cash consideration and payment of InfraREIT expenses totaling $1.324 billion. Oncor funded the cash consideration and certain transaction expenses with capital contributions in an aggregate amount of $1.330 billion received from Sempra and certain indirect equity holders of Texas Transmission.

In connection with and immediately following the closing of the InfraREIT Acquisition, in May 2019, Oncor extinguished all $953 million outstanding principal amount of debt of InfraREIT and its subsidiaries through repaying $602 million principal amount of InfraREIT subsidiary debt and exchanging new Oncor senior secured debt for $351 million principal amount of InfraREIT subsidiary debt.

As a result of the InfraREIT Acquisition, which included the exchange of certain assets between SDTS and SU pursuant to the SDTS-SU Asset Exchange, Oncor acquired our indirect subsidiary NTU and expanded our existing footprint in Texas by adding various electricity transmission and distribution assets and projects in the north, central, west and panhandle regions of Texas, including a joint project with LP&L for the build out and associated station work to join most of the City of Lubbock's electric facilities to the ERCOT market. For more information on the LP&L joint project, see Note 3.

Business Combination Accounting

We and Oncor accounted for the InfraREIT Acquisition as a business acquisition with identifiable assets acquired and liabilities assumed recorded at their estimated fair values on the closing date. The combined results of operations are reported in our consolidated financial statements beginning as of the closing date. A summary of techniques used to estimate the preliminary fair value of the identifiable assets and liabilities is listed below.

- Assets and liabilities that are included in the PUCT cost-based regulatory rate-setting processes are recorded at fair values equal to their regulatory carrying value consistent with GAAP and industry practice.
- Working capital was valued using market information (Level 2).

The following tables set forth the purchase price paid. The final purchase price allocation was completed as of March 31, 2020.

Purchase of outstanding InfraREIT shares and units	$	1,275
Certain transaction costs of InfraREIT paid by Oncor through June 30, 2019 (a)		53
Total purchase price paid through June 30, 2019		1,328
Adjustments made in the period from June 30, 2019 through March 31, 2020		(4)
Total purchase price paid	$	1,324

(a) Represents certain transaction costs incurred by InfraREIT in connection with the transaction and paid by Oncor, including a $40 million management termination fee payable to an affiliate of Hunt Consolidated, Inc.

Purchase price allocation is as follows:

	As of May 16, 2019
Assets acquired:	
Current assets	$ 45
Property, plant and equipment - net	1,800
Goodwill	564
Regulatory assets	16
Deferred tax assets	15
Other noncurrent assets	10
Total assets acquired	2,450
Liabilities assumed:	
Short-term debt	115
Other current liabilities	24
Regulatory liabilities	148
Long-term debt, including due currently	839
Total liabilities assumed	1,126
Net assets acquired	1,324
Total purchase price paid	$ 1,324

The goodwill of $564 million arising from the InfraREIT Acquisition is attributable to the assets acquired, which expand Oncor's transmission footprint and help Oncor support ERCOT market growth. None of the goodwill is recoverable nor provides a tax benefit in the rate-making process. No employee benefit obligations were assumed in the acquisition.

Acquisition costs incurred in the InfraREIT Acquisition by Oncor and recorded to other deductions totaled zero in 2020 and $9 million in 2019. Our statements of consolidated income include revenues and net income of the acquired business totaling $250 million and $106 million in 2020 and $156 million and $58 million in 2019, respectively. The goodwill at Oncor Holdings is less than at Oncor because at Oncor Holdings there were no tax and book basis differences of the net assets acquired at the acquisition date.

Unaudited Pro Forma Financial Information

The following unaudited pro forma financial information for the years ended December 31, 2019 and 2018 assumes that the InfraREIT Acquisition occurred on January 1, 2018. The unaudited pro forma financial information is provided for information purposes only and is not necessarily indicative of the results of operations that would have occurred had the InfraREIT Acquisition been completed on January 1, 2018, nor is the unaudited pro forma financial information indicative of future results of operations, which may differ materially from the pro forma financial information presented here.

	Year Ended December 31,	
	2019	2018
Oncor Consolidated Pro Forma Revenues	$ 4,431	$ 4,318

The unaudited pro forma financial information above excludes pro forma earnings due to the impracticability of a calculation. The acquiree previously operated under a real estate investment trust structure with a unique cost structure and unique federal tax attributes. An accurate retrospective application cannot be objectively and reliably calculated as the new cost structure and new tax attributes would require a significant amount of estimates and judgments.

15. CONDENSED FINANCIAL INFORMATION

ONCOR ELECTRIC DELIVERY HOLDINGS COMPANY LLC (Parent Co.)
Parent only Financial Information
(millions of dollars)

CONDENSED STATEMENTS OF COMPREHENSIVE INCOME

	Year Ended December 31,		
	2020	2019	2018
Income tax expense	$ (9)	$ (8)	$ (24)
Equity in earnings of subsidiary	571	522	437
Net Income	562	514	413
Other comprehensive income (net of tax (benefit) expense of ($3), $4 and ($3))	(12)	19	(11)
Comprehensive income	$ 550	$ 533	$ 402

CONDENSED STATEMENTS OF CASH FLOWS

	Year Ended December 31,		
	2020	2019	2018
Cash provided by operating activities	$ 286	$ 246	$ 149
Cash used in financing activities - distributions paid to member	(286)	(246)	(149)
Net change in cash and cash equivalents	-	-	-
Cash and cash equivalents - beginning balance	-	-	-
Cash and cash equivalents - ending balance	$ -	$ -	$ -

CONDENSED BALANCE SHEETS

	At December 31,	
	2020	**2019**
ASSETS		
Income taxes receivable from member - current	8	1
Investments - noncurrent	9,568	8,698
Accumulated deferred income taxes	126	114
Total assets	$ 9,702	$ 8,813
LIABILITIES AND MEMBERSHIP INTERESTS		
Other noncurrent liabilities and deferred credits	103	112
Total liabilities	103	112
Membership interests	9,599	8,701
Total liabilities and membership interests	$ 9,702	$ 8,813

See Notes to Financial Statements.

ONCOR ELECTRIC DELIVERY HOLDINGS COMPANY LLC (Parent Co.)
Condensed Financial Information
NOTES TO CONDENSED FINANCIAL STATEMENTS

Basis of Presentation

References herein to "we," "our," "us" and "the company" are to Oncor Holdings (Parent Co.) and/or its direct or indirect subsidiaries as apparent in the context.

The accompanying condensed balance sheets are presented at December 31, 2020 and 2019, and the accompanying condensed statements of income and cash flows are presented for the years ended December 31, 2020, 2019 and 2018. We are a Delaware limited liability company indirectly wholly owned by Sempra. As of December 31, 2020, we own 80.25% of the membership interests in Oncor. Certain information and footnote disclosures normally included in financial statements prepared in accordance with GAAP have been omitted pursuant to the rules of the US Securities and Exchange Commission. Because the condensed financial statements do not include all of the information and footnotes required by GAAP, they should be read in conjunction with the consolidated financial statements and Notes 1 through 15. Our subsidiary has been accounted for under the equity method in this condensed financial information. All dollar amounts in the financial statements are stated in millions of US dollars unless otherwise indicated.

Distribution Restrictions

While there are no direct restrictions on our ability to distribute our net income that are currently material, substantially all of our net income is derived from Oncor. Our board of directors and Oncor's board of directors, which are each composed of a majority of Disinterested Directors, can withhold distributions to the extent such board determines that it is necessary to retain such amounts to meet our expected future requirements. In addition, we and Oncor cannot make distributions (except for contractual tax payments) of amounts to the extent a majority of the Disinterested Directors on the respective board determines that such amounts are necessary to meet expected future requirements of the company. At Oncor, either of the two directors designated to serve on the Oncor board of directors by Texas Transmission could also prevent Oncor from making distributions (other than contractual tax payments) to the extent such director determines it is in the best interests of Oncor to retain such amounts to meet expected future requirements, including continuing compliance with the debt-to-equity ratio established from time to time by the PUCT for rate-making purposes. The PUCT has the authority to determine what types of debt and equity are included in a utility's debt-to-equity ratio. For purposes of this ratio, debt is calculated as long-term debt including finance leases plus unamortized gains on reacquired debt less unamortized issuance expenses, premiums and losses on reacquired debt. Equity is calculated as membership interests determined in accordance with GAAP, excluding accumulated other comprehensive loss and the effects of acquisition accounting from a 2007 transaction.

Oncor's distributions are limited by the requirement to maintain its regulatory capital structure at or below the debt-to-equity ratio established periodically by the PUCT for ratemaking purposes. Oncor's current authorized regulatory capital structure set by the PUCT is 57.5% debt to 42.5% equity. At December 31, 2020, Oncor's regulatory capitalization was 52.8% debt to 47.2% equity.

During 2020, 2019 and 2018, Oncor's board of directors declared, and Oncor paid to us the following cash distributions:

	Year Ended December 31,		
	2020	2019	2018
	(millions of dollars)		
Distributions received, subsequently paid as federal income taxes recognized as operating activities	$ -	$ 10	$ 18
Distributions received, subsequently paid as a distribution recognized as financing activities	286	246	149
Total distributions from Oncor	$ 286	$ 256	$ 167