

---

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

---

**Form 10-Q**

(Mark One)

☒ **QUARTERLY REPORT PURSUANT TO SECTION 13 OR 15(d)**  
**OF THE SECURITIES EXCHANGE ACT OF 1934**

For the quarterly period ended March 31, 2017

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. 001-12079



**Calpine Corporation**

(A Delaware Corporation)

I.R.S. Employer Identification No. 77-0212977

717 Texas Avenue, Suite 1000, Houston, Texas 77002

Telephone: (713) 830-2000

**Not Applicable**  
(Former Address)

Indicate by check mark whether the registrant (1) has 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 registrant was required to file such reports), and (2) has been subject to such filing requirements for the past 90 days. Yes ☒ No ☐

Indicate by check mark whether the registrant has submitted electronically and posted on its corporate Website, if any, every Interactive Data File required to be submitted and posted pursuant to Rule 405 of Regulation S-T during the preceding 12 months (or for such shorter period that the registrant was required to submit and post 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 definitions of "large accelerated filer," "accelerated filer," "smaller reporting company," and "emerging growth company" in Rule 12b-2 of the Exchange Act.

Large accelerated filer	<input checked="" type="checkbox"/>	Accelerated filer	<input type="checkbox"/>
Non-accelerated filer	<input type="checkbox"/> (Do not check if a smaller reporting company)	Smaller reporting company	<input type="checkbox"/>
Emerging growth company	<input type="checkbox"/>		

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. ☐

Indicate by check mark whether the registrant is a shell company (as defined in Rule 12b-2 of the Exchange Act). Yes ☐ No ☒

Indicate the number of shares outstanding of each of the registrant's classes of common stock, as of the latest practicable date: 360,793,424 shares of common stock, par value \$0.001, were outstanding as of April 24, 2017.

---

---

CALPINE CORPORATION AND SUBSIDIARIES

REPORT ON FORM 10-Q  
For the Quarter Ended March 31, 2017

INDEX

	<u>Page</u>
<a href="#">Definitions</a>	<a href="#">ii</a>
<a href="#">Forward-Looking Statements</a>	<a href="#">vii</a>
<a href="#">Where You Can Find Other Information</a>	<a href="#">viii</a>
 <b><a href="#">PART I – FINANCIAL INFORMATION</a></b>	
 Item 1. Financial Statements	<a href="#">1</a>
Consolidated Condensed Statements of Operations for the Three Months Ended March 31, 2017 and 2016	<a href="#">1</a>
Consolidated Condensed Statements of Comprehensive Loss for the Three Months Ended March 31, 2017 and 2016	<a href="#">2</a>
Consolidated Condensed Balance Sheets at March 31, 2017 and December 31, 2016	<a href="#">3</a>
Consolidated Condensed Statements of Cash Flows for the Three Months Ended March 31, 2017 and 2016	<a href="#">4</a>
Notes to Consolidated Condensed Financial Statements	<a href="#">6</a>
Item 2. Management’s Discussion and Analysis of Financial Condition and Results of Operations	<a href="#">27</a>
Forward-Looking Information	<a href="#">27</a>
Introduction and Overview	<a href="#">27</a>
Results of Operations	<a href="#">32</a>
Commodity Margin and Adjusted EBITDA	<a href="#">34</a>
Liquidity and Capital Resources	<a href="#">38</a>
Risk Management and Commodity Accounting	<a href="#">43</a>
New Accounting Standards and Disclosure Requirements	<a href="#">46</a>
Item 3. Quantitative and Qualitative Disclosures About Market Risk	<a href="#">46</a>
Item 4. Controls and Procedures	<a href="#">46</a>
 <b><a href="#">PART II – OTHER INFORMATION</a></b>	
 Item 1. Legal Proceedings	<a href="#">47</a>
Item 1A. Risk Factors	<a href="#">47</a>
Item 2. Unregistered Sales of Equity Securities and Use of Proceeds	<a href="#">47</a>
Item 3. Defaults Upon Senior Securities	<a href="#">47</a>
Item 4. Mine Safety Disclosures	<a href="#">47</a>
Item 5. Other Information	<a href="#">47</a>
Item 6. Exhibits	<a href="#">48</a>
Signatures	<a href="#">49</a>

## DEFINITIONS

As used in this report for the quarter ended March 31, 2017 (this “Report”), the following abbreviations and terms have the meanings as listed below. Additionally, the terms “Calpine,” “we,” “us” and “our” refer to Calpine Corporation and its consolidated subsidiaries, unless the context clearly indicates otherwise. The term “Calpine Corporation” refers only to Calpine Corporation and not to any of its subsidiaries. Unless and as otherwise stated, any references in this Report to any agreement means such agreement and all schedules, exhibits and attachments in each case as amended, restated, supplemented or otherwise modified to the date of filing this Report.

ABBREVIATION	DEFINITION
2016 Form 10-K	Calpine Corporation’s Annual Report on Form 10-K for the year ended December 31, 2016, filed with the SEC on February 10, 2017
2017 First Lien Term Loan	The \$550 million first lien senior secured term loan, dated December 1, 2016, among Calpine Corporation, as borrower, the lenders party thereto, Morgan Stanley Senior Funding, Inc., as administrative agent and MUFG Union Bank, N.A., as collateral agent, partially repaid on March 16, 2017
2019 First Lien Term Loan	The \$400 million first lien senior secured term loan, dated February 3, 2017, among Calpine Corporation, as borrower, the lenders party thereto, Morgan Stanley Senior Funding, Inc., as administrative agent and MUFG Union Bank, N.A., as collateral agent
2022 First Lien Notes	The \$750 million aggregate principal amount of 6.0% senior secured notes due 2022, issued October 31, 2013
2023 First Lien Notes	The \$1.2 billion aggregate principal amount of 7.875% senior secured notes due 2023, issued January 14, 2011, repaid in series of transactions on November 7, 2012, December 2, 2013, December 4, 2014, February 3, 2015, December 7, 2015, December 19, 2016 and March 6, 2017
2023 First Lien Term Loan	The \$550 million first lien senior secured term loan, dated December 15, 2015, among Calpine Corporation, as borrower, the lenders party thereto, Morgan Stanley Senior Funding, Inc., as administrative agent and Goldman Sachs Credit Partners L.P., as collateral agent
2023 First Lien Term Loans	Collectively, the 2023 First Lien Term Loan and the New 2023 First Lien Term Loan
2023 Senior Unsecured Notes	The \$1.25 billion aggregate principal amount of 5.375% senior unsecured notes due 2023, issued July 22, 2014
2024 First Lien Notes	The \$490 million aggregate principal amount of 5.875% senior secured notes due 2024, issued October 31, 2013
2024 First Lien Term Loan	The \$1.6 billion first lien senior secured term loan, dated May 28, 2015 (as amended December 21, 2016), among Calpine Corporation, as borrower, the lenders party thereto, Morgan Stanley Senior Funding, Inc., as administrative agent and Goldman Sachs Credit Partners L.P., as collateral agent
2024 Senior Unsecured Notes	The \$650 million aggregate principal amount of 5.5% senior unsecured notes due 2024, issued February 3, 2015
2025 Senior Unsecured Notes	The \$1.55 billion aggregate principal amount of 5.75% senior unsecured notes due 2025, issued July 22, 2014
2026 First Lien Notes	The \$625 million aggregate principal amount of 5.25% senior unsecured notes due 2026, issued May 31, 2016
AB 32	California Assembly Bill 32
Accounts Receivable Sales Program	Receivables purchase agreement between Calpine Solutions and Calpine Receivables and the purchase and sale agreement between Calpine Receivables and an unaffiliated financial institution, both which allows for the revolving sale of up to \$250 million in certain trade accounts receivables to third parties

ABBREVIATION	DEFINITION
Adjusted EBITDA	EBITDA as adjusted for the effects of (a) impairment charges, (b) major maintenance expense, (c) operating lease expense, (d) gains or losses on commodity derivative mark-to-market activity, (e) adjustments to reflect only the Adjusted EBITDA from our unconsolidated investments, (f) adjustments to exclude the Adjusted EBITDA related to the noncontrolling interest, (g) stock-based compensation expense, (h) gains or losses on sales, dispositions or retirements of assets, (i) non-cash gains and losses from foreign currency translations, (j) gains or losses on the repurchase, modification or extinguishment of debt, (k) non-cash GAAP-related adjustments to levelize revenues from tolling agreements and (l) other unusual or non-recurring items
AOCI	Accumulated Other Comprehensive Income
Average availability	Represents the total hours during the period that our plants were in-service or available for service as a percentage of the total hours in the period
Average capacity factor, excluding peakers	A measure of total actual power generation as a percent of total potential power generation. It is calculated by dividing (a) total MWh generated by our power plants, excluding peakers, by (b) the product of multiplying (i) the average total MW in operation, excluding peakers, during the period by (ii) the total hours in the period
Btu	British thermal unit(s), a measure of heat content
CAISO	California Independent System Operator which is an entity that manages the power grid and operates the competitive power market in California
Calpine Equity Incentive Plans	Collectively, the Director Plan and the Equity Plan, which provide for grants of equity awards to Calpine non-union employees and non-employee members of Calpine's Board of Directors
Calpine Receivables	Calpine Receivables, LLC, formerly Noble Americas Treasury Solutions LLC, an indirect, wholly-owned subsidiary of Calpine, which was established as a bankruptcy remote, special purpose subsidiary and is responsible for administering the Accounts Receivable Sales Program
Calpine Solutions	Calpine Energy Solutions, LLC, formerly Noble Solutions, an indirect, wholly-owned subsidiary of Calpine, which is the third largest supplier of power to commercial and industrial retail customers in the United States with customers in 19 states, including presence in California, Texas, the Mid-Atlantic and the Northeast
Cap-and-Trade	A government imposed emissions reduction program that would place a cap on the amount of emissions that can be emitted from certain sources, such as power plants. In its simplest form, the cap amount is set as a reduction from the total emissions during a base year and for each year over a period of years the cap amount would be reduced to achieve the targeted overall reduction by the end of the period. Allowances or credits for emissions in an amount equal to the cap would be issued or auctioned to companies with facilities, permitting them to emit up to a certain amount of emissions during each applicable period. After allowances have been distributed or auctioned, they can be transferred or traded
CCFC	Calpine Construction Finance Company, L.P., an indirect, wholly-owned subsidiary of Calpine
CCFC Term Loans	Collectively, the \$900 million first lien senior secured term loan and the \$300 million first lien senior secured term loan entered into on May 3, 2013, and the \$425 million first lien senior secured term loan entered into on February 26, 2014, between CCFC, as borrower, and Goldman Sachs Lending Partners, LLC, as administrative agent and as collateral agent, and the lenders party thereto
CDHI	Calpine Development Holdings, Inc., an indirect, wholly-owned subsidiary of Calpine
CFTC	Commodities Futures Trading Commission
Champion Energy	Champion Energy Marketing, LLC, which owns a retail electric provider that serves residential, governmental, commercial and industrial customers in deregulated electricity markets in Texas, Illinois, Pennsylvania, Ohio, New Jersey, Maryland, Massachusetts, New York, Delaware, Maine, Connecticut, California and the District of Columbia

ABBREVIATION	DEFINITION
CO <sub>2</sub>	Carbon dioxide
COD	Commercial operations date
Cogeneration	Using a portion or all of the steam generated in the power generating process to supply a customer with steam for use in the customer's operations
Commodity expense	The sum of our expenses from fuel and purchased energy expense, fuel transportation expense, transmission expense, environmental compliance expense and realized settlements from our marketing, hedging and optimization activities including natural gas and fuel oil transactions hedging future power sales, but excludes our mark-to-market activity
Commodity Margin	Non-GAAP financial measure that includes power and steam revenues, sales of purchased power and physical natural gas, capacity revenue, REC revenue, sales of surplus emission allowances, transmission revenue and expenses, fuel and purchased energy expense, fuel transportation expense, environmental compliance expense, and realized settlements from our marketing, hedging, optimization and trading activities, but excludes our mark-to-market activity and other revenues
Commodity revenue	The sum of our revenues from power and steam sales, sales of purchased power and physical natural gas, capacity revenue, REC revenue, sales of surplus emission allowances, transmission revenue and realized settlements from our marketing, hedging, optimization and trading activities, but excludes our mark-to-market activity
Company	Calpine Corporation, a Delaware corporation, and its subsidiaries
Corporate Revolving Facility	The \$1.8 billion aggregate amount revolving credit facility credit agreement, dated as of December 10, 2010, as amended on June 27, 2013, July 30, 2014, February 8, 2016 and December 1, 2016 among Calpine Corporation, the Bank of Tokyo-Mitsubishi UFJ, Ltd., as successor administrative agent, MUFG Union Bank, N.A., as successor collateral agent, the lenders party thereto and the other parties thereto
CPUC	California Public Utilities Commission
Director Plan	The Amended and Restated Calpine Corporation 2008 Director Incentive Plan
EBITDA	Net income (loss) attributable to Calpine before net (income) loss attributable to the noncontrolling interest, interest, taxes, depreciation and amortization
Equity Plan	The Amended and Restated Calpine Corporation 2008 Equity Incentive Plan
ERCOT	Electric Reliability Council of Texas which is an entity that manages the flow of electric power to Texas customers representing approximately 90 percent of the state's electric load
Exchange Act	U.S. Securities Exchange Act of 1934, as amended
FASB	Financial Accounting Standards Board
FDIC	U.S. Federal Deposit Insurance Corporation
FERC	U.S. Federal Energy Regulatory Commission
First Lien Notes	Collectively, the 2022 First Lien Notes, the 2023 First Lien Notes, the 2024 First Lien Notes and the 2026 First Lien Notes
First Lien Term Loans	Collectively, the 2017 First Lien Term Loan, the 2019 First Lien Term Loan, the 2023 First Lien Term Loans and the 2024 First Lien Term Loan
Geysers Assets	Our geothermal power plant assets, including our steam extraction and gathering assets, located in northern California consisting of 13 operating power plants

ABBREVIATION	DEFINITION
GHG(s)	Greenhouse gas(es), primarily carbon dioxide (CO <sub>2</sub> ), and including methane (CH <sub>4</sub> ), nitrous oxide (N <sub>2</sub> O), sulfur hexafluoride (SF <sub>6</sub> ), hydrofluorocarbons (HFCs) and perfluorocarbons (PFCs)
Greenfield LP	Greenfield Energy Centre LP, a 50% partnership interest between certain of our subsidiaries and a third party which operates the Greenfield Energy Centre, a 1,038 MW natural gas-fired, combined-cycle power plant in Ontario, Canada
Heat Rate(s)	A measure of the amount of fuel required to produce a unit of power
IESO	Independent Electricity System Operator which is a RTO that coordinates the supply and demand for electricity in the Canadian province of Ontario
IRS	U.S. Internal Revenue Service
ISO(s)	Independent System Operator which is an entity that coordinates, controls and monitors the operation of an electric power system
ISO-NE	ISO New England Inc., an independent, nonprofit RTO serving states in the New England area, including Connecticut, Maine, Massachusetts, New Hampshire, Rhode Island and Vermont
KWh	Kilowatt hour(s), a measure of power produced, purchased or sold
LIBOR	London Inter-Bank Offered Rate
Market Heat Rate(s)	The regional power price divided by the corresponding regional natural gas price
MMBtu	Million Btu
MW	Megawatt(s), a measure of plant capacity
MWh	Megawatt hour(s), a measure of power produced, purchased or sold
New 2023 First Lien Term Loan	The \$562 million first lien senior secured term loan, dated May 31, 2016, among Calpine Corporation, as borrower, the lenders party thereto, Citibank, N.A., as administrative agent and MUFG Union Bank, N.A., as collateral agent
Noble Solutions	Noble Americas Energy Solutions LLC, which was legally renamed Calpine Energy Solutions, LLC on December 1, 2016 following the completion of its acquisition by an indirect, wholly-owned subsidiary of Calpine Corporation
NOL(s)	Net operating loss(es)
North American Power	North American Power & Gas, LLC, an indirect, wholly-owned subsidiary of Calpine, which was acquired on January 17, 2017 and is a growing retail energy supplier for homes and small businesses primarily concentrated in the Northeast U.S.
NYISO	New York ISO which operates competitive wholesale markets to manage the flow of electricity across New York
NYMEX	New York Mercantile Exchange
OCI	Other Comprehensive Income
OTC	Over-the-Counter
PJM	PJM Interconnection is a RTO that coordinates the movement of wholesale electricity in all or parts of Delaware, Illinois, Indiana, Kentucky, Maryland, Michigan, New Jersey, North Carolina, Ohio, Pennsylvania, Tennessee, Virginia, West Virginia and the District of Columbia

ABBREVIATION	DEFINITION
PPA(s)	Any term power purchase agreement or other contract for a physically settled sale (as distinguished from a financially settled future, option or other derivative or hedge transaction) of any power product, including power, capacity and/or ancillary services, in the form of a bilateral agreement or a written or oral confirmation of a transaction between two parties to a master agreement, including sales related to a tolling transaction in which the purchaser provides the fuel required by us to generate such power and we receive a variable payment to convert the fuel into power and steam
PUCT	Public Utility Commission of Texas
REC(s)	Renewable energy credit(s)
Risk Management Policy	Calpine's policy applicable to all employees, contractors, representatives and agents, which defines the risk management framework and corporate governance structure for commodity risk, interest rate risk, currency risk and other risks
RTO(s)	Regional Transmission Organization which is an entity that coordinates, controls and monitors the operation of an electric power system and administers the transmission grid on a regional basis
SEC	U.S. Securities and Exchange Commission
Securities Act	U.S. Securities Act of 1933, as amended
Senior Unsecured Notes	Collectively, the 2023 Senior Unsecured Notes, the 2024 Senior Unsecured Notes and the 2025 Senior Unsecured Notes
Spark Spread(s)	The difference between the sales price of power per MWh and the cost of natural gas to produce it
Steam Adjusted Heat Rate	The adjusted Heat Rate for our natural gas-fired power plants, excluding peakers, calculated by dividing (a) the fuel consumed in Btu reduced by the net equivalent Btu in steam exported to a third party by (b) the KWh generated. Steam Adjusted Heat Rate is a measure of fuel efficiency, so the lower our Steam Adjusted Heat Rate, the lower our cost of generation
U.S. GAAP	Generally accepted accounting principles in the U.S.
VAR	Value-at-risk
VIE(s)	Variable interest entity(ies)
Whitby	Whitby Cogeneration Limited Partnership, a 50% partnership interest between certain of our subsidiaries and a third party, which operates Whitby, a 50 MW natural gas-fired, simple-cycle cogeneration power plant located in Ontario, Canada

## Forward-Looking Statements

This Report contains “forward-looking statements” within the meaning of the Private Securities Litigation Reform Act of 1995, Section 27A of the Securities Act, and Section 21E of the Exchange Act. Forward-looking statements may appear throughout this Report, including without limitation, the “Management’s Discussion and Analysis” section. We use words such as “believe,” “intend,” “expect,” “anticipate,” “plan,” “may,” “will,” “should,” “estimate,” “potential,” “project” and similar expressions to identify forward-looking statements. Such statements include, among others, those concerning our expected financial performance and strategic and operational plans, as well as all assumptions, expectations, predictions, intentions or beliefs about future events. We believe that the forward-looking statements are based upon reasonable assumptions and expectations. However, you are cautioned that any such forward-looking statements are not guarantees of future performance and that a number of risks and uncertainties could cause actual results to differ materially from those anticipated in the forward-looking statements. Such risks and uncertainties include, but are not limited to:

- Financial results that may be volatile and may not reflect historical trends due to, among other things, seasonality of demand, fluctuations in prices for commodities such as natural gas and power, changes in U.S. macroeconomic conditions, fluctuations in liquidity and volatility in the energy commodities markets and our ability and extent to which we hedge risks;
- Laws, regulations and market rules in the markets in which we participate and our ability to effectively respond to changes in laws, regulations or market rules or the interpretation thereof including those related to the environment, derivative transactions and market design in the regions in which we operate;
- Our ability to manage our liquidity needs, access the capital markets when necessary and comply with covenants under our Senior Unsecured Notes, First Lien Notes, First Lien Term Loans, Corporate Revolving Facility, CCFC Term Loans and other existing financing obligations;
- Risks associated with the operation, construction and development of power plants, including unscheduled outages or delays and plant efficiencies;
- Risks related to our geothermal resources, including the adequacy of our steam reserves, unusual or unexpected steam field well and pipeline maintenance requirements, variables associated with the injection of water to the steam reservoir and potential regulations or other requirements related to seismicity concerns that may delay or increase the cost of developing or operating geothermal resources;
- Competition, including from renewable sources of power, interference by states in competitive power markets through subsidies or similar support for new or existing power plants, and other risks associated with marketing and selling power in the evolving energy markets;
- Structural changes in the supply and demand of power, resulting from the development of new fuels or technologies and demand-side management tools (such as distributed generation, power storage and other technologies);
- The expiration or early termination of our PPAs and the related results on revenues;
- Future capacity revenue may not occur at expected levels;
- Natural disasters, such as hurricanes, earthquakes, droughts, wildfires and floods, acts of terrorism or cyber attacks that may affect our power plants or the markets our power plants or retail operations serve and our corporate headquarters;
- Disruptions in or limitations on the transportation of natural gas or fuel oil and the transmission of power;
- Our ability to manage our counterparty and customer exposure and credit risk, including our commodity positions;
- Our ability to attract, motivate and retain key employees;
- Present and possible future claims, litigation and enforcement actions that may arise from noncompliance with market rules promulgated by the SEC, CFTC, FERC and other regulatory bodies; and
- Other risks identified in this Report, in our 2016 Form 10-K and in other reports filed by us with the SEC.

Given the risks and uncertainties surrounding forward-looking statements, you should not place undue reliance on these statements. Many of these factors are beyond our ability to control or predict. Our forward-looking statements speak only as of the date of this Report. Other than as required by law, we undertake no obligation to update or revise forward-looking statements, whether as a result of new information, future events, or otherwise.



## **Where You Can Find Other Information**

Our website is [www.caltpine.com](http://www.caltpine.com). Information contained on our website is not part of this Report. Information that we furnish or file with the SEC, including our annual reports on Form 10-K, quarterly reports on Form 10-Q, current reports on Form 8-K and any amendments to, or exhibits included in, these reports are available for download, free of charge, on our website as soon as reasonably practicable after such materials are filed with or furnished to the SEC. Our SEC filings, including exhibits filed therewith, are also available on the SEC's website at [www.sec.gov](http://www.sec.gov). You may obtain and copy any document we furnish or file with the SEC at the SEC's public reference room at 100 F Street, NE, Room 1580, Washington, D.C. 20549. You may obtain information on the operation of the SEC's public reference facilities by calling the SEC at 1-800-SEC-0330. You may request copies of these documents, upon payment of a duplicating fee, by writing to the SEC at its principal office at 100 F Street, NE, Room 1580, Washington, D.C. 20549.

**PART I — FINANCIAL INFORMATION**

**Item 1. Financial Statements**

**CALPINE CORPORATION AND SUBSIDIARIES**  
**CONSOLIDATED CONDENSED STATEMENTS OF OPERATIONS**  
(Unaudited)

	<b>Three Months Ended March 31,</b>	
	<b>2017</b>	<b>2016</b>
	<b>(in millions, except share and per share amounts)</b>	
Operating revenues:		
Commodity revenue	\$ 2,063	\$ 1,585
Mark-to-market gain	214	25
Other revenue	4	5
Operating revenues	<u>2,281</u>	<u>1,615</u>
Operating expenses:		
Fuel and purchased energy expense:		
Commodity expense	1,533	1,006
Mark-to-market loss	159	120
Fuel and purchased energy expense	<u>1,692</u>	<u>1,126</u>
Plant operating expense	282	255
Depreciation and amortization expense	206	180
Sales, general and other administrative expense	40	38
Other operating expenses	20	20
Total operating expenses	<u>2,240</u>	<u>1,619</u>
(Gain) on sale of assets, net	(27)	—
(Income) from unconsolidated subsidiaries	(4)	(7)
Income from operations	72	3
Interest expense	159	157
Debt extinguishment costs	24	—
Other (income) expense, net	2	5
Loss before income taxes	(113)	(159)
Income tax expense (benefit)	(61)	35
Net loss	(52)	(194)
Net income attributable to the noncontrolling interest	(4)	(4)
Net loss attributable to Calpine	<u>\$ (56)</u>	<u>\$ (198)</u>
Basic and diluted loss per common share attributable to Calpine:		
Weighted average shares of common stock outstanding (in thousands)	354,682	353,501
Net loss per common share attributable to Calpine — basic and diluted	<u>\$ (0.16)</u>	<u>\$ (0.56)</u>

The accompanying notes are an integral part of these Consolidated Condensed Financial Statements.

**CALPINE CORPORATION AND SUBSIDIARIES**  
**CONSOLIDATED CONDENSED STATEMENTS OF COMPREHENSIVE LOSS**  
(Unaudited)

	<b>Three Months Ended March 31,</b>	
	<b>2017</b>	<b>2016</b>
	<b>(in millions)</b>	
Net loss	\$ (52)	\$ (194)
Cash flow hedging activities:		
Loss on cash flow hedges before reclassification adjustment for cash flow hedges realized in net loss	(15)	(23)
Reclassification adjustment for loss on cash flow hedges realized in net loss	11	11
Foreign currency translation gain	2	12
Income tax expense	—	—
Other comprehensive loss	(2)	—
Comprehensive loss	(54)	(194)
Comprehensive (income) attributable to the noncontrolling interest	(4)	(2)
Comprehensive loss attributable to Calpine	\$ (58)	\$ (196)

The accompanying notes are an integral part of these Consolidated Condensed Financial Statements.

**CALPINE CORPORATION AND SUBSIDIARIES**  
**CONSOLIDATED CONDENSED BALANCE SHEETS**  
(Unaudited)

	March 31, 2017	December 31, 2016
	(in millions, except share and per share amounts)	
ASSETS		
Current assets:		
Cash and cash equivalents (\$63 and \$79 attributable to VIEs)	\$ 243	\$ 418
Accounts receivable, net of allowance of \$8 and \$6	765	839
Inventories	535	581
Margin deposits and other prepaid expense	364	441
Restricted cash, current (\$99 and \$109 attributable to VIEs)	162	173
Derivative assets, current	1,387	1,725
Current assets held for sale (nil and \$134 attributable to VIEs)	—	210
Other current assets	65	45
Total current assets	3,521	4,432
Property, plant and equipment, net (\$4,164 and \$3,979 attributable to VIEs)	13,009	13,013
Restricted cash, net of current portion (\$15 and \$14 attributable to VIEs)	15	15
Investments in unconsolidated subsidiaries	92	99
Long-term derivative assets	670	543
Goodwill	233	187
Intangible assets, net	635	650
Other assets (\$60 and \$63 attributable to VIEs)	401	378
Total assets	\$ 18,576	\$ 19,317
LIABILITIES & STOCKHOLDERS' EQUITY		
Current liabilities:		
Accounts payable	\$ 655	\$ 671
Accrued interest payable	125	125
Debt, current portion (\$176 and \$176 attributable to VIEs)	608	748
Derivative liabilities, current	1,273	1,630
Other current liabilities	459	528
Total current liabilities	3,120	3,702
Debt, net of current portion (\$2,900 and \$2,944 attributable to VIEs)	11,344	11,431
Long-term derivative liabilities	550	476
Other long-term liabilities	280	369
Total liabilities	15,294	15,978
Commitments and contingencies (see Note 11)		
Stockholders' equity:		
Preferred stock, \$0.001 par value per share; authorized 100,000,000 shares, none issued and outstanding	—	—
Common stock, \$0.001 par value per share; authorized 1,400,000,000 shares, 361,833,256 and 359,627,113 shares issued, respectively, and 360,797,377 and 359,061,764 shares outstanding, respectively	—	—
Treasury stock, at cost, 1,035,879 and 565,349 shares, respectively	(13)	(7)
Additional paid-in capital	9,633	9,625
Accumulated deficit	(6,269)	(6,213)
Accumulated other comprehensive loss	(139)	(137)
Total Calpine stockholders' equity	3,212	3,268
Noncontrolling interest	70	71
Total stockholders' equity	3,282	3,339
Total liabilities and stockholders' equity	\$ 18,576	\$ 19,317

The accompanying notes are an integral part of these Consolidated Condensed Financial Statements.

**CALPINE CORPORATION AND SUBSIDIARIES**  
**CONSOLIDATED CONDENSED STATEMENTS OF CASH FLOWS**  
(Unaudited)

	Three Months Ended March 31,	
	2017	2016
	(in millions)	
Cash flows from operating activities:		
Net loss	\$ (52)	\$ (194)
Adjustments to reconcile net loss to net cash provided by operating activities:		
Depreciation and amortization <sup>(1)</sup>	265	226
Debt extinguishment costs	6	—
Income tax expense (benefit)	(61)	35
Gain on sale of assets, net	(27)	—
Mark-to-market activity, net	(55)	94
(Income) from unconsolidated subsidiaries	(4)	(7)
Return on investments from unconsolidated subsidiaries	13	—
Stock-based compensation expense	8	9
Other	—	(4)
Change in operating assets and liabilities, net of effects of acquisitions:		
Accounts receivable	82	87
Derivative instruments, net	(21)	(12)
Other assets	24	(19)
Accounts payable and accrued expenses	(104)	(202)
Other liabilities	20	18
Net cash provided by operating activities	94	31
Cash flows from investing activities:		
Purchases of property, plant and equipment	(91)	(133)
Proceeds from sale of Osprey Energy Center	162	—
Purchase of Granite Ridge Energy Center	—	(527)
Purchase of North American Power, net of cash acquired	(111)	—
Decrease in restricted cash	11	43
Other	16	6
Net cash used in investing activities	(13)	(611)
Cash flows from financing activities:		
Borrowings under First Lien Term Loans	396	—
Repayment of CCFC Term Loans and First Lien Term Loans	(161)	(13)
Repurchase of First Lien Notes	(453)	—
Borrowings under Corporate Revolving Facility	25	—
Repayments of project financing, notes payable and other	(44)	(56)
Distribution to noncontrolling interest holder	(6)	(2)
Financing costs	(8)	(7)
Shares repurchased for tax withholding on stock-based awards	(6)	(5)
Other	1	1
Net cash used in financing activities	(256)	(82)
Net decrease in cash and cash equivalents	(175)	(662)
Cash and cash equivalents, beginning of period	418	906
Cash and cash equivalents, end of period	\$ 243	\$ 244

The accompanying notes are an integral part of these Consolidated Condensed Financial Statements.

**CALPINE CORPORATION AND SUBSIDIARIES**  
**CONSOLIDATED CONDENSED STATEMENTS OF CASH FLOWS — (CONTINUED)**  
(Unaudited)

	Three Months Ended March 31,			
	2017		2016	
	(in millions)			
Cash paid during the period for:				
Interest, net of amounts capitalized	\$	141	\$	150
Income taxes	\$	3	\$	2
Supplemental disclosure of non-cash investing activities:				
Change in capital expenditures included in accounts payable	\$	—	\$	15

- (1) Includes amortization recorded in Commodity revenue and Commodity expense associated with intangible assets and amortization recorded in interest expense associated with debt issuance costs and discounts.

The accompanying notes are an integral part of these Consolidated Condensed Financial Statements.

**CALPINE CORPORATION AND SUBSIDIARIES**  
**NOTES TO CONSOLIDATED CONDENSED FINANCIAL STATEMENTS**  
**March 31, 2017**  
**(Unaudited)**

**1. Basis of Presentation and Summary of Significant Accounting Policies**

We are a power generation company engaged in the ownership and operation of primarily natural gas-fired and geothermal power plants in North America. We have a significant presence in major competitive wholesale power markets in California (included in our West segment), Texas (included in our Texas segment) and the Northeast and Mid-Atlantic regions (included in our East segment) of the U.S. We sell power, steam, capacity, renewable energy credits and ancillary services to our customers, which include utilities, independent electric system operators, industrial and agricultural companies, retail power providers, municipalities and other governmental entities, power marketers as well as retail commercial, industrial, governmental and residential customers. We continue to focus on getting closer to our customers through expansion of our retail platform which began with the acquisition of Champion Energy in 2015 and was followed by the acquisitions of Calpine Solutions in late 2016 and North American Power in early 2017. We purchase primarily natural gas and some fuel oil as fuel for our power plants and engage in related natural gas transportation and storage transactions. We also purchase power for sale to our customers and purchase electric transmission rights to deliver power to our customers. Additionally, consistent with our Risk Management Policy, we enter into natural gas, power, environmental product, fuel oil and other physical and financial commodity contracts to hedge certain business risks and optimize our portfolio of power plants.

*Basis of Interim Presentation* — The accompanying unaudited, interim Consolidated Condensed Financial Statements of Calpine Corporation, a Delaware corporation, and consolidated subsidiaries have been prepared pursuant to the rules and regulations of the SEC. In the opinion of management, the Consolidated Condensed Financial Statements include the normal, recurring adjustments necessary for a fair statement of the information required to be set forth therein. Certain information and note disclosures, normally included in financial statements prepared in accordance with U.S. GAAP, have been condensed or omitted from these statements pursuant to such rules and regulations and, accordingly, these financial statements should be read in conjunction with our audited Consolidated Financial Statements for the year ended December 31, 2016, included in our 2016 Form 10-K. The results for interim periods are not indicative of the results for the entire year primarily due to acquisitions and disposals of assets, seasonal fluctuations in our revenues and expenses, timing of major maintenance expense, variations resulting from the application of the method to calculate the provision for income tax for interim periods, volatility of commodity prices and mark-to-market gains and losses from commodity and interest rate derivative contracts.

*Use of Estimates in Preparation of Financial Statements* — The preparation of financial statements in conformity with U.S. GAAP requires management to make estimates and assumptions that affect the reported amounts of assets, liabilities, revenues, expenses and related disclosures included in our Consolidated Condensed Financial Statements. Actual results could differ from those estimates.

*Cash and Cash Equivalents* — We consider all highly liquid investments with an original maturity of three months or less to be cash equivalents. We have cash and cash equivalents held in non-corporate accounts relating to certain project finance facilities and lease agreements that require us to establish and maintain segregated cash accounts. These accounts have been pledged as security in favor of the lenders under such project finance facilities, and the use of certain cash balances on deposit in such accounts is limited, at least temporarily, to the operations of the respective projects.

*Restricted Cash* — Certain of our debt agreements, lease agreements or other operating agreements require us to establish and maintain segregated cash accounts, the use of which is restricted, making these cash funds unavailable for general use. These amounts are held by depository banks in order to comply with the contractual provisions requiring reserves for payments such as for debt service, rent and major maintenance or with applicable regulatory requirements. Funds that can be used to satisfy obligations due during the next 12 months are classified as current restricted cash, with the remainder classified as non-current restricted cash. Restricted cash is generally invested in accounts earning market rates; therefore, the carrying value approximates fair value. Such cash is excluded from cash and cash equivalents on our Consolidated Condensed Balance Sheets and Statements of Cash Flows.



The table below represents the components of our restricted cash as of March 31, 2017 and December 31, 2016 (in millions):

	March 31, 2017			December 31, 2016		
	Current	Non-Current	Total	Current	Non-Current	Total
Debt service	\$ 12	\$ 7	\$ 19	\$ 11	\$ 8	\$ 19
Construction/major maintenance	48	6	54	45	6	51
Security/project/insurance	99	—	99	114	—	114
Other	3	2	5	3	1	4
<b>Total</b>	<b>\$ 162</b>	<b>\$ 15</b>	<b>\$ 177</b>	<b>\$ 173</b>	<b>\$ 15</b>	<b>\$ 188</b>

*Property, Plant and Equipment, Net* — At March 31, 2017 and December 31, 2016, the components of property, plant and equipment are stated at cost less accumulated depreciation as follows (in millions):

	March 31, 2017	December 31, 2016	Depreciable Lives	
Buildings, machinery and equipment	\$ 16,481	\$ 16,468	3 – 46	Years
Geothermal properties	1,460	1,377	13 – 58	Years
Other	237	259	3 – 46	Years
	18,178	18,104		
Less: Accumulated depreciation	5,975	5,865		
	12,203	12,239		
Land	116	116		
Construction in progress	690	658		
<b>Property, plant and equipment, net</b>	<b>\$ 13,009</b>	<b>\$ 13,013</b>		

*Capitalized Interest* — The total amount of interest capitalized was \$7 million and \$4 million for the three months ended March 31, 2017 and 2016, respectively.

*Goodwill* — The change in goodwill during the three months ended March 31, 2017 was as follows (in millions):

	West	Texas	East	Total
Goodwill at December 31, 2016	\$ 68	\$ 31	\$ 88	\$ 187
Acquisition of North American Power	—	—	49	49
Calpine Solutions purchase price allocation adjustment	(1)	—	(2)	(3)
<b>Goodwill at March 31, 2017</b>	<b>\$ 67</b>	<b>\$ 31</b>	<b>\$ 135</b>	<b>\$ 233</b>

*Related Party* — Under the Accounts Receivables Sales Program, at March 31, 2017 and December 31, 2016, we had \$179 million and \$211 million, respectively, in trade accounts receivable outstanding that were sold to Calpine Receivables and \$40 million and \$32 million, respectively, in notes receivable from Calpine Receivables which were recorded on our Consolidated Condensed Balance Sheets. During the three months ended March 31, 2017, we sold an aggregate of \$542 million in trade accounts receivable and recorded \$546 million in proceeds. For a further discussion of the Accounts Receivable Sales Program and Calpine Receivables, see Notes 2 and 5 in our 2016 Form 10-K.

#### ***New Accounting Standards and Disclosure Requirements***

*Revenue Recognition* — In May 2014, the FASB issued Accounting Standards Update 2014-09, “Revenue from Contracts with Customers.” The comprehensive new revenue recognition standard will supersede all existing revenue recognition guidance. The core principle of the standard is that a company should recognize revenue to depict the transfer of promised goods or services to customers in an amount that reflects the consideration to which the entity expects to be entitled in exchange for those goods or services. The standard also requires expanded disclosures surrounding revenue recognition. The standard allows for either full retrospective or modified retrospective adoption. In August 2015, the FASB deferred the effective date of Accounting Standards Update 2014-09 for public entities by one year, such that the standard will become effective for fiscal years and interim periods within those fiscal years beginning after December 15, 2017. The standard permits entities to adopt early, but only as of the original effective date. In March 2016, the FASB issued Accounting Standards Update 2016-08 “Principal versus Agent Considerations

(Reporting Revenue Gross versus Net)” which clarifies implementation guidance for principal versus agent considerations in the new revenue recognition standard. In May 2016, the FASB issued Accounting Standards Update 2016-12 “Narrow-Scope Improvements and Practical Expedients” which addresses assessing the collectability of a contract, the presentation of sales taxes and other taxes collected from customers, non-cash consideration and completed contracts and contract modifications at transition. We expect to adopt the standard in the first quarter of 2018 using the modified retrospective transition approach; however, our method of adoption may change as we complete our assessment of the standard. We are currently evaluating the effect the revenue recognition standards will have on our revenue contracts such as our PPAs and tolling agreements; however, we do not anticipate the adoption of this standard will have a material effect on our financial condition, results of operations or cash flows. Upon adoption, we intend to elect the practical expedient that would allow an entity to recognize revenue in the amount to which the entity has the right to invoice to the extent we determine that we have a right to consideration from the customer in an amount that corresponds directly with the value provided based on our performance completed to date.

*Inventory* — In July 2015, the FASB issued Accounting Standards Update 2015-11, “Simplifying the Measurement of Inventory.” The standard changes the inventory valuation method from the lower of cost or market to the lower of cost or net realizable value for inventory valued under the first-in, first-out or average cost methods. This standard is effective for fiscal years beginning after December 15, 2016, including interim periods and requires prospective adoption with early adoption permitted. We adopted Accounting Standards Update 2015-11 in the first quarter of 2017 which did not have a material effect on our financial condition, results of operations or cash flows.

*Leases* — In February 2016, the FASB issued Accounting Standards Update 2016-02, “Leases.” The comprehensive new lease standard will supersede all existing lease guidance. The standard requires that a lessee should recognize a right-to-use asset and a lease liability for substantially all operating leases based on the present value of the minimum rental payments. Entities may make an accounting policy election to not recognize lease assets and liabilities for leases with a term of 12 months or less. For lessors, the accounting for leases remains substantially unchanged. The standard also requires expanded disclosures surrounding leases. The standard is effective for fiscal periods beginning after December 15, 2018, including interim periods within that reporting period and requires modified retrospective adoption with early adoption permitted. We expect to adopt the standard in the first quarter of 2019. We have completed our initial evaluation of the standard and believe that the key changes that will affect us relate to our accounting for operating leases that are currently off-balance sheet and tolling contracts which we currently account for as operating leases. Additionally, we are evaluating the potential effects of the removal of the real estate guidance currently applicable to lessors that will be abrogated under Accounting Standards Update 2014-09, “Revenue from Contracts with Customers.” We are also considering electing the practical expedient in our implementation of the standard; however, this may change as we complete our assessment of the standard.

*Statement of Cash Flows* — In August 2016, the FASB issued Accounting Standards Update 2016-15, “Classification of Certain Cash Receipts and Cash Payments.” The standard addresses several matters of diversity in practice in how certain cash receipts and cash payments are presented and classified in the statement of cash flows including the presentation of debt extinguishment costs and distributions received from equity method investments. The standard is effective for fiscal years beginning after December 15, 2017, including interim periods and allows for retrospective adoption with early adoption permitted. We do not anticipate a material effect on our financial condition, results of operations or cash flows as a result of adopting this standard.

*Restricted Cash* — In November 2016, the FASB issued Accounting Standards Update 2016-18, “Restricted Cash.” The standard requires restricted cash to be included with cash and cash equivalents when reconciling the beginning and ending amounts in the statement of cash flows and also requires disclosures regarding the nature of restrictions on cash, cash equivalents and restricted cash. The standard is effective for fiscal years beginning after December 15, 2017, including interim periods and requires for retrospective adoption with early adoption permitted. We do not anticipate a material effect on our financial condition, results of operations or cash flows as a result of adopting this standard.

*Intangibles – Goodwill and Other* — In January 2017, the FASB issued Accounting Standards Update 2017-04, “Simplifying the Test for Goodwill Impairment.” The standard eliminates the second step in the goodwill impairment test which requires an entity to determine the implied fair value of the reporting unit’s goodwill. Instead, an entity should recognize an impairment loss if the carrying value of the net assets assigned to the reporting unit exceeds the fair value of the reporting unit, with the impairment loss not to exceed the amount of goodwill allocated to the reporting unit. The standard is effective for annual and interim goodwill impairment tests conducted in fiscal years beginning after December 15, 2019, with early adoption permitted. We do not anticipate a material effect on our financial condition, results of operations or cash flows as a result of adopting this standard.

## **2. Acquisitions and Divestitures**

### ***Acquisition of North American Power***

On January 17, 2017, we, through an indirect, wholly-owned subsidiary, completed the purchase of 100% of the outstanding limited liability company membership interests in North American Power for approximately \$105 million, excluding working capital and other adjustments. North American Power is a growing retail energy supplier for homes and small businesses and is primarily concentrated in the Northeast U.S. where Calpine has a substantial power generation presence and where Champion Energy has a substantial retail sales footprint that is enhanced by the addition of North American Power, which has been integrated into our Champion Energy retail platform. We funded the acquisition with cash on hand and the purchase price is allocated to the net assets of the business including intangible assets for the value of customer relationships and goodwill. The goodwill recorded associated with our acquisition of North American Power is deductible for tax purposes. The pro forma incremental effect of North American Power on our results of operations for each of the three months ended March 31, 2017 and 2016 is not material.

### ***Acquisition of Calpine Solutions, formerly Noble Solutions***

We did not record any material adjustments to the preliminary purchase price allocation during the three months ended March 31, 2017 associated with our acquisition of Calpine Solutions on December 1, 2016.

### ***Acquisition of Granite Ridge Energy Center***

On February 5, 2016, we, through our indirect, wholly-owned subsidiary Calpine Granite Holdings, LLC, completed the purchase of Granite Ridge Energy Center, a power plant with a nameplate capacity of 745 MW (summer peaking capacity of 695 MW), from Granite Ridge Holdings, LLC, for approximately \$500 million, excluding working capital and other adjustments. The purchase price allocation was finalized during the first quarter of 2017 and did not result in any material adjustments or the recognition of goodwill.

### ***Sale of Osprey Energy Center***

On January 3, 2017, we completed the sale of the Osprey Energy Center to Duke Energy Florida, Inc. for approximately \$166 million, excluding working capital and other adjustments. This transaction supports our effort to divest non-core assets outside our strategic concentration. We recorded a gain on sale of assets, net of approximately \$27 million during the three months ended March 31, 2017 associated with the sale of the Osprey Energy Center.

### ***Sale of South Point Energy Center***

As a result of the denial by the Nevada Public Utility Commission of the sale of South Point Energy Center to Nevada Power Company in February 2017, we terminated the corresponding asset sale agreement in the first quarter of 2017. We are currently assessing our options related to South Point Energy Center; however, we do not anticipate that the termination of the asset sale agreement will have a material effect on our financial condition, results of operations or cash flows. During the first quarter of 2017, we reclassified the assets of South Point Energy Center from current assets held for sale to held and used which are measured at fair value as a component of property, plant and equipment, net.

## **3. Variable Interest Entities and Unconsolidated Investments**

We consolidate all of our VIEs where we have determined that we are the primary beneficiary. There were no changes to our determination of whether we are the primary beneficiary of our VIEs for the three months ended March 31, 2017. See Note 5 in our 2016 Form 10-K for further information regarding our VIEs.

### ***VIE Disclosures***

Our consolidated VIEs include natural gas-fired power plants with an aggregate capacity of 8,988 MW and 9,491 MW at March 31, 2017 and December 31, 2016, respectively. For these VIEs, we may provide other operational and administrative support through various affiliate contractual arrangements among the VIEs, Calpine Corporation and its other wholly-owned subsidiaries whereby we support the VIE through the reimbursement of costs and/or the purchase and sale of energy. Other than amounts contractually required, we provided support to these VIEs in the form of cash and other contributions of nil during each of the three months ended March 31, 2017 and 2016.

### ***Unconsolidated VIEs and Investments in Unconsolidated Subsidiaries***

We have a 50% partnership interest in Greenfield LP and in Whitby. Greenfield LP and Whitby are VIEs; however, we do not have the power to direct the most significant activities of these entities and therefore do not consolidate them. Greenfield LP is a limited partnership between certain subsidiaries of ours and of Mitsui & Co., Ltd., which operates the Greenfield Energy

Centre, a 1,038 MW natural gas-fired, combined-cycle power plant located in Ontario, Canada. We and Mitsui & Co., Ltd. each hold a 50% interest in Greenfield LP. Whitby is a limited partnership between certain of our subsidiaries and Atlantic Packaging Ltd., which operates the Whitby facility, a 50 MW natural gas-fired, simple-cycle cogeneration power plant located in Ontario, Canada. We and Atlantic Packaging Ltd. each hold a 50% partnership interest in Whitby.

In December 2016, we acquired Calpine Receivables, a bankruptcy remote entity created for the special purpose of purchasing trade accounts receivable from Calpine Solutions under the Accounts Receivable Sales Program. Calpine Receivables is a VIE as we have determined that we do not have the power to direct the activities of the VIE that most significantly affect the VIE's economic performance nor the obligation to absorb losses or receive benefits from the VIE. Accordingly, we have determined that we are not the primary beneficiary of Calpine Receivables as we do not have the power to affect its financial performance as the unaffiliated financial institutions that purchase the receivables from Calpine Receivables control the selection criteria of the receivables sold and appoint the servicer of the receivables which controls management of default. Thus, we do not consolidate Calpine Receivables in our Consolidated Financial Statements and use the equity method of accounting to record our net interest in Calpine Receivables.

We account for these entities under the equity method of accounting and include our net equity interest in investments in unconsolidated subsidiaries on our Consolidated Condensed Balance Sheets. At March 31, 2017 and December 31, 2016, our equity method investments included on our Consolidated Condensed Balance Sheets were comprised of the following (in millions):

	Ownership Interest as of March 31, 2017	March 31, 2017	December 31, 2016
Greenfield LP	50%	\$ 78	\$ 73
Whitby	50%	4	16
Calpine Receivables	100%	10	10
Total investments in unconsolidated subsidiaries		\$ 92	\$ 99

Our risk of loss related to our investments in Greenfield LP, Whitby and Calpine Receivables is limited to our investment balance. Holders of the debt of our unconsolidated investments do not have recourse to Calpine Corporation and its other subsidiaries; therefore, the debt of our unconsolidated investments is not reflected on our Consolidated Condensed Balance Sheets. At March 31, 2017 and December 31, 2016, Greenfield LP's debt was approximately \$256 million and \$ 259 million, respectively, and based on our pro rata share of our investment in Greenfield LP, our share of such debt would be approximately \$128 million and \$ 130 million at March 31, 2017 and December 31, 2016, respectively.

Our equity interest in the net income from our investments in unconsolidated subsidiaries for the three months ended March 31, 2017 and 2016, is recorded in (income) from unconsolidated subsidiaries. We did not have any income or receive any distributions from our investment in Calpine Receivables for the three months ended March 31, 2017. The following table sets forth details of our (income) from unconsolidated subsidiaries for the periods indicated (in millions):

	Three Months Ended March 31,	
	2017	2016
Greenfield LP	\$ (2)	\$ (4)
Whitby	(2)	(3)
Total	\$ (4)	\$ (7)

Distributions from Greenfield LP were nil during each of the three months ended March 31, 2017 and 2016. Distributions from Whitby were \$13 million and nil during the three months ended March 31, 2017 and 2016, respectively.

#### 4. Debt

Our debt at March 31, 2017 and December 31, 2016 , was as follows (in millions):

	March 31, 2017	December 31, 2016
Senior Unsecured Notes	\$ 3,413	\$ 3,412
First Lien Term Loans	3,405	3,165
First Lien Notes	1,841	2,290
Project financing, notes payable and other	1,561	1,597
CCFC Term Loans	1,550	1,553
Capital lease obligations	157	162
Corporate Revolving Facility	25	—
Subtotal	11,952	12,179
Less: Current maturities	608	748
Total long-term debt	\$ 11,344	\$ 11,431

Our effective interest rate on our consolidated debt, excluding the effects of capitalized interest and mark-to-market gains (losses) on interest rate hedging instruments, decreased to 5.4% for the three months ended March 31, 2017 , from 5.5% for the same period in 2016. The issuance of our 2019 First Lien Term Loan in February 2017 and a portion of our 2023 First Lien Term Loans in May 2016 allowed us to reduce our overall cost of debt by replacing a portion of our First Lien Notes and First Lien Term Loans with debt carrying lower interest rates.

##### *Senior Unsecured Notes*

The amounts outstanding under our Senior Unsecured Notes are summarized in the table below (in millions):

	March 31, 2017	December 31, 2016
2023 Senior Unsecured Notes	\$ 1,237	\$ 1,237
2024 Senior Unsecured Notes	643	643
2025 Senior Unsecured Notes	1,533	1,532
Total Senior Unsecured Notes	\$ 3,413	\$ 3,412

##### *First Lien Term Loans*

The amounts outstanding under our senior secured First Lien Term Loans are summarized in the table below (in millions):

	March 31, 2017	December 31, 2016
2017 First Lien Term Loan <sup>(1)</sup>	\$ 393	\$ 537
2019 First Lien Term Loan	389	—
2023 First Lien Term Loans	1,070	1,071
2024 First Lien Term Loan	1,553	1,557
Total First Lien Term Loans	\$ 3,405	\$ 3,165

- (1) On March 16, 2017, we used cash on hand to repay \$150 million of our outstanding 2017 First Lien Term Loan. During the first quarter of 2017, we recorded approximately \$3 million in debt extinguishment costs related to the partial repayment of our 2017 First Lien Term Loan.

On February 3, 2017, we entered into a \$400 million first lien senior secured term loan which bears interest, at our option, at either (i) the Base Rate, equal to the highest of (a) the Federal Funds Effective Rate plus 0.5% per annum, (b) the Prime Rate or (c) the Eurodollar Rate for a one month interest period plus 1.0% (in each case, as such terms are defined in the 2019 First Lien Term Loan credit agreement), plus an applicable margin of 0.75% , or (ii) LIBOR plus 1.75% per annum (with no LIBOR floor) and matures on December 31, 2019. An aggregate amount equal to 0.25% of the aggregate principal amount of the 2019 First Lien Term Loans is payable at the end of each quarter (beginning with the quarter ending June 2017) with the remaining balance payable on the maturity date. We paid an upfront fee of an amount equal to 1.0% of the aggregate principal amount of the 2019 First Lien

Term Loan, which is structured as original issue discount and recorded approximately \$8 million in debt issuance costs during the first quarter of 2017 related to the issuance of our 2019 First Lien Term Loan. The 2019 First Lien Term Loan contains substantially similar covenants, qualifications, exceptions and limitations as our First Lien Term Loans and First Lien Notes. We used the proceeds from the 2019 First Lien Term Loan, together with cash on hand, to redeem the remaining 2023 First Lien Notes.

### ***First Lien Notes***

The amounts outstanding under our senior secured First Lien Notes are summarized in the table below (in millions):

	March 31, 2017	December 31, 2016
2022 First Lien Notes	\$ 739	\$ 739
2023 First Lien Notes <sup>(1)</sup>	—	450
2024 First Lien Notes	485	485
2026 First Lien Notes	617	616
Total First Lien Notes	<u>\$ 1,841</u>	<u>\$ 2,290</u>

- (1) On March 6, 2017, we used cash on hand along with the proceeds from our 2019 First Lien Term Loan to redeem the remaining \$453 million of our 2023 First Lien Notes, plus accrued and unpaid interest. During the first quarter of 2017, we recorded approximately \$21 million in debt extinguishment costs related to the redemption of our 2023 First Lien Notes.

### ***Corporate Revolving Facility and Other Letter of Credit Facilities***

The table below represents amounts issued under our letter of credit facilities at March 31, 2017 and December 31, 2016 (in millions):

	March 31, 2017	December 31, 2016
Corporate Revolving Facility <sup>(1)</sup>	\$ 471	\$ 535
CDHI	237	250
Various project financing facilities	183	206
Total	<u>\$ 891</u>	<u>\$ 991</u>

- (1) The Corporate Revolving Facility represents our primary revolving facility.

### ***Fair Value of Debt***

We record our debt instruments based on contractual terms, net of any applicable premium or discount. The following table details the fair values and carrying values of our debt instruments at March 31, 2017 and December 31, 2016 (in millions):

	March 31, 2017		December 31, 2016	
	Fair Value	Carrying Value	Fair Value	Carrying Value
Senior Unsecured Notes	\$ 3,435	\$ 3,413	\$ 3,343	\$ 3,412
First Lien Term Loans	3,480	3,405	3,244	3,165
First Lien Notes	1,931	1,841	2,349	2,290
Project financing, notes payable and other <sup>(1)</sup>	1,505	1,469	1,543	1,506
CCFC Term Loans	1,567	1,550	1,567	1,553
Corporate Revolving Facility	25	25	—	—
Total	<u>\$ 11,943</u>	<u>\$ 11,703</u>	<u>\$ 12,046</u>	<u>\$ 11,926</u>

- (1) Excludes a lease that is accounted for as a failed sale-leaseback transaction under U.S. GAAP.

We measure the fair value of our Senior Unsecured Notes, First Lien Term Loans, First Lien Notes and CCFC Term Loans using market information, including quoted market prices or dealer quotes for the identical liability when traded as an asset

(categorized as level 2). We measure the fair value of our project financing, notes payable and other debt instruments using discounted cash flow analyses based on our current borrowing rates for similar types of borrowing arrangements (categorized as level 3). We do not have any debt instruments with fair value measurements categorized as level 1 within the fair value hierarchy.

## **5. Assets and Liabilities with Recurring Fair Value Measurements**

*Cash Equivalents* — Highly liquid investments which meet the definition of cash equivalents, primarily investments in money market accounts and other interest-bearing accounts, are included in both our cash and cash equivalents and our restricted cash on our Consolidated Condensed Balance Sheets. Certain of our money market accounts invest in U.S. Treasury securities or other obligations issued or guaranteed by the U.S. Government, its agencies or instrumentalities. We do not have any cash equivalents invested in institutional prime money market funds which require use of a floating net asset value and are subject to liquidity fees and redemption restrictions. Certain of our cash equivalents are classified within level 1 of the fair value hierarchy.

*Derivatives* — The primary factors affecting the fair value of our derivative instruments at any point in time are the volume of open derivative positions (MMBtu, MWh and \$ notional amounts); changing commodity market prices, primarily for power and natural gas; our credit standing and that of our counterparties and customers for energy commodity derivatives; and prevailing interest rates for our interest rate hedging instruments. Prices for power and natural gas and interest rates are volatile, which can result in material changes in the fair value measurements reported in our financial statements in the future.

We utilize market data, such as pricing services and broker quotes, and assumptions that we believe market participants would use in pricing our assets or liabilities including assumptions about the risks inherent to the inputs in the valuation technique. These inputs can be either readily observable, market corroborated or generally unobservable. The market data obtained from broker pricing services is evaluated to determine the nature of the quotes obtained and, where accepted as a reliable quote, used to validate our assessment of fair value. We use other qualitative assessments to determine the level of activity in any given market. We primarily apply the market approach and income approach for recurring fair value measurements and utilize what we believe to be the best available information. We utilize valuation techniques that seek to maximize the use of observable inputs and minimize the use of unobservable inputs. We classify fair value balances based on the observability of those inputs.

The fair value of our derivatives includes consideration of our credit standing, the credit standing of our counterparties and customers and the effect of credit enhancements, if any. We have also recorded credit reserves in the determination of fair value based on our expectation of how market participants would determine fair value. Such valuation adjustments are generally based on market evidence, if available, or our best estimate.

Our level 1 fair value derivative instruments primarily consist of power and natural gas swaps, futures and options traded on the NYMEX or Intercontinental Exchange.

Our level 2 fair value derivative instruments primarily consist of interest rate hedging instruments and OTC power and natural gas forwards for which market-based pricing inputs in the principal or most advantageous market are representative of executable prices for market participants. These inputs are observable at commonly quoted intervals for substantially the full term of the instruments. In certain instances, our level 2 derivative instruments may utilize models to measure fair value. These models are industry-standard models that incorporate various assumptions, including quoted interest rates, correlation, volatility, as well as other relevant economic measures. Substantially all of these assumptions are observable in the marketplace throughout the full term of the instrument, can be derived from observable data or are supported by observable levels at which transactions are executed in the marketplace.

Our level 3 fair value derivative instruments may consist of OTC power and natural gas forwards and options where pricing inputs are unobservable, as well as other complex and structured transactions primarily for the sale and purchase of power and natural gas to both wholesale counterparties and retail customers. Complex or structured transactions are tailored to our customers' needs and can introduce the need for internally-developed model inputs which might not be observable in or corroborated by the market. When such inputs have a significant effect on the measurement of fair value, the instrument is categorized in level 3. Our valuation models may incorporate historical correlation information and extrapolate available broker and other information to future periods. OTC options are valued using industry-standard models, including the Black-Scholes option-pricing model. At each balance sheet date, we perform an analysis of all instruments subject to fair value measurement and include in level 3 all of those whose fair value is based on significant unobservable inputs.

Financial assets and liabilities are classified 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 our estimate of the fair value of our assets and liabilities and their placement within the fair value hierarchy levels. The following tables present our financial assets and liabilities that were accounted for at fair value on a recurring basis as of March 31, 2017 and December 31, 2016, by level within the fair value hierarchy:

	Assets and Liabilities with Recurring Fair Value Measures as of March 31, 2017			
	Level 1	Level 2	Level 3	Total
	(in millions)			
Assets:				
Cash equivalents <sup>(1)</sup>	\$ 166	\$ —	\$ —	\$ 166
Commodity instruments:				
Commodity exchange traded futures and swaps contracts	1,259	—	—	1,259
Commodity forward contracts <sup>(2)</sup>	—	359	402	761
Interest rate hedging instruments	—	37	—	37
Total assets	<u>\$ 1,425</u>	<u>\$ 396</u>	<u>\$ 402</u>	<u>\$ 2,223</u>
Liabilities:				
Commodity instruments:				
Commodity exchange traded futures and swaps contracts	1,298	—	—	1,298
Commodity forward contracts <sup>(2)</sup>	—	410	60	470
Interest rate hedging instruments	—	55	—	55
Total liabilities	<u>\$ 1,298</u>	<u>\$ 465</u>	<u>\$ 60</u>	<u>\$ 1,823</u>

	Assets and Liabilities with Recurring Fair Value Measures as of December 31, 2016			
	Level 1	Level 2	Level 3	Total
	(in millions)			
Assets:				
Cash equivalents <sup>(1)</sup>	\$ 153	\$ —	\$ —	\$ 153
Commodity instruments:				
Commodity exchange traded futures and swaps contracts	1,542	—	—	1,542
Commodity forward contracts <sup>(2)</sup>	—	231	466	697
Interest rate hedging instruments	—	29	—	29
Total assets	<u>\$ 1,695</u>	<u>\$ 260</u>	<u>\$ 466</u>	<u>\$ 2,421</u>
Liabilities:				
Commodity instruments:				
Commodity exchange traded futures and swaps contracts	1,570	—	—	1,570
Commodity forward contracts <sup>(2)</sup>	—	411	67	478
Interest rate hedging instruments	—	58	—	58
Total liabilities	<u>\$ 1,570</u>	<u>\$ 469</u>	<u>\$ 67</u>	<u>\$ 2,106</u>

(1) As of March 31, 2017 and December 31, 2016, we had cash equivalents of \$36 million and \$26 million included in cash and cash equivalents and \$130 million and \$127 million included in restricted cash, respectively.

(2) Includes OTC swaps and options and retail contracts.



At March 31, 2017 and December 31, 2016, the derivative instruments classified as level 3 primarily included commodity contracts, which 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 derivative position classified as level 3 is predominantly driven by market commodity prices. The following table presents quantitative information for the unobservable inputs used in our most significant level 3 fair value measurements at March 31, 2017 and December 31, 2016:

Quantitative Information about Level 3 Fair Value Measurements							
March 31, 2017							
	Fair Value, Net Asset (Liability) (in millions)		Valuation Technique	Significant Unobservable Input		Range	
Power Contracts	\$ 324		Discounted cash flow	Market price (per MWh)	\$ 8.00	— \$92.00	/MWh
Power Congestion Products	\$ 11		Discounted cash flow	Market price (per MWh)	\$ (7.52)	— \$4.54	/MWh
Natural Gas Contracts	\$ 60		Discounted cash flow	Market price (per MMBtu)	\$ 1.79	— \$6.24	/MMBtu
December 31, 2016							
	Fair Value, Net Asset (Liability) (in millions)		Valuation Technique	Significant Unobservable Input		Range	
Power Contracts	\$ 360		Discounted cash flow	Market price (per MWh)	\$ 9.60	— \$86.34	/MWh
Power Congestion Products	\$ 12		Discounted cash flow	Market price (per MWh)	\$ (7.52)	— \$13.62	/MWh
Natural Gas Contracts	\$ 17		Discounted cash flow	Market price (per MMBtu)	\$ 1.95	— \$5.66	/MMBtu

The following table sets forth a reconciliation of changes in the fair value of our net derivative assets (liabilities) classified as level 3 in the fair value hierarchy for the periods indicated (in millions):

	Three Months Ended March 31,	
	2017	2016
Balance, beginning of period	\$ 399	\$ (46)
Realized and mark-to-market gains (losses):		
Included in net income:		
Included in operating revenues <sup>(1)</sup>	113	(22)
Included in fuel and purchased energy expense <sup>(2)</sup>	13	(14)
Purchases and settlements:		
Purchases	—	2
Settlements	(26)	(4)
Transfers in and/or out of level 3 <sup>(3)</sup> :		
Transfers into level 3 <sup>(4)</sup>	(7)	—
Transfers out of level 3 <sup>(5)</sup>	(150)	19
Balance, end of period	\$ 342	\$ (65)
Change in unrealized gains (losses) relating to instruments still held at end of period	\$ 126	\$ (36)

(1) For power contracts and other power-related products, included on our Consolidated Condensed Statements of Operations.

(2) For natural gas and power contracts, swaps and options, included on our Consolidated Condensed Statements of Operations.

(3) We transfer amounts among levels of the fair value hierarchy as of the end of each period. There were no transfers into or out of level 1 for each of the three months ended March 31, 2017 and 2016.

- (4) There were \$7 million and nil in losses transferred out of level 2 into level 3 for the three months ended March 31, 2017 and 2016 , respectively, due to changes in market liquidity in various power markets.
- (5) We had \$150 million in gains and \$(19) million in losses transferred out of level 3 into level 2 for the three months ended March 31, 2017 and 2016 , respectively, due to changes in market liquidity in various power markets.

## 6. Derivative Instruments

### *Types of Derivative Instruments and Volumetric Information*

**Commodity Instruments** — We are exposed to changes in prices for the purchase and sale of power, natural gas, fuel oil, environmental products and other energy commodities. We use derivatives, which include physical commodity contracts and financial commodity instruments such as OTC and exchange traded swaps, futures, options, forward agreements and instruments that settle on the power price to natural gas price relationships (Heat Rate swaps and options) or instruments that settle on power price relationships between delivery points for the purchase and sale of power and natural gas to attempt to maximize the risk-adjusted returns by economically hedging a portion of the commodity price risk associated with our assets. By entering into these transactions, we are able to economically hedge a portion of our Spark Spread at estimated generation and prevailing price levels.

We also engage in limited trading activities related to our commodity derivative portfolio as authorized by our Board of Directors and monitored by our Chief Risk Officer and Risk Management Committee of senior management. These transactions are executed primarily for the purpose of providing improved price and price volatility discovery, greater market access, and profiting from our market knowledge, all of which benefit our asset hedging activities. Our trading results were not material for each of the three months ended March 31, 2017 and 2016 .

**Interest Rate Hedging Instruments** — A portion of our debt is indexed to base rates, primarily LIBOR. We have historically used interest rate hedging instruments to adjust the mix between fixed and variable rate debt to hedge our interest rate risk for potential adverse changes in interest rates. As of March 31, 2017 , the maximum length of time over which we were hedging using interest rate hedging instruments designated as cash flow hedges was 9 years.

As of March 31, 2017 and December 31, 2016 , the net forward notional buy (sell) position of our outstanding commodity derivative instruments that did not qualify or were not designated under the normal purchase normal sale exemption and our interest rate hedging instruments were as follows (in millions):

Derivative Instruments	Notional Amounts	
	March 31, 2017	December 31, 2016
Power (MWh)	(78)	(86)
Natural gas (MMBtu)	779	613
Environmental credits (Tonnes)	16	16
Interest rate hedging instruments	\$ 4,600 <sup>(1)</sup>	\$ 3,721

- (1) We entered into interest rate hedging instruments during the first quarter of 2017 to hedge approximately \$1.0 billion of variable rate debt for 2018 through 2020 and approximately \$500 million of variable rate debt for 2021 through 2022. We also extended the tenor of certain interest rate hedging instruments which effectively places a ceiling on LIBOR on \$2.5 billion of variable rate corporate debt through 2020 and \$1.25 billion of variable rate corporate debt in 2021.

Certain of our derivative instruments contain credit risk-related contingent provisions that require us to maintain collateral balances consistent with our credit ratings. If our credit rating were to be downgraded, it could require us to post additional collateral or could potentially allow our counterparty to request immediate, full settlement on certain derivative instruments in liability positions. The aggregate fair value of our derivative liabilities with credit risk-related contingent provisions as of March 31, 2017 , was \$24 million for which we have posted collateral of \$2 million by posting margin deposits or granting additional first priority liens on the assets currently subject to first priority liens under our First Lien Notes, First Lien Term Loans and Corporate Revolving Facility. However, if our credit rating were downgraded by one notch from its current level, we estimate that additional collateral of nil related to our derivative liabilities would be required and that no counterparty could request immediate, full settlement.

### *Accounting for Derivative Instruments*

We recognize all derivative instruments that qualify for derivative accounting treatment as either assets or liabilities and measure those instruments at fair value unless they qualify for, and we elect, the normal purchase normal sale exemption. For

transactions in which we elect the normal purchase normal sale exemption, gains and losses are not reflected on our Consolidated Condensed Statements of Operations until the period of delivery. Revenues and expenses derived from instruments that qualified for hedge accounting or represent an economic hedge are recorded in the same financial statement line item as the item being hedged. Hedge accounting requires us to formally document, designate and assess the effectiveness of transactions that receive hedge accounting. We present the cash flows from our derivatives in the same category as the item being hedged (or economically hedged) within operating activities on our Consolidated Condensed Statements of Cash Flows unless they contain an other-than-insignificant financing element in which case their cash flows are classified within financing activities.

**Cash Flow Hedges** — We only apply hedge accounting to our interest rate hedging instruments. We report the effective portion of the mark-to-market gain or loss on our interest rate hedging instruments designated and qualifying as a cash flow hedging instrument as a component of OCI and reclassify such gains and losses into earnings in the same period during which the hedged forecasted transaction affects earnings. Gains and losses due to ineffectiveness on interest rate hedging instruments are recognized currently in earnings as a component of interest expense. If it is determined that the forecasted transaction is no longer probable of occurring, then hedge accounting will be discontinued prospectively and future changes in fair value are recorded in earnings. If the hedging instrument is terminated or de-designated prior to the occurrence of the hedged forecasted transaction, the net accumulated gain or loss associated with the changes in fair value of the hedge instrument remains deferred in AOCI until such time as the forecasted transaction affects earnings or until it is determined that the forecasted transaction is probable of not occurring.

**Derivatives Not Designated as Hedging Instruments** — We enter into power, natural gas, interest rate, environmental product and fuel oil transactions that primarily act as economic hedges to our asset and interest rate portfolio, but either do not qualify as hedges under the hedge accounting guidelines or qualify under the hedge accounting guidelines and the hedge accounting designation has not been elected. Changes in fair value of commodity derivatives not designated as hedging instruments are recognized currently in earnings and are separately stated on our Consolidated Condensed Statements of Operations in mark-to-market gain/loss as a component of operating revenues (for physical and financial power and Heat Rate and commodity option activity) and fuel and purchased energy expense (for physical and financial natural gas, power, environmental product and fuel oil activity). Changes in fair value of interest rate derivatives not designated as hedging instruments are recognized currently in earnings as interest expense.

**Derivatives Included on Our Consolidated Condensed Balance Sheets**

The following tables present the fair values of our derivative instruments recorded on our Consolidated Condensed Balance Sheets by location and hedge type at March 31, 2017 and December 31, 2016 (in millions):

	March 31, 2017		
	Commodity Instruments	Interest Rate Hedging Instruments	Total Derivative Instruments
<b>Balance Sheet Presentation</b>			
Current derivative assets	\$ 1,386	\$ 1	\$ 1,387
Long-term derivative assets	634	36	670
Total derivative assets	\$ 2,020	\$ 37	\$ 2,057
Current derivative liabilities	\$ 1,246	\$ 27	\$ 1,273
Long-term derivative liabilities	522	28	550
Total derivative liabilities	\$ 1,768	\$ 55	\$ 1,823
Net derivative assets (liabilities)	\$ 252	\$ (18)	\$ 234

	December 31, 2016		
	Commodity Instruments	Interest Rate Hedging Instruments	Total Derivative Instruments
<b>Balance Sheet Presentation</b>			
Current derivative assets	\$ 1,724	\$ 1	\$ 1,725
Long-term derivative assets	515	28	543
Total derivative assets	\$ 2,239	\$ 29	\$ 2,268
Current derivative liabilities	\$ 1,602	\$ 28	\$ 1,630
Long-term derivative liabilities	446	30	476
Total derivative liabilities	\$ 2,048	\$ 58	\$ 2,106
Net derivative assets (liabilities)	\$ 191	\$ (29)	\$ 162

	March 31, 2017		December 31, 2016	
	Fair Value of Derivative Assets	Fair Value of Derivative Liabilities	Fair Value of Derivative Assets	Fair Value of Derivative Liabilities
<b>Derivatives designated as cash flow hedging instruments:</b>				
Interest rate hedging instruments	\$ 37	\$ 55	\$ 29	\$ 58
Total derivatives designated as cash flow hedging instruments	\$ 37	\$ 55	\$ 29	\$ 58

<b>Derivatives not designated as hedging instruments:</b>				
Commodity instruments	\$ 2,020	\$ 1,768	\$ 2,239	\$ 2,048
Total derivatives not designated as hedging instruments	\$ 2,020	\$ 1,768	\$ 2,239	\$ 2,048
Total derivatives	\$ 2,057	\$ 1,823	\$ 2,268	\$ 2,106

We elected not to offset fair value amounts recognized as derivative instruments on our Consolidated Condensed Balance Sheets that are executed with the same counterparty under master netting arrangements or other contractual netting provisions negotiated with the counterparty. Our netting arrangements include a right to set off or net together purchases and sales of similar products in the margining or settlement process. In some instances, we have also negotiated cross commodity netting rights which allow for the net presentation of activity with a given counterparty regardless of product purchased or sold. We also post cash collateral in support of our derivative instruments which may also be subject to a master netting arrangement with the same counterparty.

The tables below set forth our net exposure to derivative instruments after offsetting amounts subject to a master netting arrangement with the same counterparty at March 31, 2017 and December 31, 2016 (in millions):

March 31, 2017				
Gross Amounts Not Offset on the Consolidated Condensed Balance Sheets				
	Gross Amounts Presented on our Consolidated Condensed Balance Sheets	Derivative Asset (Liability) not Offset on the Consolidated Condensed Balance Sheets	Margin/Cash (Received) Posted <sup>(1)</sup>	Net Amount
Derivative assets:				
Commodity exchange traded futures and swaps contracts	\$ 1,259	\$ (1,253)	\$ (6)	\$ —
Commodity forward contracts	761	(172)	(11)	578
Interest rate hedging instruments	37	(5)	—	32
Total derivative assets	\$ 2,057	\$ (1,430)	\$ (17)	\$ 610
Derivative (liabilities):				
Commodity exchange traded futures and swaps contracts	\$ (1,298)	\$ 1,253	\$ 45	\$ —
Commodity forward contracts	(470)	172	52	(246)
Interest rate hedging instruments	(55)	5	—	(50)
Total derivative (liabilities)	\$ (1,823)	\$ 1,430	\$ 97	\$ (296)
Net derivative assets (liabilities)	\$ 234	\$ —	\$ 80	\$ 314

  

December 31, 2016				
Gross Amounts Not Offset on the Consolidated Condensed Balance Sheets				
	Gross Amounts Presented on our Consolidated Condensed Balance Sheets	Derivative Asset (Liability) not Offset on the Consolidated Condensed Balance Sheets	Margin/Cash (Received) Posted <sup>(1)</sup>	Net Amount
Derivative assets:				
Commodity exchange traded futures and swaps contracts	\$ 1,542	\$ (1,521)	\$ (21)	\$ —
Commodity forward contracts	697	(165)	(11)	521
Interest rate hedging instruments	29	—	—	29
Total derivative assets	\$ 2,268	\$ (1,686)	\$ (32)	\$ 550
Derivative (liabilities):				
Commodity exchange traded futures and swaps contracts	\$ (1,570)	\$ 1,521	\$ 49	\$ —
Commodity forward contracts	(478)	165	55	(258)
Interest rate hedging instruments	(58)	—	—	(58)
Total derivative (liabilities)	\$ (2,106)	\$ 1,686	\$ 104	\$ (316)
Net derivative assets (liabilities)	\$ 162	\$ —	\$ 72	\$ 234

- (1) Negative balances represent margin deposits posted with us by our counterparties related to our derivative activities that are subject to a master netting arrangement. Positive balances reflect margin deposits and natural gas and power prepayments posted by us with our counterparties related to our derivative activities that are subject to a master netting arrangement. See Note 7 for a further discussion of our collateral.

***Derivatives Included on Our Consolidated Condensed Statements of Operations***

Changes in the fair values of our derivative instruments (both assets and liabilities) are reflected either in cash for option premiums paid or collected, in OCI, net of tax, for the effective portion of derivative instruments which qualify for and we have elected cash flow hedge accounting treatment, or on our Consolidated Condensed Statements of Operations as a component of mark-to-market activity within our earnings.

The following tables detail the components of our total activity for both the net realized gain (loss) and the net mark-to-market gain (loss) recognized from our derivative instruments in earnings and where these components were recorded on our Consolidated Condensed Statements of Operations for the periods indicated (in millions):

	Three Months Ended March 31,	
	2017	2016
<b>Realized gain (loss) <sup>(1)(2)</sup></b>		
Commodity derivative instruments	\$ 29	\$ 118
Total realized gain (loss)	\$ 29	\$ 118
<b>Mark-to-market gain (loss) <sup>(3)</sup></b>		
Commodity derivative instruments	\$ 55	\$ (95)
Interest rate hedging instruments	—	1
Total mark-to-market gain (loss)	\$ 55	\$ (94)
Total activity, net	\$ 84	\$ 24

(1) Does not include the realized value associated with derivative instruments that settle through physical delivery.

(2) Includes amortization of acquisition date fair value of financial derivative activity related to the acquisition of Champion Energy, Calpine Solutions and North American Power.

(3) In addition to changes in market value on derivatives not designated as hedges, changes in mark-to-market gain (loss) also includes hedge ineffectiveness and adjustments to reflect changes in credit default risk exposure.

	Three Months Ended March 31,	
	2017	2016
<b>Realized and mark-to-market gain (loss) <sup>(1)</sup></b>		
Derivatives contracts included in operating revenues <sup>(2)(3)</sup>	\$ 223	\$ 204
Derivatives contracts included in fuel and purchased energy expense <sup>(2)(3)</sup>	(139)	(181)
Interest rate hedging instruments included in interest expense <sup>(4)</sup>	—	1
Total activity, net	\$ 84	\$ 24

(1) In addition to changes in market value on derivatives not designated as hedges, changes in mark-to-market gain (loss) also includes adjustments to reflect changes in credit default risk exposure.

(2) Does not include the realized value associated with derivative instruments that settle through physical delivery.

(3) Includes amortization of acquisition date fair value of financial derivative activity related to the acquisition of Champion Energy, Calpine Solutions and North American Power.

(4) In addition to changes in market value on interest rate hedging instruments not designated as hedges, changes in mark-to-market gain (loss) also includes hedge ineffectiveness.

#### **Derivatives Included in OCI and AOCI**

The following table details the effect of our net derivative instruments that qualified for hedge accounting treatment and are included in OCI and AOCI for the periods indicated (in millions):

	Three Months Ended March 31,		Three Months Ended March 31,		
	Gain (Loss) Recognized in OCI (Effective Portion)		Gain (Loss) Reclassified from AOCI into Income (Effective Portion) <sup>(3)</sup>		
	2017	2016	2017	2016	Affected Line Item on the Consolidated Condensed Statements of Operations
Interest rate hedging instruments <sup>(1)(2)</sup>	\$ (4)	\$ (12)	\$ (11)	\$ (11)	Interest expense

- (1) We did not record any material gain (loss) on hedge ineffectiveness related to our interest rate hedging instruments designated as cash flow hedges during the three months ended March 31, 2017 and 2016 .
- (2) We recorded an income tax expense of nil for each of the three months ended March 31, 2017 and 2016 , in AOCI related to our cash flow hedging activities.
- (3) Cumulative cash flow hedge losses attributable to Calpine, net of tax, remaining in AOCI were \$94 million and \$90 million at March 31, 2017 and December 31, 2016 , respectively. Cumulative cash flow hedge losses attributable to the noncontrolling interest, net of tax, remaining in AOCI were \$8 million and \$8 million at March 31, 2017 and December 31, 2016 , respectively.

We estimate that pre-tax net losses of \$38 million would be reclassified from AOCI into interest expense during the next 12 months as the hedged transactions settle; however, the actual amounts that will be reclassified will likely vary based on changes in interest rates. Therefore, we are unable to predict what the actual reclassification from AOCI into earnings (positive or negative) will be for the next 12 months.

## 7. Use of Collateral

We use margin deposits, prepayments and letters of credit as credit support with and from our counterparties for commodity procurement and risk management activities. In addition, we have granted additional first priority liens on the assets currently subject to first priority liens under various debt agreements as collateral under certain of our power and natural gas agreements and certain of our interest rate hedging instruments in order to reduce the cash collateral and letters of credit that we would otherwise be required to provide to the counterparties under such agreements. The counterparties under such agreements share the benefits of the collateral subject to such first priority liens pro rata with the lenders under our various debt agreements.

The table below summarizes the balances outstanding under margin deposits, natural gas and power prepayments, and exposure under letters of credit and first priority liens for commodity procurement and risk management activities as of March 31, 2017 and December 31, 2016 (in millions):

	March 31, 2017	December 31, 2016
Margin deposits <sup>(1)</sup>	\$ 284	\$ 350
Natural gas and power prepayments	24	25
Total margin deposits and natural gas and power prepayments with our counterparties <sup>(2)</sup>	<u>\$ 308</u>	<u>\$ 375</u>
Letters of credit issued	\$ 738	\$ 798
First priority liens under power and natural gas agreements	217	206
First priority liens under interest rate hedging instruments	53	55
Total letters of credit and first priority liens with our counterparties	<u>\$ 1,008</u>	<u>\$ 1,059</u>
Margin deposits posted with us by our counterparties <sup>(1)(3)</sup>	\$ 9	\$ 16
Letters of credit posted with us by our counterparties	37	43
Total margin deposits and letters of credit posted with us by our counterparties	<u>\$ 46</u>	<u>\$ 59</u>

- (1) Balances are subject to master netting arrangements and presented on a gross basis on our Consolidated Condensed Balance Sheets. We do not offset fair value amounts recognized for derivative instruments executed with the same counterparty under a master netting arrangement for financial statement presentation, and we do not offset amounts recognized for the right to reclaim, or the obligation to return, cash collateral with corresponding derivative instrument fair values. See Note 6 for further discussion of our derivative instruments subject to master netting arrangements.
- (2) At March 31, 2017 and December 31, 2016 , \$298 million and \$366 million , respectively, were included in margin deposits and other prepaid expense and \$10 million and \$9 million , respectively, were included in other assets on our Consolidated Condensed Balance Sheets.
- (3) Included in other current liabilities on our Consolidated Condensed Balance Sheets.

Future collateral requirements for cash, first priority liens and letters of credit may increase or decrease based on the extent of our involvement in hedging and optimization contracts, movements in commodity prices, and also based on our credit ratings and general perception of creditworthiness in our market.

## 8. Income Taxes

### *Income Tax Expense (Benefit)*

The table below shows our consolidated income tax expense (benefit) from continuing operations (excluding noncontrolling interest) and our effective tax rates for the periods indicated (in millions):

	Three Months Ended March 31,	
	2017	2016
Income tax expense (benefit)	\$ (61)	\$ 35
Effective tax rate	52%	(21)%

Our income tax rates do not bear a customary relationship to statutory income tax rates primarily as a result of the effect of our NOLs, changes in unrecognized tax benefits and valuation allowances. For the three months ended March 31, 2017 and 2016, our income tax expense (benefit) is largely comprised of discrete tax items and estimated state and foreign income taxes in jurisdictions where we do not have NOLs or valuation allowances. During the three months ended March 31, 2017, we recorded an income tax benefit of \$17 million associated with a favorable adjustment to our reserve for uncertain tax positions. See Note 10 in our 2016 Form 10-K for further information regarding our NOLs.

*Income Tax Audits* — We remain subject to periodic audits and reviews by taxing authorities; however, we do not expect these audits will have a material effect on our tax provision. Any NOLs we claim in future years to reduce taxable income could be subject to IRS examination regardless of when the NOLs occurred. Any adjustment of state or federal returns would likely result in a reduction of deferred tax assets rather than a cash payment of income taxes in tax jurisdictions where we have NOLs. We are currently subject to U.S. federal income tax examination for the year ended December 31, 2015.

*Valuation Allowance* — U.S. GAAP requires that we consider all available evidence, both positive and negative, and tax planning strategies to determine whether, based on the weight of that evidence, a valuation allowance is needed to reduce the value of deferred tax assets. Future realization of the tax benefit of an existing deductible temporary difference or carryforward ultimately depends on the existence of sufficient taxable income of the appropriate character within the carryback or carryforward periods available under the tax law. Due to our history of losses, we were unable to assume future profits; however, we are able to consider available tax planning strategies.

*Unrecognized Tax Benefits* — At March 31, 2017, we had unrecognized tax benefits of \$48 million. If recognized, \$10 million of our unrecognized tax benefits could affect the annual effective tax rate and \$38 million, related to deferred tax assets, could be offset against the recorded valuation allowance resulting in no effect on our effective tax rate. We had accrued interest and penalties of \$3 million for income tax matters at March 31, 2017. We recognize interest and penalties related to unrecognized tax benefits in income tax expense (benefit) on our Consolidated Condensed Statements of Operations. We believe that it is reasonably possible that a decrease within the range of nil and \$7 million in unrecognized tax benefits could occur within the next twelve months primarily related to foreign tax issues.

## 9. Loss per Share

We include restricted stock units for which no future service is required as a condition to the delivery of the underlying common stock in our calculation of weighted average shares outstanding. As we incurred a net loss for the three months ended March 31, 2017 and 2016, diluted loss per share for each period is computed on the same basis as basic loss per share, as the inclusion of any other potential shares outstanding would be anti-dilutive. We excluded the following items from diluted earnings per common share for the three months ended March 31, 2017 and 2016, because they were anti-dilutive (shares in thousands):

	Three Months Ended March 31,	
	2017	2016
Share-based awards	4,743	4,468



## 10. Stock-Based Compensation

### *Calpine Equity Incentive Plans*

The Calpine Equity Incentive Plans provide for the issuance of equity awards to all non-union employees as well as the non-employee members of our Board of Directors. The equity awards may include incentive or non-qualified stock options, restricted stock, restricted stock units, stock appreciation rights, performance compensation awards and other share-based awards. The equity awards granted under the Calpine Equity Incentive Plans include both graded and cliff vesting awards which vest over periods between one and five years, contain contractual terms between approximately five and ten years and are subject to forfeiture provisions under certain circumstances, including termination of employment prior to vesting. At March 31, 2017, 84,221 shares and 878,194 shares remain available for future grants under the Director Plan and the Equity Plan, respectively.

### *Equity Classified Share-Based Awards*

Stock-based compensation expense recognized for our equity classified share-based awards was \$8 million and \$ 7 million for the three months ended March 31, 2017 and 2016, respectively. We did not record any significant tax benefits related to stock-based compensation expense in any period as we are not benefiting from a significant portion of our deferred tax assets, including deductions related to stock-based compensation expense. In addition, we did not capitalize any stock-based compensation expense as part of the cost of an asset for the three months ended March 31, 2017 and 2016. At March 31, 2017, there was unrecognized compensation cost of \$ 40 million related to restricted stock and \$ 6 million related to options which is expected to be recognized over a weighted average period of 2.0 years for restricted stock and 2.6 years for options. We issue new shares from our share reserves set aside for the Calpine Equity Incentive Plans when stock options are exercised and for other share-based awards.

A summary of all of our non-qualified stock option activity for the Equity Plan for the three months ended March 31, 2017, is as follows:

	Number of Shares	Weighted Average Exercise Price	Weighted Average Remaining Term (in years)	Aggregate Intrinsic Value (in millions)
Outstanding — December 31, 2016	2,697,136	\$ 13.59	3.0	\$ 2
Granted	1,460,909	\$ 11.69		
Forfeited	15,721	\$ 11.69		
Expired	6,200	\$ 17.50		
Outstanding — March 31, 2017	4,136,124	\$ 12.92	5.2	\$ 1
Exercisable — March 31, 2017	2,690,936	\$ 13.58	2.7	\$ 1
Vested and expected to vest – March 31, 2017	3,930,873	\$ 12.98	5.0	\$ 1

The fair value of options granted during the three months ended March 31, 2017, was determined on the grant date using the Black-Scholes option-pricing model. Certain assumptions were used in order to estimate fair value for options as noted in the following table:

	2017
Expected term (in years) <sup>(1)</sup>	7.32
Risk-free interest rate <sup>(2)</sup>	2.25 %
Expected volatility <sup>(3)</sup>	40 %
Dividend yield <sup>(4)</sup>	—
Weighted average grant-date fair value (per option)	\$ 5.38

(1) Expected term calculated using historical exercise data.

(2) Zero Coupon U.S. Treasury rate or equivalent based on expected term.

(3) Volatility calculated using the implied volatility of our exchange traded stock options.

(4) We have never paid cash dividends on our common stock and we do not anticipate any cash dividend payments on our common stock in the near future.

A summary of our restricted stock and restricted stock unit activity for the Calpine Equity Incentive Plans for the three months ended March 31, 2017 , is as follows:

	Number of Restricted Stock Awards	Weighted Average Grant-Date Fair Value
Nonvested — December 31, 2016	4,869,648	\$ 15.83
Granted	2,546,223	\$ 11.70
Forfeited	340,080	\$ 14.28
Vested	1,465,907	\$ 17.13
Nonvested — March 31, 2017	5,609,884 <sup>(1)</sup>	\$ 13.71

- (1) Includes 49,897 shares of restricted stock and restricted stock units outstanding under the Director Plan and 5,559,987 shares of restricted stock and restricted stock units outstanding under the Equity Plan.

The total fair value of our restricted stock and restricted stock units that vested during the three months ended March 31, 2017 and 2016 was approximately \$ 17 million and \$ 15 million , respectively.

#### *Liability Classified Share-Based Awards*

During the first quarter of 2017, our Board of Directors approved the award of performance share units to certain senior management employees. These performance share units will be settled in cash with payouts based on the relative performance of Calpine's total shareholder return over the three-year performance period of January 1, 2017 through December 31, 2019. The performance share units vest on the last day of the performance period and will be settled in cash; thus, these awards are liability classified and are measured at fair value using a Monte Carlo simulation model at each reporting date until settlement. Stock-based compensation expense recognized related to our liability classified share-based awards was nil and \$ 2 million for the three months ended March 31, 2017 and 2016 , respectively.

A summary of our performance share unit activity for the three months ended March 31, 2017 , is as follows:

	Number of Performance Share Units	Weighted Average Grant-Date Fair Value
Nonvested — December 31, 2016	890,587	\$ 17.90
Granted	472,278	\$ 10.69
Forfeited	54,638	\$ 18.38
Vested <sup>(1)</sup>	5,810	\$ 14.81
Nonvested — March 31, 2017	1,302,417	\$ 15.28

- (1) In accordance with the applicable performance share unit agreements, performance share units granted to employees who meet the retirement eligibility requirements stipulated in the Equity Plan are fully vested upon the later of the date on which the employee becomes eligible to retire or one-year anniversary of the grant date.

For a further discussion of the Calpine Equity Incentive Plans, see Note 12 in our 2016 Form 10-K.

## **11. Commitments and Contingencies**

### *Litigation*

We are party to various litigation matters, including regulatory and administrative proceedings arising out of the normal course of business. At the present time, we do not expect that the outcome of any of these proceedings, individually or in the aggregate, will have a material adverse effect on our financial condition, results of operations or cash flows.

On a quarterly basis, we review our litigation activities and determine if an unfavorable outcome to us is considered "remote," "reasonably possible" or "probable" as defined by U.S. GAAP. Where we determine an unfavorable outcome is probable and is reasonably estimable, we accrue for potential litigation losses. The liability we may ultimately incur with respect to such litigation matters, in the event of a negative outcome, may be in excess of amounts currently accrued, if any; however, we do not expect that the reasonably possible outcome of these litigation matters would, individually or in the aggregate, have a material adverse effect on our financial condition, results of operations or cash flows. Where we determine an unfavorable outcome is not

probable or reasonably estimable, we do not accrue for any potential litigation loss. The ultimate outcome of these litigation matters cannot presently be determined, nor can the liability that could potentially result from a negative outcome be reasonably estimated. As a result, we give no assurance that such litigation matters would, individually or in the aggregate, not have a material adverse effect on our financial condition, results of operations or cash flows.

### ***Environmental Matters***

We are subject to complex and stringent environmental laws and regulations related to the operation of our power plants. On occasion, we may incur environmental fees, penalties and fines associated with the operation of our power plants. At the present time, we do not have environmental violations or other matters that would have a material effect on our financial condition, results of operations or cash flows or that would significantly change our operations.

*California Air Resources Board.* On November 8, 2016, Russell City Energy Center, LLC received a notice of violation for exceeding CARB's annual emission limits for Sulfur Hexafluoride ("SF<sub>6</sub>") due to a leak of SF<sub>6</sub> during 2015 from one of the high voltage circuit breakers located in the Russell City Energy Center switchyard. SF<sub>6</sub> is a gas used as an electrical insulator in high voltage circuit breakers and is a GHG. A monetary penalty has not yet been imposed by CARB. The liability we may ultimately incur with respect to this matter has not been determined, but it is not expected to be material.

### ***Guarantees and Indemnifications***

Our potential exposure under guarantee and indemnification obligations can range from a specified amount to an unlimited dollar amount, depending on the nature of the claim and the particular transaction. Our total maximum exposure under our guarantee and indemnification obligations is not estimable due to uncertainty as to whether claims will be made or how any potential claim will be resolved. As of March 31, 2017, there are no material outstanding claims related to our guarantee and indemnification obligations and we do not anticipate that we will be required to make any material payments under our guarantee and indemnification obligations. There have been no material changes to our guarantees and indemnifications from those disclosed in Note 15 of our 2016 Form 10-K.

## **12. Segment Information**

We assess our business on a regional basis due to the effect on our financial performance of the differing characteristics of these regions, particularly with respect to competition, regulation and other factors affecting supply and demand. At March 31, 2017, our reportable segments were West (including geothermal), Texas and East (including Canada). The results of our retail subsidiaries are reflected in the segment which corresponds with the geographic area in which the retail sales occur. We continue to evaluate the optimal manner in which we assess our performance including our segments and future changes may result in changes to the composition of our geographic segments. Commodity Margin is a key operational measure reviewed by our chief operating decision maker to assess the performance of our segments. The tables below show our financial data for our segments for the periods indicated (in millions):

Three Months Ended March 31, 2017					
	West	Texas	East	Consolidation and Elimination	Total
Revenues from external customers	\$ 712	\$ 799	\$ 770	\$ —	\$ 2,281
Intersegment revenues	2	3	2	(7)	—
Total operating revenues	<u>\$ 714</u>	<u>\$ 802</u>	<u>\$ 772</u>	<u>\$ (7)</u>	<u>\$ 2,281</u>
Commodity Margin	\$ 221	\$ 148	\$ 189	\$ —	\$ 558
Add: Mark-to-market commodity activity, net and other <sup>(1)</sup>	77	(30)	(8)	(8)	31
Less:					
Plant operating expense	97	96	96	(7)	282
Depreciation and amortization expense	91	62	53	—	206
Sales, general and other administrative expense	13	17	10	—	40
Other operating expenses	9	3	9	(1)	20
(Gain) on sale of assets, net	—	—	(27)	—	(27)
(Income) from unconsolidated subsidiaries	—	—	(4)	—	(4)
Income (loss) from operations	<u>88</u>	<u>(60)</u>	<u>44</u>	<u>—</u>	<u>72</u>
Interest expense					159
Debt extinguishment costs and other (income) expense, net					26
Loss before income taxes					<u>\$ (113)</u>

Three Months Ended March 31, 2016					
	West	Texas	East	Consolidation and Elimination	Total
Revenues from external customers	\$ 424	\$ 532	\$ 659	\$ —	\$ 1,615
Intersegment revenues	2	3	3	(8)	—
Total operating revenues	<u>\$ 426</u>	<u>\$ 535</u>	<u>\$ 662</u>	<u>\$ (8)</u>	<u>\$ 1,615</u>
Commodity Margin	\$ 197	\$ 153	\$ 230	\$ —	\$ 580
Add: Mark-to-market commodity activity, net and other <sup>(1)</sup>	46	(110)	(21)	(6)	(91)
Less:					
Plant operating expense	91	86	84	(6)	255
Depreciation and amortization expense	69	53	58	—	180
Sales, general and other administrative expense	10	16	12	—	38
Other operating expenses	8	2	10	—	20
(Income) from unconsolidated subsidiaries	—	—	(7)	—	(7)
Income (loss) from operations	<u>65</u>	<u>(114)</u>	<u>52</u>	<u>—</u>	<u>3</u>
Interest expense					157
Other (income) expense, net					5
Loss before income taxes					<u>\$ (159)</u>

- (1) Includes \$(22) million and \$ (22) million of lease levelization and \$60 million and \$ 27 million of amortization expense for the three months ended March 31, 2017 and 2016 , respectively.

## **Item 2. Management's Discussion and Analysis of Financial Condition and Results of Operations**

### **Forward-Looking Information**

This Management's Discussion and Analysis of Financial Condition and Results of Operations should be read in conjunction with our accompanying Consolidated Condensed Financial Statements and related Notes. See the cautionary statement regarding forward-looking statements at the beginning of this Report for a description of important factors that could cause actual results to differ from expected results.

### **Introduction and Overview**

We are one of the largest power generators in the U.S. measured by power produced. We own and operate primarily natural gas-fired and geothermal power plants in North America and have a significant presence in major competitive wholesale power markets in California (included in our West segment), Texas (included in our Texas segment) and the Northeast and Mid-Atlantic regions (included in our East segment) of the U.S. We sell power, steam, capacity, renewable energy credits and ancillary services to our customers, which include utilities, independent electric system operators, industrial and agricultural companies, retail power providers, municipalities and other governmental entities, power marketers as well as retail commercial, industrial, governmental and residential customers. We continue to focus on getting closer to our customers through expansion of our retail platform which began with the acquisition of Champion Energy in 2015 and was followed by the acquisitions of Calpine Solutions in late 2016 and North American Power in early 2017. We have invested in clean power generation to become a recognized leader in developing, constructing, owning and operating an environmentally responsible portfolio of flexible and reliable power plants.

In order to manage our various physical assets and contractual obligations, we execute commodity and commodity transportation agreements within the guidelines of our Risk Management Policy. We purchase primarily natural gas and some fuel oil as fuel for our power plants and engage in related natural gas transportation and storage transactions. We also purchase power for sale to our customers and purchase electric transmission rights to deliver power to our customers. Additionally, consistent with our Risk Management Policy, we enter into natural gas, power, environmental product, fuel oil and other physical and financial commodity contracts to hedge certain business risks and optimize our portfolio of power plants. Seasonality and weather can have a significant effect on our results of operations and are also considered in our hedging and optimization activities.

Our capital allocation philosophy seeks to maximize levered cash returns to equity while maintaining a strong balance sheet. We seek to enhance shareholder value through a diverse and balanced capital allocation approach that includes portfolio management, organic or acquisitive growth, returning capital to shareholders and debt reduction. The mix of this activity shifts over time given the external market environment and the opportunity set. In the current environment, we believe that paying down debt and strengthening our balance sheet is a high return investment for our shareholders. We also consider the repurchases of our own shares of common stock as an attractive investment opportunity, and we utilize the expected returns from this investment as the benchmark against which we evaluate all other capital allocation decisions. We believe this philosophy closely aligns our objectives with those of our shareholders.

Our goal is to be recognized as the premier competitive power company in the U.S. as viewed by our employees, shareholders, customers and policy-makers as well as the communities in which our facilities are located. We continue to make significant progress to deliver long-term shareholder value through operational excellence at our power plants and in our customer and commercial activity, as well as through our disciplined approach to capital allocation with the following achievements during 2017 :

- We produced approximately 21 million MWh of electricity during the three months ended March 31, 2017 .
- Our entire fleet achieved a starting reliability of 97.5% during the three months ended March 31, 2017 .
- On January 3, 2017, we completed the sale of our Osprey Energy Center to Duke Energy Florida, Inc. for approximately \$166 million, excluding working capital and other adjustments. This transaction supports our effort to divest non-core assets outside our strategic concentration.
- On January 17, 2017, we completed the purchase of North American Power for approximately \$105 million, excluding working capital and other adjustments. North American Power is a growing retail energy supplier for homes and small businesses and is primarily concentrated in the Northeast U.S. where Calpine has a substantial power generation presence and where Champion Energy has a substantial retail sales footprint that will be enhanced by the addition of North American Power, which has been integrated into our Champion Energy retail platform.
- As part of our stated goal to reduce debt and interest expense, on March 6, 2017, we redeemed the remaining \$453 million of our outstanding 2023 First Lien Notes using cash on hand along with the proceeds from the 2019 First Lien Term Loan which contains a substantially lower variable rate of LIBOR plus 1.75% per annum. We intend to repay

the 2019 First Lien Term Loan in full by the end of 2018. This accelerates debt reduction and results in substantial annual interest savings of more than \$20 million.

- We repaid approximately \$150 million in borrowings under our 2017 First Lien Term Loan using cash on hand during the first quarter of 2017.
- We successfully originated a new ten-year PPA with a customer in our Texas segment, in lieu of constructing a 418 MW natural gas-fired peaking power plant.
- We entered into an agreement with a third party to build an approximately 360 MW natural gas-fired peaking power plant located near Bogalusa, LA which will be sold to the third party for a fixed payment, including a fair market return, after commercial operation and subject to the power plant meeting certain performance objectives.

We assess our business on a regional basis due to the effect on our financial performance of the differing characteristics of these regions, particularly with respect to competition, regulation and other factors affecting supply and demand. Our reportable segments are West (including geothermal), Texas and East (including Canada).

Our portfolio, including partnership interests, consists of 80 power plants, including one under construction, with an aggregate current generation capacity of 25,908 MW and 828 MW under construction. Our fleet, including projects under construction, consists of 65 natural gas-fired combustion turbine-based plants, one fuel oil-fired steam-based plant, 13 geothermal steam turbine-based plants and one photovoltaic solar plant. Our segments have an aggregate generation capacity of 7,425 MW in the West, 9,027 MW in Texas and 9,456 MW with an additional 828 MW under construction in the East. Inclusive of our power generation portfolio and our retail sales platforms, we serve customers in 25 states in the U.S. and in Canada and Mexico.

### ***Legislative and Regulatory Update***

We are subject to complex and stringent energy, environmental and other laws and regulations at the federal, state and local levels as well as rules within the ISO and RTO markets in which we participate. Federal and state legislative and regulatory actions, including those by ISO/RTOs, continue to change how our business is regulated. We are actively participating in these debates at the federal, regional, state and ISO/RTO levels. Significant updates are discussed below. For a further discussion of the environmental and other governmental regulations that affect us, see “— Governmental and Regulatory Matters” in Part I, Item 1 of our 2016 Form 10-K.

#### ***U.S. Department of Energy Study***

U.S. Department of Energy (“DOE”) Secretary Rick Perry has directed his staff to undertake a study to analyze the effect of regulations, mandates, and subsidies on baseload generation resources and electric grid reliability. The request for the study is a result of concerns over the closures of baseload resources, which the Secretary deems as critical to a well-functioning electric grid. The DOE will undertake the study over a 60 day period starting from April 19, 2017 and will explore:

- The evolution of wholesale electricity markets, including the extent to which federal policy interventions and the changing nature of the electricity fuel mix are challenging the original policy assumptions that shaped the creation of those markets;
- Whether wholesale energy and capacity markets are adequately compensating attributes such as on-site fuel supply and other factors that strengthen grid resilience and, if not, the extent to which this could affect grid reliability and resilience in the future; and
- The extent to which continued regulatory burdens, as well as mandates and tax and subsidy policies, are responsible for forcing the premature retirement of baseload power plants.

The results of the study will be used to develop policy recommendations and solutions to protect the reliability and resiliency of the electric grid, ensure electricity affordability, and assure fuel diversity. We plan to provide input to the DOE on this study. The effect on our business of this study is currently unknown.

#### ***CAISO***

The CPUC and CAISO continue to evaluate capacity procurement policies and products for the California power market. With the expectation of significant increases in renewables, both entities are evaluating the need for operational flexibility, including the ability to start and ramp quickly as well as the ability to operate efficiently at low output levels or cycle off. We are an active participant in these discussions and support products and policies that would provide appropriate compensation for the required attributes. As these proceedings are ongoing, we cannot predict the ultimate effect on our financial condition, results of operations or cash flows, although we believe our fleet offers many features that can, and do, provide operational flexibility to the power markets.

The CAISO is increasingly concerned with the premature retirement of uneconomic generation resources. It is evaluating the viability of units it deems at risk of retirement in local, reliability constrained areas through its transmission planning process. It is also considering modifications to the review and approval of compensation for units threatened by economic retirement, but needed for reliability under the Reliability Must Run or Capacity Procurement Mechanism portions of its tariff.

As a result of the pending expiration of a PPA in December 2017, we informed the CAISO of our intent to suspend operations at four of our California peaking natural-gas fired power plants with capacity totaling 186 MW. CAISO has determined that two of these power plants, Yuba City and Feather River Energy Centers, are needed to continue reliable operation of the power grid. We are currently negotiating Reliability Must Run contracts for these two power plants. We do not anticipate the suspension of operations at our other two peaking power plants will have a material effect on our financial condition, results of operations or cash flows.

#### *ERCOT*

The PUCT is considering changes regarding its approach to resource adequacy, including price formation and scarcity pricing as operating reserves decline. ERCOT successfully launched the Operating Reserve Demand Curve (“ORDC”) functionality on June 1, 2014. This application produces a price “adder” to the clearing price of energy that increases as reserve capacity declines. The PUCT requested a review of the effectiveness of the ORDC and requested input from ERCOT and market participants, including any recommendations to improve the ORDC. The PUCT continues to consider the appropriate reliability standard that should be used to set ERCOT’s planning reserve margin. As these proceedings are ongoing and the timing of these changes is uncertain, we cannot predict the ultimate effect on our financial condition, results of operations or cash flows.

#### *PJM*

In Ohio, after FirstEnergy Corp. (“FE”) submitted various proposals to the Public Utility Commission of Ohio (“PUCO”) to enhance its generation company revenue, the PUCO approved a Distribution Modernization Rider (“DMR”) for the FE utilities that results in approximately \$200 million per year for three years of ratepayer subsidized payments to FE. The PUCO’s order approving the DMR has been challenged by several parties. Appeals to the Ohio Supreme Court were dismissed as premature, and appeals to the PUCO remain pending. In a related move, the Ohio utilities, led by American Electric Power, Inc. and FE, have indicated their intentions to advocate for some form of re-regulation in this year’s legislative session which began on January 3, 2017. Re-regulation will require enabling legislation, and to date no proposal has been made public by the utilities. On April 6, 2017, at the behest of FE, a bill was introduced in the Ohio Senate to subsidize FE’s Ohio nuclear power plants. An identical bill was introduced in the Ohio House of Representatives on April 10, 2017. While we cannot predict the likelihood of this legislation passing, we believe the proposed subsidies would frustrate the operation of PJM’s wholesale market structure that is regulated by the FERC.

Over significant opposition, the Illinois legislature voted to approve an out-of-market nuclear subsidy scheme put forward by Exelon Corporation (“Exelon”). Zero Emission Credits (“ZECs”) are to be paid to Exelon’s nuclear units beginning with the planning year commencing June 1, 2017. We believe these subsidies will frustrate the operation of the wholesale market structure regulated by the FERC. In February 2017, Calpine, along with a group of generators and our trade association, the Electric Power Supply Association, filed a lawsuit in federal district court challenging the ZEC legislation on constitutional grounds. We cannot predict the outcome of this litigation.

In November 2016, PJM filed proposed tariff changes with the FERC that allow increased seasonal resource participation in the Capacity Performance auction, effective for the 2020/2021 base residual auction that will be held in May 2017. Because the FERC does not have a quorum of FERC commissioners to rule on the filing, the FERC staff accepted PJM’s filing, subject to refund. As a result, the 2020/2021 base residual auction will be conducted subject to refund and further FERC order. We support PJM’s proposal and believe the tariff changes preserve the competitiveness of the PJM power market; however, we cannot predict whether the FERC will approve PJM’s proposal or the ultimate effect on our financial condition, results of operations or cash flows.

Effective May 11, 2017, PJM will implement transient/scarcity pricing on a five minute basis as ordered by the FERC. This new pricing regime is likely to increase energy revenues in the real-time energy market as well as reserve revenues.

#### *ISO-NE*

ISO-NE has requested that the FERC approve a revised Cost of New Entry (“Net CONE”) parameter beginning with the 2018 Forward Capacity Auction for the 2021/2022 delivery period which is lower than the previous Net CONE. The potential effect on our business is currently unknown.

On April 17, 2017, ISO-NE released a “White Paper” setting forth their proposal to gradually allow state-subsidized

renewable generation to enter the capacity market in a manner that minimizes the pricing effect on existing resources. ISO-NE expects to move this through committee and finalize associated details culminating in a FERC filing in the fourth quarter of 2017.

On March 27, 2017, the Massachusetts Department of Public Utilities approved the issuance of a Request for Proposals (“RFP”) for up to 2,800 MW of new “land-based” renewable resources. A separate RFP for offshore wind will be issued this summer. We believe the subsidies provided to these new renewable resources will adversely affect the power markets in ISO-NE by artificially suppressing prices.

Connecticut is considering legislation that would allow the Millstone nuclear power plant to bid into an RFP to potentially obtain a five-year power purchase agreement. It is unknown whether the legislation will pass, but if it does pass, we believe the subsidies provided through the legislation will adversely affect the power markets in ISO-NE by artificially suppressing prices.

#### *NYISO*

On August 1, 2016, the New York State Public Service Commission (“PSC”) approved the Clean Energy Standard which requires 50% of the state’s generation to be produced by renewable resources by 2030. In addition, the Clean Energy Standard provides for out-of-market financial subsidies for some of the state’s existing nuclear generation facilities. In October 2016, a group of generators and our trade association, the Electric Power Supply Association, filed a lawsuit in federal court challenging the PSC’s ruling on constitution grounds. We cannot predict the outcome of that litigation, but if left unchecked, we believe these subsidies will adversely affect the power markets in NYISO by artificially suppressing prices. As we do not have a substantial power generation presence in NYISO, the potential effect of the out-of-market financial subsidies are not expected to have a material effect on our financial condition, results of operations or cash flows. However, the subsidies could be meaningful to other power companies in the NYISO region.

#### *FERC Technical Conference*

In response to the significant state actions occurring in the New England, New York and PJM regions, the FERC staff has scheduled a technical conference to be held in May 2017 to discuss state interventions, and to explore whether there are ways to accommodate state policy preferences while preserving the benefits of regional markets and economic resource selection. Our President and Chief Executive Officer, Thad Hill, has been selected to participate in the technical conference.

#### *IESO*

Ontario implemented a new GHG law with an associated Cap-and-Trade program effective January 1, 2017. This program requires power generators to either acquire related CO<sub>2</sub> allowances on their own behalf or, in most cases, the natural gas pipeline supplying the power generation facility will procure such allowances and bill the power generator in the form of a CO<sub>2</sub> surcharge on its natural gas transportation invoice. Greenfield LP has a long-term Clean Energy Supply Contract with the IESO, successor to the Ontario Power Authority. We are negotiating with the IESO for the full pass-through of CO<sub>2</sub> cost. On a related note, Whitby has a PPA with the Ontario Electricity Financial Corporation, successor to Ontario Hydro. Whitby is also seeking to recover related CO<sub>2</sub> cost being applied to its natural gas transportation invoice. As this issue is ongoing, we cannot predict the ultimate effect on our financial condition, results of operations or cash flows.

#### *Clean Power Plan*

The Clean Power Plan requires a reduction in GHG emissions from existing power plants of 32% from 2005 levels by 2030. The U.S. Supreme Court issued a stay of the Clean Power Plan until the U.S. Court of Appeals for the District of Columbia Circuit (“D.C. Circuit”) issues a ruling on the merits and through final determination in any further appeal to the U.S. Supreme Court from the D.C. Circuit decision. The D.C. Circuit heard oral argument on September 27, 2016. On March 28, 2017, the President issued an Executive Order, “Promoting Energy Independence and Economic Growth,” which orders, among other things, the EPA to review the Clean Power Plan for consistency with policies articulated by the Executive Order and, if appropriate, to commence a rulemaking to suspend, revise or rescind the Clean Power Plan. On the same day, the EPA asked the D.C. Circuit to hold the ongoing litigation in abeyance until completion of the ongoing review and any subsequent rulemaking. We believe that we are well positioned to comply with the provisions of the Clean Power Plan and expect it to be beneficial to Calpine as regulations protecting the environment positively benefit our competitive position by recognizing the value of our investments in clean and efficient power generation technology.

#### *California: GHG – Cap-and-Trade Regulation*

The Cap-and-Trade Regulation has been subject to legal challenges claiming that, by requiring covered entities to obtain allowances, some of which are sold by the state and generate revenue used to achieve GHG reductions in accordance with California law, the Cap-and-Trade Regulation amounts to an unlawful tax. California law requires a two-thirds supermajority vote of the legislature to impose new taxes and AB 32 was not passed by a supermajority. On April 6, 2017, the California Court of Appeal



affirmed the decision of the trial court that the Cap-and-Trade Regulation does not amount to an unlawful tax because allowances are valuable commodities, which entities voluntarily purchase to comply with the Cap-and-Trade Regulation. The decision of the Court of Appeal may be appealed to the California Supreme Court.

## RESULTS OF OPERATIONS FOR THE THREE MONTHS ENDED MARCH 31, 2017 AND 2016

Below are our results of operations for the three months ended March 31, 2017 as compared to the same period in 2016 (in millions, except for percentages and operating performance metrics). In the comparative tables below, increases in revenue/income or decreases in expense (favorable variances) are shown without brackets while decreases in revenue/income or increases in expense (unfavorable variances) are shown with brackets.

	2017	2016	Change	% Change
Operating revenues:				
Commodity revenue	\$ 2,063	\$ 1,585	\$ 478	30
Mark-to-market gain	214	25	189	#
Other revenue	4	5	(1)	(20)
Operating revenues	2,281	1,615	666	41
Operating expenses:				
Fuel and purchased energy expense:				
Commodity expense	1,533	1,006	(527)	(52)
Mark-to-market loss	159	120	(39)	(33)
Fuel and purchased energy expense	1,692	1,126	(566)	(50)
Plant operating expense	282	255	(27)	(11)
Depreciation and amortization expense	206	180	(26)	(14)
Sales, general and other administrative expense	40	38	(2)	(5)
Other operating expenses	20	20	—	—
Total operating expenses	2,240	1,619	(621)	(38)
(Gain) on sale of assets, net	(27)	—	27	#
(Income) from unconsolidated subsidiaries	(4)	(7)	(3)	(43)
Income from operations	72	3	69	#
Interest expense	159	157	(2)	(1)
Debt extinguishment costs	24	—	(24)	#
Other (income) expense, net	2	5	3	60
Loss before income taxes	(113)	(159)	46	29
Income tax expense (benefit)	(61)	35	96	#
Net loss	(52)	(194)	142	73
Net income attributable to the noncontrolling interest	(4)	(4)	—	—
Net loss attributable to Calpine	\$ (56)	\$ (198)	\$ 142	72

	2017	2016	Change	% Change
Operating Performance Metrics:				
MWh generated (in thousands) <sup>(1)(2)</sup>	20,824	24,125	(3,301)	(14)
Average availability <sup>(2)</sup>	87.3%	89.9%	(2.6)%	(3)
Average total MW in operation <sup>(1)</sup>	25,274	26,238	(964)	(4)
Average capacity factor, excluding peakers	42.8%	47.4%	(4.6)%	(10)
Steam Adjusted Heat Rate <sup>(2)</sup>	7,346	7,264	(82)	(1)

# Variance of 100% or greater

- (1) Represents generation and capacity from power plants that we both consolidate and operate and excludes Greenfield LP, Whitby, Freeport Energy Center, 21.5% of Hidalgo Energy Center and 25% each of Freestone Energy Center and Russell City Energy Center.
- (2) Generation, average availability and Steam Adjusted Heat Rate exclude power plants and units that are inactive.

We evaluate our Commodity revenue and Commodity expense on a collective basis as the price of power and natural gas tend to move together because the price for power is generally determined by the variable operating cost of the next marginal generator to be dispatched to meet demand. The spread between our Commodity revenue and Commodity expense represents a significant portion of our Commodity Margin. Our financial performance is correlated to how we maximize our Commodity Margin through management of our portfolio of power plants, as well as our hedging and optimization activities. See additional segment discussion in “Commodity Margin and Adjusted EBITDA.”

Commodity revenue, net of Commodity expense, decreased \$49 million for the three months ended March 31, 2017, compared to the same period in 2016, primarily due to:

(in millions)		
\$	(18)	Lower regulatory capacity revenue in the East segment partially offset by higher resource adequacy revenues in the West segment <sup>(1)</sup>
	(12)	The net period-over-period effect of our portfolio management activities, primarily including the sales of the 375 MW Mankato Power Plant in October 2016 and the 599 MW Osprey Energy Center in January 2017 <sup>(1)</sup>
	8	Higher energy margins due to increased contribution from our retail hedging activity following the acquisitions of Calpine Solutions in December 2016 and North American Power in January 2017 and the positive effect of a new PPA associated with our Morgan Energy Center in the East segment, which became effective in February 2016. These factors were partially offset by decreased contribution from wholesale hedges and weaker market conditions <sup>(1)</sup>
	(27)	Contract amortization, lease levelization related to tolling contracts and other <sup>(2)</sup>
\$	(49)	

(1) These items comprise the period-over-period change in our Commodity Margin which is a non-GAAP financial measure. See “Commodity Margin and Adjusted EBITDA” for a description of our non-GAAP financial measures and a discussion of the period-over-period change in Commodity Margin by segment.

(2) Commodity Margin excludes amortization expense related to contracts recorded at fair value, non-cash GAAP-related adjustments to levelize revenues from tolling agreements, Commodity revenue and Commodity expense attributable to the noncontrolling interest and other unusual items.

Mark-to-market gain/loss from hedging our future generation, retail activities and fuel needs had a favorable variance of \$150 million primarily driven by the change in forward commodity prices on our forward derivative contracts during the quarter ended March 31, 2017 compared to the same period in 2016 and due to the positive effect of our retail hedging activities.

Our normal, recurring plant operating expense decreased by \$1 million for the three months ended March 31, 2017 compared to the same period in 2016, after excluding the effect of a \$25 million increase due to the period-over-period effect of power plant portfolio changes and the acquisitions of our retail subsidiaries Calpine Solutions in December 2016 and North American Power in January 2017 as well as a \$3 million increase related to severance costs incurred during the first quarter of 2017.

Depreciation and amortization expense increased by \$26 million for the three months ended March 31, 2017 compared to the same period in 2016 primarily due to the acquisitions of Granite Ridge Energy Center and Calpine Solutions in February 2016 and December 2016, respectively, accelerated depreciation associated with the retirement of our Clear Lake Power Plant in February 2017 and an adjustment to South Point Energy Center to record at fair value as it was reclassified to held and used during the quarter.

In line with our strategy to focus on competitive wholesale markets and sell or contract power plants located in power markets dominated by regulated utilities or outside our strategic concentration, we completed the sale of the Osprey Energy Center in our East segment on January 3, 2017, resulting in a gain on sale of assets, net of \$27 million during the three months ended March 31, 2017.

Debt extinguishment costs for the three months ended March 31, 2017, consisted of \$21 million in connection with the redemption of our 2023 First Lien Notes in March 2017, which is comprised of \$18 million in prepayment penalty and \$3 million from the write-off of debt issuance costs, as well as \$3 million in debt extinguishment costs from the write-off of debt issuance costs associated with the \$150 million partial repayment of our 2017 First Lien Term Loan in March 2017.

During the three months ended March 31, 2017, we recorded an income tax benefit of \$61 million compared to income tax expense of \$35 million for the three months ended March 31, 2016. The favorable period-over-period change primarily resulted from estimated state and foreign income tax benefits in jurisdictions where we do not record a valuation allowance on NOLs and

a favorable adjustment to our reserve for uncertain tax positions.

## COMMODITY MARGIN AND ADJUSTED EBITDA

Management's Discussion and Analysis of Financial Condition and Results of Operations includes financial information prepared in accordance with U.S. GAAP, as well as the non-GAAP financial measures, Commodity Margin and Adjusted EBITDA, discussed below, which we use as measures of our performance. Generally, a non-GAAP financial measure is a numerical measure of financial performance or cash flows that excludes (or includes) amounts that are included in (or excluded from) the most directly comparable measure calculated and presented in accordance with U.S. GAAP.

We use Commodity Margin, a non-GAAP financial measure, to assess our performance by our reportable segments. Commodity Margin includes our power and steam revenues, sales of purchased power and physical natural gas, capacity revenue, REC revenue, sales of surplus emission allowances, transmission revenue and expenses, fuel and purchased energy expense, fuel transportation expense, environmental compliance expense, and realized settlements from our marketing, hedging, optimization and trading activities, but excludes mark-to-market activity and other revenues. We believe that Commodity Margin is a useful tool for assessing the performance of our core operations and is a key operational measure reviewed by our chief operating decision maker. Commodity Margin is not a measure calculated in accordance with U.S. GAAP and should be viewed as a supplement to and not a substitute for our results of operations presented in accordance with U.S. GAAP. Commodity Margin does not intend to represent income from operations, the most comparable U.S. GAAP measure, as an indicator of operating performance and is not necessarily comparable to similarly titled measures reported by other companies. See Note 12 of the Notes to Consolidated Condensed Financial Statements for a reconciliation of Commodity Margin to income (loss) from operations by segment.

### *Commodity Margin by Segment for the Three Months Ended March 31, 2017 and 2016*

The following tables show our Commodity Margin and related operating performance metrics by segment for the three months ended March 31, 2017 and 2016 (exclusive of the noncontrolling interest). In the comparative tables below, favorable variances are shown without brackets while unfavorable variances are shown with brackets. The MWh generated by segment below represent generation from power plants that we both consolidate and operate. Generation, average availability and Steam Adjusted Heat Rate exclude power plants and units that are inactive.

<b>West:</b>	<b>2017</b>	<b>2016</b>	<b>Change</b>	<b>% Change</b>
Commodity Margin (in millions)	\$ 221	\$ 197	\$ 24	12
Commodity Margin per MWh generated	\$ 40.56	\$ 30.69	\$ 9.87	32
MWh generated (in thousands)	5,449	6,418	(969)	(15)
Average availability	86.3%	90.3%	(4.0)%	(4)
Average total MW in operation	7,425	7,425	—	—
Average capacity factor, excluding peakers	36.3%	42.9%	(6.6)%	(15)
Steam Adjusted Heat Rate	7,336	7,329	(7)	—

*West* — Commodity Margin in our West segment increased by \$24 million, or 12%, for the three months ended March 31, 2017 compared to the three months ended March 31, 2016, primarily due to the expansion of our retail hedging activities following the acquisition of Calpine Solutions in December 2016. An increase in Commodity Margin from higher resource adequacy payments and a period-over-period increase in generation at our Geysers Assets, which were recovering from the effects of a wildfire in the first quarter of 2016, was largely offset by lower contribution from wholesale hedges and lower Spark Spreads. Generation decreased 15% primarily due to higher period-over-period hydroelectric generation in the region and an extended outage at our Delta Energy Center during the first quarter of 2017. We expect our Delta Energy Center to be fully restored to service in the fourth quarter of 2017.

<b>Texas:</b>	<b>2017</b>	<b>2016</b>	<b>Change</b>	<b>% Change</b>
Commodity Margin (in millions)	\$ 148	\$ 153	\$ (5)	(3)
Commodity Margin per MWh generated	\$ 15.75	\$ 13.60	\$ 2.15	16
MWh generated (in thousands)	9,398	11,249	(1,851)	(16)
Average availability	86.9%	86.6%	0.3 %	—
Average total MW in operation	8,924	9,191	(267)	(3)
Average capacity factor, excluding peakers	48.8%	56.0%	(7.2)%	(13)
Steam Adjusted Heat Rate	7,121	7,049	(72)	(1)

*Texas* — Commodity Margin in our Texas segment decreased by \$5 million, or 3%, for the three months ended March 31, 2017 compared to the three months ended March 31, 2016, primarily due to lower contribution from hedges and, to a lesser extent, lower generation and milder weather. Generation decreased 16% due to weaker market conditions in the northern portion of the state (driven by transmission outages) and weaker ERCOT-wide off-peak Spark Spreads (driven by an increase in coal-fired generation) during the first quarter of 2017 compared to the same period in 2016.

<b>East:</b>	<b>2017</b>	<b>2016</b>	<b>Change</b>	<b>% Change</b>
Commodity Margin (in millions)	\$ 189	\$ 230	\$ (41)	(18)
Commodity Margin per MWh generated	\$ 31.62	\$ 35.61	\$ (3.99)	(11)
MWh generated (in thousands)	5,977	6,458	(481)	(7)
Average availability	88.5%	92.8%	(4.3)%	(5)
Average total MW in operation	8,925	9,622	(697)	(7)
Average capacity factor, excluding peakers	41.5%	40.6%	0.9 %	2
Steam Adjusted Heat Rate	7,718	7,597	(121)	(2)

*East* — Commodity Margin in our East segment decreased by \$41 million, or 18% for the three months ended March 31, 2017 compared to the three months ended March 31, 2016, primarily due to lower regulatory capacity revenue, a decrease in realized market Spark Spreads (particularly in New England) resulting from milder weather, lower contribution from wholesale hedges and the sales of the 375 MW Mankato Power Plant in October 2016 and the 599 MW Osprey Energy Center in January 2017. The decrease in Commodity Margin was partially offset by the positive effect of increased retail hedging activity following the acquisitions of Calpine Solutions and North American Power in December 2016 and January 2017, respectively, and the positive effect of a new PPA associated with our Morgan Energy Center, which became effective in February 2016.

#### **Adjusted EBITDA**

We define Adjusted EBITDA, a non-GAAP financial measure, as EBITDA adjusted for certain items described below and presented in the accompanying reconciliation. Adjusted EBITDA is not a measure calculated in accordance with U.S. GAAP, and should be viewed as a supplement to, and not a substitute for, our results of operations presented in accordance with U.S. GAAP. Adjusted EBITDA is not intended to represent cash flows from operations or net income (loss) as defined by U.S. GAAP as an indicator of operating performance. Furthermore, Adjusted EBITDA is not necessarily comparable to similarly-titled measures reported by other companies.

We believe Adjusted EBITDA is useful to investors and other users of our financial statements in evaluating our operating performance because it provides them with an additional tool to compare business performance across companies and across periods. We believe that EBITDA is widely used by investors to measure a company's operating performance without regard to items such as interest expense, taxes, depreciation and amortization, which can vary substantially from company to company depending upon accounting methods and book value of assets, capital structure and the method by which assets were acquired.

Additionally, we believe that investors commonly adjust EBITDA information to eliminate the effect of restructuring and other expenses, which vary widely from company to company and impair comparability. As we define it, Adjusted EBITDA represents EBITDA adjusted for the effects of impairment losses, gains or losses on sales, dispositions or retirements of assets, any mark-to-market gains or losses from accounting for derivatives, adjustments to exclude the Adjusted EBITDA related to the noncontrolling interest, stock-based compensation expense, operating lease expense, non-cash gains and losses from foreign currency translations, major maintenance expense, gains or losses on the repurchase, modification or extinguishment of debt, non-cash GAAP-related adjustments to levelize revenues from tolling agreements and any unusual or non-recurring items plus adjustments to reflect the Adjusted EBITDA from our unconsolidated investments. We adjust for these items in our Adjusted

EBITDA as our management believes that these items would distort their ability to efficiently view and assess our core operating trends.

In summary, our management uses Adjusted EBITDA as a measure of operating performance to assist in comparing performance from period to period on a consistent basis and to readily view operating trends, as a measure for planning and forecasting overall expectations and for evaluating actual results against such expectations, and in communications with our Board of Directors, shareholders, creditors, analysts and investors concerning our financial performance.

The tables below provide a reconciliation of Adjusted EBITDA to our income (loss) from operations on a segment basis and to net income attributable to Calpine on a consolidated basis for the periods indicated (in millions):

	Three Months Ended March 31, 2017				
	West	Texas	East	Consolidation and Elimination	Total
Net loss attributable to Calpine					\$ (56)
Net income attributable to the noncontrolling interest					4
Income tax benefit					(61)
Debt extinguishment costs and other (income) expense, net					26
Interest expense					159
Income (loss) from operations	\$ 88	\$ (60)	\$ 44	\$ —	\$ 72
Add:					
Adjustments to reconcile income (loss) from operations to Adjusted EBITDA:					
Depreciation and amortization expense, excluding deferred financing costs <sup>(1)</sup>	90	62	53	—	205
Major maintenance expense	9	29	26	—	64
Operating lease expense	—	—	6	—	6
Mark-to-market (gain) loss on commodity derivative activity	(60)	20	(15)	—	(55)
(Gain) on sale of assets, net	—	—	(27)	—	(27)
Adjustments to reflect Adjusted EBITDA from unconsolidated investments and exclude the noncontrolling interest <sup>(2)</sup>	(4)	—	11	—	7
Stock-based compensation expense	4	3	1	—	8
Loss on dispositions of assets	—	1	—	—	1
Contract amortization	6	17	37	—	60
Other	(12)	4	(7)	—	(15)
Total Adjusted EBITDA	\$ 121	\$ 76	\$ 129	\$ —	\$ 326

Three Months Ended March 31, 2016

	West	Texas	East	Consolidation and Elimination	Total
Net loss attributable to Calpine					\$ (198)
Net income attributable to the noncontrolling interest					4
Income tax expense					35
Other (income) expense, net					5
Interest expense					157
Income (loss) from operations	\$ 65	\$ (114)	\$ 52	\$ —	\$ 3
Add:					
Adjustments to reconcile income (loss) from operations to Adjusted EBITDA:					
Depreciation and amortization expense, excluding deferred financing costs <sup>(1)</sup>	68	53	58	—	179
Major maintenance expense	17	22	25	—	64
Operating lease expense	—	—	6	—	6
Mark-to-market (gain) loss on commodity derivative activity	(23)	97	21	—	95
Adjustments to reflect Adjusted EBITDA from unconsolidated investments and exclude the noncontrolling interest <sup>(2)</sup>	(4)	—	9	—	5
Stock-based compensation expense	3	4	2	—	9
Loss on dispositions of assets	—	1	1	—	2
Contract amortization	—	21	6	—	27
Other	(13)	—	(3)	—	(16)
Total Adjusted EBITDA	\$ 113	\$ 84	\$ 177	\$ —	\$ 374

(1) Excludes depreciation and amortization expense attributable to the noncontrolling interest.

(2) Adjustments to reflect Adjusted EBITDA from unconsolidated investments include (gain) loss on mark-to-market activity of nil for each of the three months ended March 31, 2017 and 2016 .

## LIQUIDITY AND CAPITAL RESOURCES

We maintain a strong focus on liquidity. We manage our liquidity to help provide access to sufficient funding to meet our business needs and financial obligations throughout business cycles.

Our business is capital intensive. Our ability to successfully implement our strategy is dependent on the continued availability of capital on attractive terms. In addition, our ability to successfully operate our business is dependent on maintaining sufficient liquidity. We believe that we have adequate resources from a combination of cash and cash equivalents on hand and cash expected to be generated from future operations to continue to meet our obligations as they become due.

### *Liquidity*

The following table provides a summary of our liquidity position at March 31, 2017 and December 31, 2016 (in millions):

	March 31, 2017	December 31, 2016
Cash and cash equivalents, corporate <sup>(1)</sup>	\$ 153	\$ 345
Cash and cash equivalents, non-corporate	90	73
Total cash and cash equivalents	243	418
Restricted cash	177	188
Corporate Revolving Facility availability <sup>(2)</sup>	1,294	1,255
CDHI letter of credit facility availability	63	50
Total current liquidity availability <sup>(3)</sup>	\$ 1,777	\$ 1,911

(1) Includes \$9 million and \$16 million of margin deposits posted with us by our counterparties at March 31, 2017 and December 31, 2016, respectively. See Note 7 of the Notes to Consolidated Condensed Financial Statements for further information related to our collateral.

(2) Our ability to use availability under our Corporate Revolving Facility is unrestricted.

(3) Our ability to use corporate cash and cash equivalents is unrestricted. See Note 1 of the Notes to Consolidated Condensed Financial Statements for a description of the restrictions on our use of non-corporate cash and cash equivalents and restricted cash. Our \$300 million CDHI letter of credit facility is restricted to support certain obligations under PPAs and power transmission and natural gas transportation agreements.

Our principal source for future liquidity is cash flows generated from our operations. We believe that cash on hand and expected future cash flows from operations will be sufficient to meet our liquidity needs for our operations, both in the near and longer term. See “Cash Flow Activities” below for a further discussion of our change in cash and cash equivalents.

Our principal uses of liquidity and capital resources, outside of those required for our operations, include, but are not limited to, collateral requirements to support our commercial hedging and optimization activities, debt service obligations including principal and interest payments, capital expenditures for construction, project development and other growth initiatives and opportunistically repaying debt to manage our balance sheet. In addition, we may use capital resources to opportunistically repurchase our shares of common stock. The ultimate decision to allocate capital to share repurchases will be based upon the expected returns compared to alternative uses of capital.

*Cash Management* — We manage our cash in accordance with our cash management system subject to the requirements of our Corporate Revolving Facility and requirements under certain of our project debt and lease agreements or by regulatory agencies. Our cash and cash equivalents, as well as our restricted cash balances, are invested in money market funds that are not FDIC insured. We place our cash, cash equivalents and restricted cash in what we believe to be creditworthy financial institutions.

We have never paid cash dividends on our common stock. Future cash dividends, if any, may be authorized at the discretion of our Board of Directors and will depend upon, among other things, our future operations and earnings, capital requirements, general financial condition, contractual and financing restrictions and such other factors as our Board of Directors may deem relevant.

### *Liquidity Sensitivity*

Significant changes in commodity prices and Market Heat Rates can affect our liquidity as we use margin deposits, cash prepayments and letters of credit as credit support (collateral) with and from our counterparties for commodity procurement and risk management activities. Utilizing our portfolio of transactions subject to collateral exposure, we estimate that as of March 31,



2017, an increase of \$1/MMBtu in natural gas prices would result in a decrease of collateral required by approximately \$148 million. If natural gas prices decreased by \$1/MMBtu, we estimate that our collateral requirements would increase by approximately \$218 million. Changes in Market Heat Rates also affect our liquidity. For example, as demand increases, less efficient generation is dispatched, which increases the Market Heat Rate and results in increased collateral requirements. Historical relationships of natural gas and Market Heat Rate movements for our portfolio of assets have been volatile over time and are influenced by the absolute price of natural gas and the regional characteristics of each power market. We estimate that at March 31, 2017, an increase of 500 Btu/KWh in the Market Heat Rate would result in an increase in collateral required by approximately \$14 million. If Market Heat Rates were to fall at a similar rate, we estimate that our collateral required would decrease by approximately \$6 million. These amounts are not necessarily indicative of the actual amounts that could be required, which may be higher or lower than the amounts estimated above, and also exclude any correlation between the changes in natural gas prices and Market Heat Rates that may occur concurrently. These sensitivities will change as new contracts or hedging activities are executed.

In order to effectively manage our future Commodity Margin, we have economically hedged a portion of our expected generation and natural gas portfolio as well as retail load supply obligations, where appropriate, mostly through power and natural gas forward physical and financial transactions including retail power sales; however, we currently remain susceptible to significant price movements for 2017 and beyond. In addition to the price of natural gas, our Commodity Margin is highly dependent on other factors such as:

- the level of Market Heat Rates;
- our continued ability to successfully hedge our Commodity Margin;
- changes in U.S. macroeconomic conditions;
- maintaining acceptable availability levels for our fleet;
- the effect of current and pending environmental regulations in the markets in which we participate;
- improving the efficiency and profitability of our operations;
- increasing future contractual cash flows; and
- our significant counterparties performing under their contracts with us.

Additionally, scheduled outages related to the life cycle of our power plant fleet in addition to unscheduled outages may result in maintenance expenditures that are disproportionate in differing periods. In order to manage such liquidity requirements, we maintain additional liquidity availability in the form of our Corporate Revolving Facility (noted in the table above), letters of credit and the ability to issue first priority liens for collateral support. It is difficult to predict future developments and the amount of credit support that we may need to provide should such conditions occur, we experience another economic recession or energy commodity prices increase significantly.

#### ***Letter of Credit Facilities***

The table below represents amounts issued under our letter of credit facilities at March 31, 2017 and December 31, 2016 (in millions):

	March 31, 2017	December 31, 2016
Corporate Revolving Facility <sup>(1)</sup>	\$ 471	\$ 535
CDHI	237	250
Various project financing facilities	183	206
Total	<u>\$ 891</u>	<u>\$ 991</u>

(1) The Corporate Revolving Facility represents our primary revolving facility.

#### ***Disciplined Capital Allocation***

In connection with our goal of disciplined capital allocation, we have completed the following key capital management transactions during 2017, as further described below.

##### ***Redemption of 2023 First Lien Notes***

As part of our stated goal to reduce debt and interest expense, on March 6, 2017, we redeemed the remaining \$453 million of our outstanding 2023 First Lien Notes using cash on hand along with the proceeds from the 2019 First Lien Term Loan which

contains a substantially lower variable rate of LIBOR plus 1.75% per annum. We intend to repay the 2019 First Lien Term Loan in full by the end of 2018. This accelerates debt reduction and results in substantial annual interest savings of more than \$20 million.

#### *2017 First Lien Term Loan*

We repaid approximately \$150 million in borrowings under our 2017 First Lien Term Loan using cash on hand during the first quarter of 2017.

#### ***Optimizing our Portfolio***

Our goal is to take advantage of favorable opportunities to continue to design, develop, acquire, construct and operate the next generation of highly efficient, operationally flexible and environmentally responsible power plants where such investment meets our rigorous financial hurdles, particularly if power contracts and financing are available and attractive returns are expected. Likewise, we actively seek to divest non-core assets where we can find opportunities to do so accretively. Our significant ongoing projects under construction, growth initiatives and strategic asset sales are discussed below.

*York 2 Energy Center* — York 2 Energy Center is an 828 MW dual-fuel, combined-cycle project that is co-located with our York Energy Center in Peach Bottom Township, Pennsylvania. Once complete, the power plant will feature two combustion turbines, two heat recovery steam generators and one steam turbine. The project is under construction and the initial 760 MW of capacity cleared PJM's last three base residual auctions with the 68 MW of incremental capacity clearing the last two base residual auctions. Due to construction delays, we are now targeting COD in early 2018.

*Guadalupe Peaking Energy Center* — In April 2017, we canceled an agreement with Guadalupe Valley Electric Cooperative ("GVEC") related to the construction of a 418 MW natural gas-fired peaking power plant to be co-located with our existing Guadalupe Energy Center. In lieu of building the facility, we will now serve GVEC with 200 MW of generating capacity under a ten-year PPA beginning in June 2019.

*Washington Parish Energy Center* — On April 21, 2017, we entered into an agreement with Entergy Louisiana ("Entergy"), a subsidiary of Entergy Corporation, to construct an approximately 360 MW natural gas-fired peaking power plant on a partially developed site that we own near Bogalusa, LA. Within a short period of time subsequent to the plant commencing commercial operations and meeting certain performance objectives, Entergy will purchase the plant for a fixed payment, including a fair market return. Construction on the facility will not commence until 2019 with COD expected in early 2021. The agreement contains conditions precedent to effectiveness including, but not limited to, approval of the Louisiana Public Service Commission. We plan to fund the project with a construction loan that will be repaid upon receipt of sale proceeds.

*Osprey Energy Center* — On January 3, 2017, we completed the sale of our Osprey Energy Center to Duke Energy Florida, Inc. for approximately \$166 million, excluding working capital and other adjustments. This transaction supports our effort to divest non-core assets outside our strategic concentration.

*South Point Energy Center* — As a result of the denial by the Nevada Public Utility Commission of the sale of South Point Energy Center to Nevada Power Company in February 2017, we terminated the corresponding asset sale agreement in the first quarter of 2017. We are currently assessing our options related to South Point Energy Center; however, we do not anticipate that the termination of the asset sale agreement will have a material effect on our financial condition, results of operations or cash flows.

*Clear Lake Power Plant* — On February 1, 2017, we retired our 400 MW Clear Lake Power Plant due to a lack of adequate compensation in Texas. Built in 1985, Clear Lake utilized an older, less efficient technology. The book value associated with our Clear Lake Power Plant is immaterial.

#### ***Expanding our Customer Sales Channels***

We continue to focus on getting closer to our customers and providing products and services that are beneficial to them. A summary of certain significant achievements and contracts entered into in 2017 are as follows:

##### *Wholesale*

- We entered into a new ten-year PPA with Guadalupe Electric Valley Cooperative to provide 200 MW of energy from our Texas power plant fleet commencing in June 2019, in lieu of constructing a 418 MW natural gas-fired peaking power plant.

### Retail

- On January 17, 2017, we completed the purchase of North American Power for approximately \$105 million, excluding working capital and other adjustments. North American Power is a growing retail energy supplier for homes and small businesses and is primarily concentrated in the Northeast U.S. where Calpine has a substantial power generation presence and where Champion Energy has a substantial retail sales footprint that will be enhanced by the addition of North American Power, which has been integrated into our Champion Energy retail platform.

### **NOLs**

We have significant NOLs that will provide future tax deductions when we generate sufficient taxable income during the applicable carryover periods. At December 31, 2016, our consolidated federal NOLs totaled approximately \$6.7 billion.

### **Cash Flow Activities**

The following table summarizes our cash flow activities for the three months ended March 31, 2017 and 2016 (in millions):

	2017	2016
Beginning cash and cash equivalents	\$ 418	\$ 906
Net cash provided by (used in):		
Operating activities	94	31
Investing activities	(13)	(611)
Financing activities	(256)	(82)
Net decrease in cash and cash equivalents	(175)	(662)
Ending cash and cash equivalents	\$ 243	\$ 244

#### *Net Cash Provided By Operating Activities*

Cash provided by operating activities for the three months ended March 31, 2017, was \$94 million compared to \$31 million for the three months ended March 31, 2016. The increase was primarily due to:

- Income from operations* — Income from operations, adjusted for non-cash items, decreased by \$39 million for the three months ended March 31, 2017, compared to the same period in 2016. Non-cash items consist primarily of depreciation and amortization, income from unconsolidated subsidiaries, gain on sale of assets and mark-to-market activity. The decrease in income from operations was primarily driven by a \$16 million decrease in Commodity revenue, net of Commodity expense, excluding non-cash amortization, and \$27 million increase in plant operating expense. See “Results of Operations for the three months ended March 31, 2017 and 2016” above for further discussion of these changes.
- Working capital employed* — Working capital employed decreased by \$92 million for the three months ended March 31, 2017, compared to the same period in 2016, after adjusting for changes in debt, restricted cash and mark-to-market related balances which did not affect cash provided by operating activities. The decrease was primarily due to the change in net margining requirements associated with our commodity hedging activity for the three months ended March 31, 2017, compared to the same period in 2016.

#### *Net Cash Used In Investing Activities*

Cash used in investing activities for the three months ended March 31, 2017, was \$13 million compared to \$611 million for the three months ended March 31, 2016. The decrease was primarily due to:

- Acquisitions and Divestitures* — During the three months ended March 31, 2017, we closed on the acquisition of the retail electric provider North American Power for a net purchase price paid of \$111 million and also closed on the sale of Osprey Energy Center receiving net proceeds of \$162 million. During the three months ended March 31, 2016, we purchased Granite Ridge Energy Center for a net purchase price of \$527 million.
- Capital expenditures* — Capital expenditures for the three months ended March 31, 2017 were \$91 million, a decrease of \$42 million, compared to expenditures of \$133 million for the three months ended March 31, 2016. The decrease was primarily due to lower expenditures on construction projects and outages during the first quarter of 2017 as compared to the first quarter of 2016.

#### *Net Cash Used In Financing Activities*

Cash used in financing activities for the three months ended March 31, 2017, was \$256 million compared to \$82 million for the three months ended March 31, 2016. The increase was primarily due to:

- *First Lien Term Loans and First Lien Notes* — During the three months ended March 31, 2017, we received proceeds of \$396 million from the issuance of the 2019 First Lien Term Loan which was used, together with cash on hand, to redeem \$453 million of the 2023 First Lien Notes. In addition, we used cash on hand to repay \$150 million of our outstanding 2017 First Lien Term Loan. There were no similar activities during the first quarter of 2017.
- *Corporate Revolving Facility* — During the three months ended March 31, 2017, we borrowed \$25 million under our Corporate Revolving Facility. There was no similar activity during the first quarter of 2016.

#### ***Off Balance Sheet Arrangements***

There have been no material changes to our off balance sheet arrangements from those disclosed in “Management’s Discussion and Analysis of Financial Condition and Results of Operations” in our 2016 Form 10-K.

## RISK MANAGEMENT AND COMMODITY ACCOUNTING

Our commercial hedging and optimization strategies are designed to maximize our risk-adjusted Commodity Margin by leveraging our knowledge, experience and fundamental views on natural gas and power. We actively manage our risk exposures with a variety of physical and financial instruments with varying time horizons. These instruments include PPAs, tolling arrangements, Heat Rate swaps and options, retail power sales including through our retail affiliates, steam sales, buying and selling standard physical power and natural gas products, buying and selling exchange traded instruments, buying and selling environmental and capacity products, natural gas transportation and storage arrangements, electric transmission service and other contracts for the sale and purchase of power products. We utilize these instruments to maximize the risk-adjusted returns for our Commodity Margin. Our retail subsidiaries also provide us with a hedging outlet for our wholesale power plant portfolio.

We conduct our hedging and optimization activities within a structured risk management framework based on controls, policies and procedures. We monitor these activities through active and ongoing management and oversight, defined roles and responsibilities, and daily risk estimates and reporting. Additionally, we seek to manage the associated risks through diversification, by controlling position sizes, by using portfolio position limits, and by actively managing hedge positions to lock in margin. We are exposed to commodity price movements (both profits and losses) in connection with these transactions. These positions are included in and subject to our consolidated risk management portfolio position limits and controls structure. Changes in fair value of commodity positions that do not qualify for or for which we do not elect either hedge accounting or the normal purchase normal sale exemption are recognized currently in earnings and are separately stated on our Consolidated Condensed Statements of Operations in mark-to-market gain/loss as a component of operating revenues (for physical and financial power and Heat Rate and commodity option activity) and fuel and purchased energy expense (for physical and financial natural gas, power, environmental product and fuel oil activity). Our future hedged status and marketing and optimization activities are subject to change as determined by our commercial operations group, Chief Risk Officer, senior management and Board of Directors.

At any point in time, the relative quantity of our products hedged or sold under longer-term contracts is determined by the availability of forward product sales opportunities and our view of the attractiveness of the pricing available for forward sales. We have economically hedged a portion of our expected generation and natural gas portfolio as well as retail load supply obligations, where appropriate, mostly through power and natural gas forward physical and financial transactions including retail power sales; however, we currently remain susceptible to significant price movements for 2017 and beyond. When we elect to enter into these transactions, we are able to economically hedge a portion of our Spark Spread at pre-determined generation and price levels.

We have historically used interest rate hedging instruments to adjust the mix between our fixed and variable rate debt. To the extent eligible, our interest rate hedging instruments have been designated as cash flow hedges, and changes in fair value are recorded in OCI to the extent they are effective with gains and losses reclassified into earnings in the same period during which the hedged forecasted transaction affects earnings. See Note 6 of the Notes to Consolidated Condensed Financial Statements for further discussion of our derivative instruments.

The primary factors affecting our market risk and the fair value of our derivatives at any point in time are the volume of open derivative positions (MMBtu, MWh and \$ notional amounts); changing commodity market prices, primarily for power and natural gas; our credit standing and that of our counterparties for energy commodity derivatives; and prevailing interest rates for our interest rate hedging instruments. Since prices for power and natural gas and interest rates are volatile, there may be material changes in the fair value of our derivatives over time, driven both by price volatility and the changes in volume of open derivative transactions. Our derivative assets have decreased to approximately \$2.1 billion at March 31, 2017, when compared to approximately \$2.3 billion at December 31, 2016, and our derivative liabilities have decreased to approximately \$1.8 billion at March 31, 2017, when compared to approximately \$2.1 billion at December 31, 2016. The fair value of our level 3 derivative assets and liabilities at March 31, 2017 represents approximately 18% and 3% of our total assets and liabilities measured at fair value, respectively, with the majority of that value attributable to the fair value of retail sales contracts acquired in the acquisition of Calpine Solutions in December 2016. See Note 5 of the Notes to Consolidated Condensed Financial Statements for further information related to our level 3 derivative assets and liabilities.

The change in fair value of our outstanding commodity and interest rate hedging instruments from January 1, 2017, through March 31, 2017, is summarized in the table below (in millions):

	Commodity Instruments	Interest Rate Hedging Instruments	Total
Fair value of contracts outstanding at January 1, 2017	\$ 191	\$ (29)	\$ 162
Items recognized or otherwise settled during the period <sup>(1)(2)</sup>	(72)	8	(64)
Fair value attributable to new contracts <sup>(3)</sup>	56	9	65
Changes in fair value attributable to price movements	77	(6)	71
Fair value of contracts outstanding at March 31, 2017 <sup>(4)</sup>	<u>\$ 252</u>	<u>\$ (18)</u>	<u>\$ 234</u>

- (1) Commodity contract settlements consist of the realization of previously recognized gains on contracts not designated as hedging instruments of \$54 million (represents a portion of Commodity revenue and Commodity expense as reported on our Consolidated Condensed Statements of Operations) and \$18 million related to current period losses from other changes in derivative assets and liabilities not reflected in OCI or earnings.
- (2) Interest rate settlements consist of \$7 million related to realized losses from settlements of designated cash flow hedges and \$1 million related to realized losses from settlements of undesignated interest rate hedging instruments (represents a portion of interest expense as reported on our Consolidated Condensed Statements of Operations).
- (3) Fair value attributable to new contracts includes \$24 million and \$18 million of fair value related to commodity contracts and interest rate hedging instruments, respectively, which are not reflected in OCI or earnings.
- (4) Net commodity and interest rate derivative assets and liabilities reported in Notes 5 and 6 of the Notes to Consolidated Condensed Financial Statements.

*Commodity Price Risk* — Commodity price risks result from exposure to changes in spot prices, forward prices, price volatilities and correlations between the price of power, steam and natural gas. We manage the commodity price risk and the variability in future cash flows from forecasted sales of power and purchases of natural gas of our entire portfolio of generating assets and contractual positions by entering into various derivative and non-derivative instruments.

The net fair value of outstanding derivative commodity instruments at March 31, 2017, based on price source and the period during which the instruments will mature, are summarized in the table below (in millions):

Fair Value Source	2017	2018-2019	2020-2021	After 2021	Total
Prices actively quoted	\$ (17)	\$ (13)	\$ (7)	\$ (2)	\$ (39)
Prices provided by other external sources	18	(41)	(4)	—	(27)
Prices based on models and other valuation methods	120	150	40	8	318
Total fair value	<u>\$ 121</u>	<u>\$ 96</u>	<u>\$ 29</u>	<u>\$ 6</u>	<u>\$ 252</u>

We measure the energy commodity price risk in our portfolio on a daily basis using a VAR model to estimate the potential one-day risk of loss based upon historical experience resulting from potential market movements. Our VAR is calculated for our entire portfolio comprising energy commodity derivatives, expected generation and natural gas consumption from our power plants, PPAs, and other physical and financial transactions. We measure VAR using a variance/covariance approach based on a confidence level of 95%, a one-day holding period and actual observed historical correlation. While we believe that our VAR assumptions and approximations are reasonable, different assumptions and/or approximations could produce materially different estimates.

The table below presents the high, low and average of our daily VAR for the three months ended March 31, 2017 and 2016 (in millions):

	2017	2016
Three months ended March 31:		
High	\$ 22	\$ 31
Low	\$ 16	\$ 15
Average	\$ 19	\$ 22
As of March 31	\$ 17	\$ 17

Due to the inherent limitations of statistical measures such as VAR, the VAR calculation may not capture the full extent of our commodity price exposure. As a result, actual changes in the value of our energy commodity portfolio could be different from the calculated VAR, and could have a material effect on our financial results. In order to evaluate the risks of our portfolio on a comprehensive basis and augment our VAR analysis, we also measure the risk of the energy commodity portfolio using several analytical methods including sensitivity analysis, non-statistical scenario analysis, including stress testing, and daily position report analysis.

We utilize the forward commodity markets to hedge price risk associated with our power plant portfolio. Our ability to hedge relies in part on market liquidity and the number of counterparties with which to transact. While the number of counterparties in these markets has decreased, to date this occurrence has not had a material adverse effect on our results of operations or financial condition. However, should these conditions persist or increase, it could decrease our ability to hedge our forward commodity price risk and create incremental volatility in our earnings. The effects of declining liquidity in the forward commodity markets is also mitigated by our retail subsidiaries which provides us with an additional outlet to transact hedging activities related to our wholesale power plant portfolio.

*Liquidity Risk* — Liquidity risk arises from the general funding requirements needed to manage our activities and assets and liabilities. Fluctuating natural gas prices or Market Heat Rates can cause our collateral requirements for our wholesale and retail activities to increase or decrease. Our liquidity management framework is intended to maximize liquidity access and minimize funding costs during times of rising prices. See further discussion regarding our uses of collateral as they relate to our commodity procurement and risk management activities in Note 7 of the Notes to Consolidated Condensed Financial Statements.

*Credit Risk* — Credit risk relates to the risk of loss resulting from nonperformance or non-payment by our counterparties or customers related to their contractual obligations with us. Risks surrounding counterparty and customer performance and credit could ultimately affect the amount and timing of expected cash flows. We also have credit risk if counterparties or customers are unable to provide collateral or post margin. We monitor and manage our credit risk through credit policies that include:

- credit approvals;
- routine monitoring of counterparties' and customer's credit limits and their overall credit ratings;
- limiting our marketing, hedging and optimization activities with high risk counterparties;
- margin, collateral, or prepayment arrangements; and
- payment netting arrangements, or master netting arrangements that allow for the netting of positive and negative exposures of various contracts associated with a single counterparty.

We have concentrations of credit risk with a few of our wholesale counterparties and retail customers relating to our sales of power and steam and our hedging, optimization and trading activities. We believe that our credit policies and portfolio of transactions adequately monitor and diversify our credit risk, and currently our counterparties and customers are performing and financially settling timely according to their respective agreements. We monitor and manage our total comprehensive credit risk associated with all of our contracts irrespective of whether they are accounted for as an executory contract, a normal purchase normal sale or whether they are marked-to-market and included in our derivative assets and liabilities on our Consolidated Condensed Balance Sheets. Our counterparty and customer credit quality associated with the net fair value of outstanding derivative commodity instruments is included in our derivative assets and (liabilities) at March 31, 2017, and the period during which the instruments will mature are summarized in the table below (in millions):

<b>Credit Quality</b> <b>(Based on Standard &amp; Poor's Ratings</b> <b>as of March 31, 2017)</b>	<b>2017</b>	<b>2018-2019</b>	<b>2020-2021</b>	<b>After 2021</b>	<b>Total</b>
Investment grade	\$ 96	\$ 59	\$ 24	\$ 3	\$ 182
Non-investment grade	22	34	5	3	64
No external ratings	3	3	—	—	6
Total fair value	<u>\$ 121</u>	<u>\$ 96</u>	<u>\$ 29</u>	<u>\$ 6</u>	<u>\$ 252</u>

**Interest Rate Risk** — Our variable rate financings are indexed to base rates, generally LIBOR. Interest rate risk represents the potential loss in earnings arising from adverse changes in market interest rates. The fair value of our interest rate hedging instruments are validated based upon external quotes. Our interest rate hedging instruments are with counterparties we believe are primarily high quality institutions, and we do not believe that our interest rate hedging instruments expose us to any significant credit risk. Holding all other factors constant, we estimate that a 10% decrease in interest rates would result in a change in the fair value of our interest rate hedging instruments hedging our variable rate debt of approximately \$(25) million at March 31, 2017.

#### **New Accounting Standards and Disclosure Requirements**

See Note 1 of the Notes to Consolidated Condensed Financial Statements for a discussion of new accounting standards and disclosure requirements.

#### **Item 3. Quantitative and Qualitative Disclosures About Market Risk**

The information required to be disclosed under this Item 3 is set forth under Item 2 “Management’s Discussion and Analysis of Financial Condition and Results of Operations — Risk Management and Commodity Accounting.” This information should be read in conjunction with the information disclosed in our 2016 Form 10-K.

#### **Item 4. Controls and Procedures**

##### **Disclosure Controls and Procedures**

As of the end of the period covered by this Report, we carried out an evaluation, under the supervision and with the participation of our management, including our Chief Executive Officer and Chief Financial Officer, of the effectiveness of the design and operation of our disclosure controls and procedures as defined in Rule 13a-15(e) and Rule 15d-15(e) of the Exchange Act. Based upon, and as of the date of, this evaluation, the Chief Executive Officer and the Chief Financial Officer concluded that our disclosure controls and procedures were effective such that the information required to be disclosed in our SEC reports is recorded, processed, summarized and reported within the time periods specified in SEC rules and forms, and is accumulated and communicated to our management, including our Chief Executive Officer and Chief Financial Officer, as appropriate, to allow timely decisions regarding required disclosure.

##### **Changes in Internal Control Over Financial Reporting**

During the first quarter of 2017, there were no changes in our internal control over financial reporting (as defined in Rules 13a-15(f) and 15d-15(f) under the Exchange Act) that materially affected, or are reasonably likely to materially affect, our internal control over financial reporting.



## PART II — OTHER INFORMATION

### Item 1. *Legal Proceedings*

See Note 11 of the Notes to Consolidated Condensed Financial Statements for a description of our legal proceedings.

### Item 1A. *Risk Factors*

There were no material changes to the description of the risk factors associated with our business previously disclosed in Part I, Item 1A “Risk Factors” of our 2016 Form 10-K.

### Item 2. *Unregistered Sales of Equity Securities and Use of Proceeds*

#### *Repurchase of Equity Securities*

Period	(a) Total Number of Shares Purchased <sup>(1)</sup>	(b) Average Price Paid Per Share	(c) Total Number of Shares Purchased as Part of Publicly Announced Plans or Programs <sup>(2)</sup>	(d) Maximum Dollar Value of Shares That May Yet Be Purchased Under the Plans or Programs (in millions) <sup>(2)</sup>
January	2,803	\$ 11.77	—	\$ 307
February	466,698	\$ 11.77	—	\$ 307
March	1,029	\$ 11.07	—	\$ 307
Total	470,530	\$ 11.76	—	\$ 307

(1) To satisfy tax withholding obligations associated with the vesting of restricted stock awarded to employees during the first quarter of 2017, we withheld a total of 470,530 shares that are included in the total number of shares purchased.

(2) In November 2014, our Board of Directors authorized an increase in the total authorization of our multi-year share repurchase program to \$1.0 billion. There is no expiration date on the repurchase authorization and the amount and timing of future share repurchases, if any, will be determined as market and business conditions warrant.

### Item 3. *Defaults Upon Senior Securities*

None.

### Item 4. *Mine Safety Disclosures*

Not applicable.

### Item 5. *Other Information*

None.

**Item 6. Exhibits**

**EXHIBIT INDEX**

<b>Exhibit Number</b>	<b>Description</b>
10.1	Credit Agreement, dated February 3, 2017 among Calpine Corporation as borrower and the lenders party thereto, and Morgan Stanley Senior Funding, Inc., as administrative agent, MUFG Union Bank, N.A., as collateral agent ( <a href="#">incorporated by reference to Exhibit 10.1 to the Company's Current Report on Form 8-K filed with the SEC on February 9, 2017</a> ).
10.2	<a href="#">Form of Performance Share Unit Award Agreement Under Amended and Restated Calpine Corporation 2008 Equity Incentive Plan between the Company and W. Thaddeus Miller. †</a>
10.3	<a href="#">Form of Performance Share Unit Award Agreement Under Amended and Restated Calpine Corporation 2008 Equity Incentive Plan between the Company and Certain Designated Senior Employees. †</a>
10.4	<a href="#">Form of Non-qualified Stock Option Agreement Under Amended and Restated Calpine Corporation 2008 Equity Incentive Plan between the Company and W. Thaddeus Miller. †</a>
10.5	<a href="#">Form of Non-qualified Stock Option Agreement Under Amended and Restated Calpine Corporation 2008 Equity Incentive Plan between the Company and Certain Designated Senior Employees. †</a>
10.6	<a href="#">Form of Non-qualified Stock Option Agreement Under Amended and Restated Calpine Corporation 2008 Equity Incentive Plan between the Company and Charlie M. Gates. †</a>
31.1	<a href="#">Certification of the Chief Executive Officer Pursuant to Section 302 of the Sarbanes-Oxley Act of 2002.</a>
31.2	<a href="#">Certification of the Chief Financial Officer Pursuant to Section 302 of the Sarbanes-Oxley Act of 2002.</a>
32.1	<a href="#">Certification of the Chief Executive Officer and the Chief Financial Officer Pursuant to 18 U.S.C. Section 1350, as Adopted Pursuant to Section 906 of the Sarbanes-Oxley Act of 2002. *</a>
101.INS	XBRL Instance Document.
101.SCH	XBRL Taxonomy Extension Schema.
101.CAL	XBRL Taxonomy Extension Calculation Linkbase.
101.DEF	XBRL Taxonomy Extension Definition Linkbase.
101.LAB	XBRL Taxonomy Extension Label Linkbase.
101.PRE	XBRL Taxonomy Extension Presentation Linkbase.

\*      Furnished herewith.

†      Management contract or compensatory plan, contract or arrangement.

## SIGNATURES

Pursuant to the requirements 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.

### **CALPINE CORPORATION** **(Registrant)**

By: /s/ ZAMIR RAUF  
Zamir Rauf  
Executive Vice President and Chief Financial Officer  
*(Principal Financial Officer)*

Date: April 27, 2017

**AMENDED AND RESTATED  
CALPINE CORPORATION  
2008 EQUITY INCENTIVE PLAN**

**Notice of Performance Share Unit Grant**

**Participant:** W. Thaddeus Miller

**Corporation:** Calpine Corporation

**Notice:** You have been granted the following Performance Share Units in accordance with the terms of this notice, the Performance Share Unit Award Agreement attached hereto as Attachment A (such notice and agreement, collectively, this “Agreement”) and the Plan identified below.

**Type of Award:** Performance-based Restricted Stock Units, referred to herein as “Performance Share Units”. A Performance Share Unit is an unfunded and unsecured obligation of the Corporation to pay the cash equivalent one share of Common Stock, as determined in accordance with this Agreement and subject to the terms and conditions of this Agreement and those of the Plan.

**Plan:** Amended and Restated Calpine Corporation 2008 Equity Incentive Plan.

**Grant:** Grant Date : [ ● ]  
Number of Performance Share Units : [ ● ]

**Acknowledgement and Agreement:** The undersigned Participant acknowledges receipt of, and understands and agrees to, the terms and conditions of this Agreement and the Plan.

CALPINE CORPORATION

PARTICIPANT

Name: \_\_\_\_\_  
Title: \_\_\_\_\_

Name: \_\_\_\_\_

**AMENDED AND RESTATED  
CALPINE CORPORATION  
2008 EQUITY INCENTIVE PLAN**

**Performance Share Unit Award Agreement**

This Performance Share Unit Award Agreement, dated as of the Grant Date set forth in the Notice of Performance Share Unit Grant to which this Performance Share Unit Award Agreement is attached (the “Grant Notice”), is made between Calpine Corporation (the “Corporation”) and the Participant set forth in the Grant Notice. The Grant Notice is included in and made part of this Performance Share Unit Award Agreement.

1. Definitions. Capitalized terms used but not defined herein have the meanings set forth in the Plan.

2. Grant of Performance Share Units. Subject to the provisions of this Agreement and the provisions of the Plan, the Corporation hereby grants to the Participant, pursuant to the Plan, the number of Performance Share Units set forth in the Grant Notice.

3. Vesting Criteria Applicable to Performance Share Units.

(a) *Performance Cycle*. The Performance Cycle for the Performance Share Units shall commence on January 1, 2017, and shall end on December 31, 2019.

(b) *Performance Goal*. The performance goal for the Performance Cycle is the annualized total return per share of Common Stock to the Corporation’s shareholders, inclusive of dividends paid, during the Performance Cycle as set forth in this Section 3(b). For purposes of this Agreement, such annualized total shareholder return (“TSR”) for the Corporation shall be measured by dividing (A) the sum of (1) the dividends paid (regardless of whether paid in cash or property) on Common Stock during each year of the Performance Cycle, assuming reinvestment of such dividends in such stock (based on the closing price of such stock on the date such dividend is paid), plus (2) the difference between the average closing price of a share of Common Stock on the principal United States exchange on which such stock trades for the twenty (20) trading days occurring immediately prior to the first day of the Performance Cycle (the “Beginning Average Value”) and the average closing price of a share of such stock on the principal United States exchange on which such stock trades for the twenty (20) trading days immediately prior to and including the last day of each year of the Performance Cycle (appropriately adjusted for any stock dividend, stock split, spin-off, merger or other similar corporate events affecting such stock), by (B) the Beginning Average Value. For the avoidance of doubt, it is intended that the foregoing calculation of TSR shall take into account not only the reinvestment of dividends in a share of common stock of the Corporation, but also capital appreciation or depreciation in the shares deemed acquired by such reinvestment. All determinations under this Section 3 shall be made by the Committee.

(c) *Earned Percentage*. Except as provided in Section 4 or Section 6 hereof, the Performance Share Units shall be earned based on the Corporation’s annualized TSR during the Performance Cycle. The Earned Percentage shall be determined in accordance with the following schedule based on Calpine’s annualized TSR, with any Earned Percentage for any annualized TSR percentage between the levels set forth in such schedule determined by linear interpolation:

Calpine Annualized TSR	Earned Percentage
+15% (maximum)	150%
+8% (target)	100%
-10% (threshold)	50%
Less than -10%	0%

(d) *Earned Performance Share Units* . The number of Performance Share Units earned (the “Earned Performance Share Units”) shall be the product of the number of Performance Share Units set forth in the Grant Notice multiplied by the Earned Percentage, subject to Committee certification pursuant to paragraph (e) of this Section 3.

(e) *Committee Certification*. As soon as practicable after completion of the Performance Cycle, the Committee shall determine and certify in writing the Annualized TSR, the Earned Percentage and the number of Earned Performance Share Units (which written certification may be in the form of approved minutes of the Committee meeting in which such certification is made).

(f) *Failure to Become Earned Performance Share Units* . To the extent that the Performance Share Units do not become Earned Performance Share Units pursuant to this Section 3, such Performance Share Units shall be automatically forfeited.

4. Termination of Employment. Any Performance Share Units that have not been settled in accordance with Section 5 hereof prior to the date on which the status of employment of the Participant with the Corporation or its Affiliates shall terminate (including by reason of such an Affiliate ceasing to be an Affiliate of the Corporation) (any such termination, “Termination of Employment”) shall be immediately and automatically forfeited upon such date, except as follows:

(a) *Disability or Death* . Upon Termination of Employment due to Disability (as defined in the Amended and Restated Executive Employment Agreement between the Corporation and the Participant, dated as of December 18, 2015 (the “Employment Agreement”)) or by reason of the Participant’s Disability or death, then, notwithstanding such Termination of Employment, the Earned Percentage shall be 100% and the Earned Performance Share Units shall be settled in accordance with Section 5 hereof.

(b) *Without Cause or For Good Reason* . Upon Termination of Employment by the Corporation without Cause (as defined in the Employment Agreement) or by the Participant for Good Reason (as defined in the Employment Agreement), in each case other than within twenty-four (24) months following a Change in Control (as defined in the Employment Agreement), then, notwithstanding such Termination of Employment, the Performance Share Units shall be eligible to become Earned Performance Share Units, and any Earned Performance Share Units shall be settled subject to the same terms and conditions hereunder had the Participant not incurred such Termination of Employment, subject to the Participant’s compliance with Sections 11 and 12 of the Employment Agreement through the date on which the Earned Performance Share Units are settled in accordance with Section 5 hereof.

(c) *Completion of Current Employment Term*. On December 31, 2017, provided that the Participant has not incurred a Termination of Employment on or before such date, then, notwithstanding any Termination of Employment after such date, the Performance Share Units shall be eligible to become Earned Performance Share Units, and any Earned Performance Share Units shall be settled subject to the same terms and conditions hereunder had the Participant not incurred such Termination of Employment subject to the Participant’s compliance with Sections 11 and 12 of the Employment Agreement through the date on which the Earned Performance Share Units are settled in accordance with Section 5 hereof.

5. Settlement of Earned Performance Share Units. During calendar year 2020, as soon as reasonably practicable following completion of all determinations and certifications contemplated by Section 3, but in no event later than March 15, 2020, subject to satisfaction of applicable tax withholding obligations in accordance with Section 7, the Corporation shall cause to be paid to the Participant an amount in cash equal to the product of the number

of Earned Performance Share Units multiplied by the Fair Market Value of a share of Common Stock as of the last trading day of the Performance Cycle, provided, however, that if the Participant incurs a Termination of Employment as described in Section 4(a) hereof, then such payment shall be made within sixty (60) days after the date of such Termination of Employment and such Fair Market Value shall be determined as of the date of such Termination of Employment, less applicable taxes in accordance with Section 7. Notwithstanding the foregoing provisions of this Section 5 to the contrary, if at the time of the Participant's separation from service within the meaning of Code Section 409A, the Participant is a "specified employee" within the meaning of Code Section 409A, any payment hereunder that constitutes a "deferral of compensation" under Code Section 409A and that would otherwise become due on account of such separation from service shall be delayed, and payment shall be made in full upon the earlier to occur of (a) a date during the thirty-day period commencing six months and one day following such separation from service and (b) the date of the Participant's death.

6. Change in Control.

(a) *Accelerated Payment of Performance Share Units*. Notwithstanding Sections 3 and 5, in the event a Change in Control occurs prior to the end of the Performance Cycle, and provided that the Performance Share Units have not been forfeited pursuant to Section 4 prior to the date of such Change in Control, then: (i) the Corporation's TSR shall be determined in accordance with Section 3(a), (b), (c), and (d) for the portion of the Performance Cycle that ends on the last trading day that is on or immediately prior to the fifth (5th) day immediately prior to the date of the Change in Control; (ii) the number of Earned Performance Share Units shall be equal to the product of (A) the greater of (x) the Earned Percentage determined in accordance with Sections 3(c) and 3(d) based on the TSR determined in accordance with clause (i) of this Section 6(a), and (y) 100%, multiplied by (B) the number of Performance Share Units set forth in the Grant Notice, and (iii) subject to satisfaction of applicable tax withholding obligations in accordance with Section 7, the Corporation shall cause to be paid to the Participant an amount in cash equal to the product of such number of Earned Performance Share Units multiplied by the Change in Control Price (as defined in paragraph (b) of this Section 6) on, or within five (5) business days after, the date of such Change in Control, based on the Change in Control Price; provided, however, that if such Change in Control does not constitute a "change in control event," within the meaning of Treasury Regulations Section 1.409A-3(i)(5), then any amounts payable under this Section 6 that constitute a "deferral of compensation" under Code Section 409A shall be made at the time specified in Section 5 notwithstanding the occurrence of such Change in Control. All determinations under this Section 6 shall be made by the Committee as constituted immediately prior to the applicable Change in Control.

(b) *Change in Control Price*. For purposes of this Section 6, "Change in Control Price" means the closing price of a share of the Common Stock on the principal United States exchange on which Common Stock trades on the last trading day occurring immediately prior to the date of the Change in Control.

7. Taxes. Upon settlement of the Earned Performance Share Units, or as of any other date on which the value of any Performance Share Units otherwise becomes includible in the Participant's gross income for Federal, state, local or non-United States income tax or other tax or social security purposes (or results in any other taxes of any kind), the Participant shall deliver to the Corporation at the time of such settlement or such other date such amount of cash as the Corporation or its Affiliate may require to meet its obligations under applicable tax and other laws or regulations, provided that the Corporation may determine that any such tax obligations shall be satisfied by the Corporation withholding any amount otherwise payable to the Participant pursuant to this Agreement. The Corporation or an Affiliate may, in the discretion of the Committee, provide for alternative arrangements to satisfy applicable tax withholding requirements in accordance with Section 21 of the Plan. Regardless of any action the Corporation or any Affiliate takes with respect to any or all tax withholding obligations, the Participant acknowledges that the ultimate liability for all such taxes is and remains the Participant's responsibility.

8. Dividend Equivalents. With respect to the number of Performance Share Units set forth in the Grant Notice, the Participant shall be credited with Dividend Equivalents with respect to each such Performance Share Unit equal to the amount per share of Common Stock of any ordinary cash dividends declared by the Board with record dates during the period beginning on the first day of the Performance Cycle and ending on the earliest to occur of: (a) the last day of the Performance Cycle; (b) the date of a Change in Control and (c) the date such Performance Share Unit terminates or is forfeited under Section 3 or Section 4. The Corporation shall pay in cash to the Participant

an amount equal to the product of (i) sum of the aggregate amount of such Dividend Equivalents credited to the Participant, multiplied by (ii) the Earned Percentage, such amount to be paid as and when the related Performance Share Units are paid in accordance with Section 5 or Section 6, as applicable. Any Dividend Equivalents shall be forfeited as and when the related Performance Share Units are forfeited in accordance with Section 3 or Section 4.

9. No Rights as a Shareholder. Neither the Participant nor any other person shall at any time be or become the beneficial owner of any shares of Common Stock underlying the Performance Share Units, nor have any rights to dividends or other rights as a shareholder with respect to any such shares.

10. Transferability. The Performance Share Units shall not be transferable otherwise than by will or the laws of descent and distribution; provided, however, that the Participant may file with the Company a written designation of a beneficiary on such form as may be prescribed by the Company and may, from time to time, amend or revoke such designation, and, in the event of the Participant's death, any payment due under Section 5 shall be made to the most recently designated such beneficiary, and if no designated beneficiary survives the Participant, any such payment shall be made to the executor or administrator of the Participant's estate.

11. No Right to Continued Employment. Neither the Performance Share Units nor any terms contained in this Agreement shall confer upon the Participant any rights or claims except in accordance with the express provisions of the Plan and this Agreement, and shall not give the Participant any express or implied right to be retained in the employment or service of the Corporation or any Affiliate for any period, or in any particular position or at any particular rate of compensation, nor restrict in any way the right of the Corporation or any Affiliate, which right is hereby expressly reserved, to modify or terminate the Participant's employment or service at any time for any reason. The Participant acknowledges and agrees that any right to Earned Performance Share Units is earned only by continuing as an employee of the Corporation or an Affiliate and satisfaction of other applicable terms and conditions contained in the Plan and this Agreement, and not through the act of being hired or being granted the Performance Share Units hereunder.

12. The Plan. By accepting any benefit under this Agreement, the Participant and any person claiming under or through the Participant shall be conclusively deemed to have indicated his or her acceptance and ratification of, and consent to, all of the terms and conditions of the Plan and this Agreement and any action taken under the Plan by the Board, the Committee or the Corporation, in any case in accordance with the terms and conditions of the Plan. This Agreement is subject to all the terms, provisions and conditions of the Plan, which are incorporated herein by reference, and to such rules, policies and regulations as may from time to time be adopted by the Committee. In the event of any conflict between the provisions of the Plan and this Agreement, the provisions of the Plan shall control, and this Agreement shall be deemed to be modified accordingly. The Plan and the prospectus describing the Plan can be found on the Corporation's HR intranet. A paper copy of the Plan and the prospectus shall be provided to the Participant upon the Participant's written request to the Corporation at the address indicated in Section 13 hereof.

13. Notice. All notices required to be given under this Agreement or the Plan shall be in writing and delivered in person or by registered or certified mail, postage prepaid, to the other party, in the case of the Corporation, at the address of its principal place of business (or such other address as the Corporation may from time to time specify), or, in the case of the Participant, at the Participant's address set forth in the Corporation's records; provided, however, any such notice to the Participant may be delivered electronically to the Participant's email address set forth in the Corporation's records. Each party to this Agreement agrees to inform the other party immediately upon a change of address. All notices shall be deemed delivered when received.

14. Other Plans. The Participant acknowledges that any income derived from the Performance Share Units shall not affect the Participant's participation in, or benefits under, any other benefit plan or other contract or arrangement maintained by the Corporation or any Affiliate.

15. Arbitration. Any dispute or controversy arising under or in connection with this Agreement shall be settled by binding arbitration in Houston, Texas by one arbitrator appointed in the manner set forth by the American Arbitration Association. Any arbitration proceeding pursuant to this paragraph shall be conducted in



accordance with the Employment Dispute Resolution Rules of the American Arbitration Association. Judgment may be entered on the arbitrators' award in any court having jurisdiction.

16. Entire Agreement and Amendments. This Agreement and the Plan contain the entire agreement of the parties relating to the matters contained herein and supersede all prior agreements and understandings, oral or written, between the parties with respect to the subject matter hereof. This Agreement may be amended in accordance with Section 22 of the Plan.

17. Separability. If any provision of this Agreement is rendered or declared illegal or unenforceable by reason of any existing or subsequently enacted legislation or by the decision of any arbitrator or by decree of a court of last resort, the parties shall promptly meet and negotiate substitute provisions for those rendered or declared illegal or unenforceable to preserve the original intent of this Agreement to the extent legally possible, but all other provisions of this Agreement shall remain in full force and effect.

18. Electronic Delivery And Signatures. The Corporation may, in its sole discretion, decide to deliver any documents related to the Performance Share Units, this Agreement or to participation in the Plan or to future grants that may be made under the Plan by electronic means or to request the Participant's consent to participate in the Plan by electronic means. The Participant hereby consents to receive such documents by electronic delivery and, if requested, to agree to participate in the Plan through an on-line or electronic system established and maintained by the Corporation or another third party designated by the Corporation. If the Corporation establishes procedures of an electronic signature system for delivery and acceptance of Plan documents (including this Agreement or any Award Agreement like this Agreement), the Participant hereby consents to such procedures and agrees that his or her electronic signature is the same as, and shall have the same force and effect as, his or her manual signature.

19. Section 409A. This Agreement and delivery of shares of Common Stock under this Agreement are intended to be exempt from or to comply with Section 409A of the Code and shall be administered and construed in accordance with such intent. In furtherance, and not in limitation, of the foregoing: (a) in no event may the Participant designate, directly or indirectly, the calendar year of any payment to be made hereunder; and (b) notwithstanding any other provision of this Agreement to the contrary, a Termination of Employment hereunder shall mean and be interpreted consistent with a "separation from service" within the meaning of Code Section 409A with respect to any payment hereunder that constitute a "deferral of compensation" under Code Section 409A that becomes due on account of such separation from service.

**AMENDED AND RESTATED  
CALPINE CORPORATION  
2008 EQUITY INCENTIVE PLAN**

**Notice of Performance Share Unit Grant**

**Participant:** [ ● ]

**Corporation:** Calpine Corporation

**Notice:** You have been granted the following Performance Share Units in accordance with the terms of this notice, the Performance Share Unit Award Agreement attached hereto as Attachment A (such notice and agreement, collectively, this “Agreement”) and the Plan identified below.

**Type of Award:** Performance-based Restricted Stock Units, referred to herein as “Performance Share Units”. A Performance Share Unit is an unfunded and unsecured obligation of the Corporation to pay the cash equivalent one share of Common Stock, as determined in accordance with this Agreement and subject to the terms and conditions of this Agreement and those of the Plan.

**Plan:** Amended and Restated Calpine Corporation 2008 Equity Incentive Plan.

**Grant:** Grant Date : [ ● ]  
Number of Performance Share Units : [ ● ]

**Acknowledgement and Agreement:** The undersigned Participant acknowledges receipt of, and understands and agrees to, the terms and conditions of this Agreement and the Plan.

CALPINE CORPORATION

PARTICIPANT

Name: \_\_\_\_\_  
Title: \_\_\_\_\_

Name: \_\_\_\_\_

**AMENDED AND RESTATED  
CALPINE CORPORATION  
2008 EQUITY INCENTIVE PLAN**

**Performance Share Unit Award Agreement**

This Performance Share Unit Award Agreement, dated as of the Grant Date set forth in the Notice of Performance Share Unit Grant to which this Performance Share Unit Award Agreement is attached (the “Grant Notice”), is made between Calpine Corporation (the “Corporation”) and the Participant set forth in the Grant Notice. The Grant Notice is included in and made part of this Performance Share Unit Award Agreement.

1. Definitions. Capitalized terms used but not defined herein have the meanings set forth in the Plan.

2. Grant of Performance Share Units. Subject to the provisions of this Agreement and the provisions of the Plan, the Corporation hereby grants to the Participant, pursuant to the Plan, the number of Performance Share Units set forth in the Grant Notice.

3. Vesting Criteria Applicable to Performance Share Units.

(a) *Performance Cycle*. The Performance Cycle for the Performance Share Units shall commence on January 1, 2017, and shall end on December 31, 2019.

(b) *Performance Goal*. The performance goal for the Performance Cycle is the annualized total return per share of Common Stock to the Corporation’s shareholders, inclusive of dividends paid, during the Performance Cycle as set forth in this Section 3(b). For purposes of this Agreement, such annualized total shareholder return (“TSR”) for the Corporation shall be measured by dividing (A) the sum of (1) the dividends paid (regardless of whether paid in cash or property) on Common Stock during each year of the Performance Cycle, assuming reinvestment of such dividends in such stock (based on the closing price of such stock on the date such dividend is paid), plus (2) the difference between the average closing price of a share of Common Stock on the principal United States exchange on which such stock trades for the twenty (20) trading days occurring immediately prior to the first day of the Performance Cycle (the “Beginning Average Value”) and the average closing price of a share of such stock on the principal United States exchange on which such stock trades for the twenty (20) trading days immediately prior to and including the last day of each year of the Performance Cycle (appropriately adjusted for any stock dividend, stock split, spin-off, merger or other similar corporate events affecting such stock), by (B) the Beginning Average Value. For the avoidance of doubt, it is intended that the foregoing calculation of TSR shall take into account not only the reinvestment of dividends in a share of common stock of the Corporation, but also capital appreciation or depreciation in the shares deemed acquired by such reinvestment. All determinations under this Section 3 shall be made by the Committee.

(c) *Earned Percentage*. Except as provided in Section 4 or Section 6 hereof, the Performance Share Units shall be earned based on the Corporation’s annualized TSR during the Performance Cycle. The Earned Percentage shall be determined in accordance with the following schedule based on Calpine’s annualized TSR, with any Earned Percentage for any annualized TSR percentage between the levels set forth in such schedule determined by linear interpolation:

Calpine Annualized TSR	Earned Percentage
+15% (maximum)	150%
+8% (target)	100%
-10% (threshold)	50%
Less than -10%	0%

(d) *Earned Performance Share Units* . The number of Performance Share Units earned (the “ Earned Performance Share Units ”) shall be the product of the number of Performance Share Units set forth in the Grant Notice multiplied by the Earned Percentage, subject to Committee certification pursuant to paragraph (e) of this Section 3.

(e) *Committee Certification*. As soon as practicable after completion of the Performance Cycle, the Committee shall determine and certify in writing the Annualized TSR, the Earned Percentage and the number of Earned Performance Share Units (which written certification may be in the form of approved minutes of the Committee meeting in which such certification is made).

(f) *Failure to Become Earned Performance Share Units* . To the extent that the Performance Share Units do not become Earned Performance Share Units pursuant to this Section 3, such Performance Share Units shall be automatically forfeited.

4. Termination of Employment . Any Performance Share Units that have not been settled in accordance with Section 5 hereof prior to the date on which the status of employment of the Participant with the Corporation or its Affiliates shall terminate (including by reason of such an Affiliate ceasing to be an Affiliate of the Corporation) (any such termination, “ Termination of Employment ”) shall be immediately and automatically forfeited upon such date, except as follows:

(a) *Disability or Death* . Upon Termination of Employment by reason of the Participant’s Disability or death, then, notwithstanding such Termination of Employment, the Earned Percentage shall be 100% and the Earned Performance Share Units shall be settled in accordance with Section 5 hereof.

(b) *Retirement Eligible* . In the event that the Participant is, or becomes, eligible to Retire, then, effective on the later to occur of: (i) the date on which the Participant initially becomes eligible to Retire, and (ii) the one-year anniversary of the Grant Date, notwithstanding any Termination of Employment occurring after such later date, the Performance Share Units shall be eligible to become Earned Performance Share Units, and any Earned Performance Share Units shall be settled subject to the same terms and conditions hereunder had the Participant not incurred such Termination of Employment. For the avoidance of doubt, if the Participant incurs a Termination of Employment prior to such later date, then this paragraph (b) of Section 4 shall not apply.

5. Settlement of Earned Performance Share Units . During calendar year 2020, as soon as reasonably practicable following completion of all determinations and certifications contemplated by Section 3, but in no event later than March 15, 2020, subject to satisfaction of applicable tax withholding obligations in accordance with Section 7, the Corporation shall cause to be paid to the Participant an amount in cash equal to the product of the number of Earned Performance Share Units multiplied by the Fair Market Value of a share of Common Stock as of the last trading day of the Performance Cycle, provided, however , that if the Participant incurs a Termination of Employment as described in Section 4(a) hereof, then such payment shall be made within sixty (60) days after the date of such Termination of Employment and such Fair Market Value shall be determined as of the date of such Termination of Employment, less applicable taxes in accordance with Section 7. Notwithstanding the foregoing provisions of this Section 5 to the contrary, if at the time of the Participant’s separation from service within the meaning of Code Section 409A, the Participant is a “specified employee” within the meaning of Code Section 409A, any payment hereunder that constitutes a “deferral of compensation” under Code Section 409A and that would otherwise become due on account of such separation from service shall be delayed, and payment shall be made in full upon the earlier to occur of (a) a date during the thirty-day period commencing six months and one day following such separation from service and (b) the date of the Participant’s death.

6. Change in Control.

(a) *Accelerated Payment of Performance Share Units* . Notwithstanding Sections 3 and 5, in the event a Change in Control occurs prior to the end of the Performance Cycle, and provided that the Performance Share Units have not been forfeited pursuant to Section 4 prior to the date of such Change in Control, then: (i) the Corporation's TSR shall be determined in accordance with Section 3(a), (b), (c), and (d) for the portion of the Performance Cycle that ends on the last trading day that is on or immediately prior to the fifth (5th) day immediately prior to the date of the Change in Control; (ii) the number of Earned Performance Share Units shall be equal to the product of (A) the greater of (x) the Earned Percentage determined in accordance with Sections 3(c) and 3(d) based on the TSR determined in accordance with clause (i) of this Section 6(a), and (y) 100%, multiplied by (B) the number of Performance Share Units set forth in the Grant Notice, and (iii) subject to satisfaction of applicable tax withholding obligations in accordance with Section 7, the Corporation shall cause to be paid to the Participant an amount in cash equal to the product of such number of Earned Performance Share Units multiplied by the Change in Control Price (as defined in paragraph (b) of this Section 6) on, or within five (5) business days after, the date of such Change in Control, based on the Change in Control Price; provided, however, that if such Change in Control does not constitute a "change in control event," within the meaning of Treasury Regulations Section 1.409A-3(i)(5), then any amounts payable under this Section 6 that constitute a "deferral of compensation" under Code Section 409A shall be made at the time specified in Section 5 notwithstanding the occurrence of such Change in Control. All determinations under this Section 6 shall be made by the Committee as constituted immediately prior to the applicable Change in Control.

(b) *Change in Control Price* . For purposes of this Section 6, "Change in Control Price" means the closing price of a share of the Common Stock on the principal United States exchange on which Common Stock trades on the last trading day occurring immediately prior to the date of the Change in Control.

7. Taxes . Upon settlement of the Earned Performance Share Units, or as of any other date on which the value of any Performance Share Units otherwise becomes includible in the Participant's gross income for Federal, state, local or non-United States income tax or other tax or social security purposes (or results in any other taxes of any kind), the Participant shall deliver to the Corporation at the time of such settlement or such other date such amount of cash as the Corporation or its Affiliate may require to meet its obligations under applicable tax and other laws or regulations, provided that the Corporation may determine that any such tax obligations shall be satisfied by the Corporation withholding any amount otherwise payable to the Participant pursuant to this Agreement. The Corporation or an Affiliate may, in the discretion of the Committee, provide for alternative arrangements to satisfy applicable tax withholding requirements in accordance with Section 21 of the Plan. Regardless of any action the Corporation or any Affiliate takes with respect to any or all tax withholding obligations, the Participant acknowledges that the ultimate liability for all such taxes is and remains the Participant's responsibility.

8. Dividend Equivalents . With respect to the number of Performance Share Units set forth in the Grant Notice, the Participant shall be credited with Dividend Equivalents with respect to each such Performance Share Unit equal to the amount per share of Common Stock of any ordinary cash dividends declared by the Board with record dates during the period beginning on the first day of the Performance Cycle and ending on the earliest to occur of: (a) the last day of the Performance Cycle; (b) the date of a Change in Control and (c) the date such Performance Share Unit terminates or is forfeited under Section 3 or Section 4. The Corporation shall pay in cash to the Participant an amount equal to the product of (i) sum of the aggregate amount of such Dividend Equivalents credited to the Participant, multiplied by (ii) the Earned Percentage, such amount to be paid as and when the related Performance Share Units are paid in accordance with Section 5 or Section 6, as applicable. Any Dividend Equivalents shall be forfeited as and when the related Performance Share Units are forfeited in accordance with Section 3 or Section 4.

9. No Rights as a Shareholder . Neither the Participant nor any other person shall at any time be or become the beneficial owner of any shares of Common Stock underlying the Performance Share Units, nor have any rights to dividends or other rights as a shareholder with respect to any such shares.

10. Transferability . The Performance Share Units shall not be transferable otherwise than by will or the laws of descent and distribution; provided, however, that the Participant may file with the Company a written designation of a beneficiary on such form as may be prescribed by the Company and may, from time to time, amend

or revoke such designation, and, in the event of the Participant's death, any payment due under Section 5 shall be made to the most recently designated such beneficiary, and if no designated beneficiary survives the Participant, any such payment shall be made to the executor or administrator of the Participant's estate.

11. No Right to Continued Employment. Neither the Performance Share Units nor any terms contained in this Agreement shall confer upon the Participant any rights or claims except in accordance with the express provisions of the Plan and this Agreement, and shall not give the Participant any express or implied right to be retained in the employment or service of the Corporation or any Affiliate for any period, or in any particular position or at any particular rate of compensation, nor restrict in any way the right of the Corporation or any Affiliate, which right is hereby expressly reserved, to modify or terminate the Participant's employment or service at any time for any reason. The Participant acknowledges and agrees that any right to Earned Performance Share Units is earned only by continuing as an employee of the Corporation or an Affiliate and satisfaction of other applicable terms and conditions contained in the Plan and this Agreement, and not through the act of being hired or being granted the Performance Share Units hereunder.

12. The Plan. By accepting any benefit under this Agreement, the Participant and any person claiming under or through the Participant shall be conclusively deemed to have indicated his or her acceptance and ratification of, and consent to, all of the terms and conditions of the Plan and this Agreement and any action taken under the Plan by the Board, the Committee or the Corporation, in any case in accordance with the terms and conditions of the Plan. This Agreement is subject to all the terms, provisions and conditions of the Plan, which are incorporated herein by reference, and to such rules, policies and regulations as may from time to time be adopted by the Committee. In the event of any conflict between the provisions of the Plan and this Agreement, the provisions of the Plan shall control, and this Agreement shall be deemed to be modified accordingly. The Plan and the prospectus describing the Plan can be found on the Corporation's HR intranet. A paper copy of the Plan and the prospectus shall be provided to the Participant upon the Participant's written request to the Corporation at the address indicated in Section 13 hereof.

13. Notice. All notices required to be given under this Agreement or the Plan shall be in writing and delivered in person or by registered or certified mail, postage prepaid, to the other party, in the case of the Corporation, at the address of its principal place of business (or such other address as the Corporation may from time to time specify), or, in the case of the Participant, at the Participant's address set forth in the Corporation's records; provided, however, any such notice to the Participant may be delivered electronically to the Participant's email address set forth in the Corporation's records. Each party to this Agreement agrees to inform the other party immediately upon a change of address. All notices shall be deemed delivered when received.

14. Other Plans. The Participant acknowledges that any income derived from the Performance Share Units shall not affect the Participant's participation in, or benefits under, any other benefit plan or other contract or arrangement maintained by the Corporation or any Affiliate.

15. Arbitration. Any dispute or controversy arising under or in connection with this Agreement shall be settled by binding arbitration in Houston, Texas by one arbitrator appointed in the manner set forth by the American Arbitration Association. Any arbitration proceeding pursuant to this paragraph shall be conducted in accordance with the Employment Dispute Resolution Rules of the American Arbitration Association. Judgment may be entered on the arbitrators' award in any court having jurisdiction.

16. Entire Agreement and Amendments. This Agreement and the Plan contain the entire agreement of the parties relating to the matters contained herein and supersede all prior agreements and understandings, oral or written, between the parties with respect to the subject matter hereof. This Agreement may be amended in accordance with Section 22 of the Plan.

17. Separability. If any provision of this Agreement is rendered or declared illegal or unenforceable by reason of any existing or subsequently enacted legislation or by the decision of any arbitrator or by decree of a court of last resort, the parties shall promptly meet and negotiate substitute provisions for those rendered or declared illegal or unenforceable to preserve the original intent of this Agreement to the extent legally possible, but all other provisions of this Agreement shall remain in full force and effect.

18. Electronic Delivery And Signatures. The Corporation may, in its sole discretion, decide to deliver any documents related to the Performance Share Units, this Agreement or to participation in the Plan or to future grants that may be made under the Plan by electronic means or to request the Participant's consent to participate in the Plan by electronic means. The Participant hereby consents to receive such documents by electronic delivery and, if requested, to agree to participate in the Plan through an on-line or electronic system established and maintained by the Corporation or another third party designated by the Corporation. If the Corporation establishes procedures of an electronic signature system for delivery and acceptance of Plan documents (including this Agreement or any Award Agreement like this Agreement), the Participant hereby consents to such procedures and agrees that his or her electronic signature is the same as, and shall have the same force and effect as, his or her manual signature.

19. Section 409A. This Agreement and delivery of shares of Common Stock under this Agreement are intended to be exempt from or to comply with Section 409A of the Code and shall be administered and construed in accordance with such intent. In furtherance, and not in limitation, of the foregoing: (a) in no event may the Participant designate, directly or indirectly, the calendar year of any payment to be made hereunder; and (b) notwithstanding any other provision of this Agreement to the contrary, a Termination of Employment hereunder shall mean and be interpreted consistent with a "separation from service" within the meaning of Code Section 409A with respect to any payment hereunder that constitute a "deferral of compensation" under Code Section 409A that becomes due on account of such separation from service.

## CALPINE CORPORATION

## NON-QUALIFIED STOCK OPTION AGREEMENT

## Pursuant to the 2008 Equity Incentive Plan

**OPTION** granted on \_\_\_\_\_ (the "Grant Date") by Calpine Corporation, a Delaware corporation (the "Corporation"), to Thaddeus Miller (the "Grantee") pursuant to this Non-Qualified Stock Option Agreement ("Stock Option Agreement").

1. **GRANT OF OPTION.** The Corporation hereby grants to the Grantee the right and option (the "Option") to purchase, on the terms and subject to the conditions set forth herein and in the Plan (as defined below), up to \_\_\_\_\_ fully paid and nonassessable shares ("Total Shares") of the Corporation's Common Stock, par value \$.001 per share, at the option price of \$\_\_\_\_\_ per share, being not less than 100% of the Fair Market Value of such Common Stock on the Grant Date (the "Exercise Price").

The Option is granted pursuant to the Corporation's 2008 Equity Incentive Plan (the "Plan"), a copy of which is attached hereto. The Option is subject in its entirety to all the applicable provisions of the Plan as in effect from time to time, which are hereby incorporated herein by reference. The Option is not intended to qualify as an "incentive stock option" within the meaning of Section 422 of the Code. Except as otherwise provided herein, or unless the context clearly indicates otherwise, capitalized terms not otherwise defined herein shall have the same definitions as provided in the Plan.

2. **PERIOD OF OPTION.** The period of the Option shall commence on the Grant Date and expire on the tenth (10<sup>th</sup>) anniversary of the Grant Date, subject to earlier termination as set forth in the Plan and this Stock Option Agreement ("Option Period"). The Option (or any lesser amount thereof) may be exercised from time to time during the Option Period as to the number of Total Shares allowable under Section 3 below and the Plan.

3. **EXERCISE OF OPTION.** The Option shall become vested and exercisable as to 100% of the Total Shares on the third anniversary date of the Grant Date, provided the Grantee has been continuously employed by the Corporation or an Affiliate during the period commencing on the Grant Date and ending on the third anniversary of the Grant Date.

For purposes of this Stock Option Agreement, continuous employment includes any leave of absence approved by the Company or any Affiliate.

Notwithstanding any other provision herein to the contrary, upon the occurrence of a Change in Control (as defined in the Plan), the Option shall become immediately vested in full.



Upon full payment of the Exercise Price and satisfaction of all applicable tax obligations, and subject to the applicable terms and conditions of the Plan and the terms and conditions of this Stock Option Agreement, the Corporation shall cause certificates for the shares purchased hereunder to be delivered to the Grantee or cause a noncertificated book-entry representing such shares to be made to the extent not prohibited by any applicable law or the rules of any stock exchange.

4. **TERMINATION OF OPTION.** Subject to the terms and conditions of the Plan, upon termination of the Grantee's continuous employment with the Corporation or an Affiliate, any portion of the Option that is not then vested and exercisable in accordance with Section 3 shall immediately terminate and any portion of the Option that is then vested and exercisable shall remain exercisable until the earlier of (1) three months after the date of termination of employment or (2) the expiration of the Option Period, except as follows.

(i) **Disability or Death.** If the Grantee's continuous employment with the Corporation or an Affiliate is terminated by reason of the Disability (as defined in the Amended and Restated Executive Employment Agreement between the Corporation and the Employee, dated as of December 18, 2015 (the "Employment Agreement") or is terminated by reason of the death of the Grantee, or if the Grantee dies during the three-month post-termination exercise period described in the preceding sentence, then the Option whether vested or unvested shall become immediately vested and shall remain exercisable until the expiration of the Option Period.

(ii) If the Grantee's continuous employment with the Corporation or an Affiliate is terminated without Cause or by the Grantee for Good Reason (each as defined in the Employment Agreement), then the Option, whether vested or unvested, shall become immediately vested and shall remain exercisable until the expiration of the Option Period.

(iii) As of December 31, 2017, provided that the Grantee is employed by the Corporation through such date, the Option shall become immediately vested and exercisable, and shall remain exercisable until the expiration of the Option Period.

(iv) **Cause.** If the Grantee's continuous employment with the Corporation or an Affiliate is terminated for Cause, then the Option, whether vested or unvested, shall immediately terminate in its entirety.

5. **SECURITIES ACT REQUIREMENTS.** In addition to the requirements set forth herein and in the Plan, (i) the Option shall not be exercisable in whole or in part, and the Corporation shall not be obligated to issue any shares of Common Stock subject to the Option, if such exercise and sale or issuance would, in the opinion of counsel for the Corporation, violate the Securities Act of 1933 (the "1933 Act") or other Federal or state statutes having similar requirements, as they may be in effect at that time; and (ii) the Option shall be subject to the further requirement that, at any time that the Compensation Committee (the "Committee"), in consultation with counsel for the Corporation, shall determine, in its discretion, that the listing, registration or qualification of the shares of Common Stock subject to the Option under any securities exchange requirements or under any applicable law, or the consent or approval of any governmental regulatory body, is necessary or desirable as a condition of, or in connection with, the issuance of shares of Common Stock, the Option may not be exercised in whole or in part unless such listing, registration, qualification,

consent or approval shall have been effected or obtained free of any conditions not acceptable to the Committee.

It is intended that the shares of Common Stock received upon the exercise of the Option shall have been registered under the 1933 Act. If Grantee is an “affiliate” of the Corporation, as that term is defined in Rule 144 under the 1933 Act (“Rule 144”), such Grantee may not sell any shares of Common Stock received upon the exercise of the Option except in compliance with Rule 144. Any certificates representing shares of Common Stock received upon the exercise of the Option issued to an “affiliate” of the Corporation may bear a legend setting forth such restrictions on the disposition or transfer of said shares as the Corporation deems appropriate to comply with federal and state securities laws (and if the shares of Common Stock received upon the exercise of the Option are evidenced on a noncertificated basis, such shares shall be subject to similar stop transfer instructions). The Grantee acknowledges and understands that the Corporation may not be satisfying the current public information requirement of Rule 144 at the time the Grantee wishes to sell the shares of Common Stock received upon the exercise of the Option or other conditions under Rule 144 which are required of the Corporation. If so, the Grantee understands that Grantee will be precluded from selling such securities under Rule 144 even if the one-year holding period (or any modification thereof under the Rule) of said Rule has been satisfied. Prior to the Grantee's acquisition of the shares of Common Stock, the Grantee acquired sufficient information about the Corporation to reach an informed knowledgeable decision to acquire such shares. The Grantee has such knowledge and experience in financial and business matters as to make the Grantee capable of utilizing said information to evaluate the risks of the prospective investment and to make an informed investment decision. The Grantee is able to bear the economic risk of his or her investment in the shares of Common Stock. The Grantee agrees not to make, without the prior written consent of the Corporation, any public offering or sale of the shares of Common Stock received upon the exercise of the Option although permitted to do so pursuant to Rule 144(k) promulgated under the 1933 Act, until all applicable conditions and requirements of Rule 144 (or registration of the shares of Common Stock received upon the exercise of the Option under the 1933 Act) and this Stock Option Agreement have been satisfied.

6. **METHOD OF EXERCISE OF OPTION.** Subject to the provisions of the Plan and Section 4 hereof, the Exercise Price of any Common Stock acquired pursuant to the Option shall be paid, to the extent permitted by applicable statutes and regulations, either (i) in cash or by certified or bank check at the time the Option is exercised or (ii) in the discretion of the Committee, upon such terms as the Committee shall approve, the Exercise Price may be paid: (A) by delivery to the Corporation of other Common Stock, duly endorsed for transfer to the Corporation, with a Fair Market Value on the date of delivery equal to the Exercise Price (or portion thereof) due for the number of shares being acquired, or by means of attestation whereby the Grantee identifies for delivery specific shares of Common Stock that have a Fair Market Value on the date of attestation equal to the Exercise Price (or portion thereof) and receives a number of shares of Common Stock equal to the difference between the number of shares thereby purchased and the number of identified attestation shares of Common Stock (a “Stock for Stock Exchange”); (B) a “cashless” exercise program established with a broker; (C) by reduction in the number of shares of Common Stock otherwise deliverable upon exercise of the Option with a Fair Market Value equal to the aggregate exercise price at the time of exercise, or (D) in any other form of legal consideration that may be

acceptable to the Committee. Notwithstanding the foregoing, during any period for which the Common Stock is publicly traded (i.e., the Common Stock is listed on any established stock exchange or a national market system) an exercise by Grantee that involves or may involve a direct or indirect extension of credit or arrangement of an extension of credit by the Corporation, directly or indirectly, in violation of Section 402(a) of the Sarbanes-Oxley Act (codified as Section 13(k) of the Exchange Act) shall be prohibited with respect to the Option.

7. **TRANSFERABILITY.** The Option is not transferable otherwise than by will or pursuant to the laws of descent and distribution, and is exercisable during the Grantee's lifetime only by the Grantee.

8. **BINDING AGREEMENT.** This Stock Option Agreement shall be binding upon and shall inure to the benefit of any successor or assign of the Corporation, and, to the extent herein provided, shall be binding upon and inure to the benefit of the Grantee's beneficiary or legal representatives, as they case may be.

9. **ENTIRE AGREEMENT AND AMENDMENTS.** This Stock Option Agreement and the Plan set forth the entire agreement of the parties with respect to the Option granted hereby and may be amended in accordance with Section 22 of the Plan.

10. **ELECTRONIC DELIVERY AND SIGNATURES.** The Corporation may, in its sole discretion, decide to deliver any documents related to the Option or to participation in the Plan or to future options that may be granted under the Plan by electronic means or to request the Grantee's consent to participate in the Plan by electronic means. Grantee hereby consents to receive such documents by electronic delivery and, if requested, to agree to participate in the Plan through an on-line or electronic system established and maintained by the Corporation or another third party designated by the Corporation. If the Corporation establishes procedures of an electronic signature system for delivery and acceptance of Plan documents (including this Stock Option Agreement or any Award Agreement like this Option), the Grantee hereby consents to such procedures and agrees that his or her electronic signature is the same as, and shall have the same force and effect as, his or her manual signature.

11. **WITHHOLDING OF TAX.** To the extent that the exercise of the Option or the disposition of shares of Common Stock acquired by exercise of the Option results in compensation income to the Grantee for federal, state or local income or other tax or social security purposes (or results in any taxes of any kind), the Grantee shall pay to the Corporation at the time of such exercise or disposition such amount of money or, if the Corporation so determines, shares of Common Stock (or shall make other arrangements in accordance with Section 21 of the Plan), as the Corporation may require to meet its obligation under applicable tax and other laws or regulations and, if the Grantee fails to do so, the Corporation is authorized to withhold from any cash or Common Stock remuneration then or thereafter payable to the Grantee, any tax or other amount required to be withheld by reason of such exercise, disposition or resulting compensation income, or the Corporation may otherwise refuse to issue or transfer any shares otherwise required to be issued or transferred pursuant to the terms hereof.

12. **ADJUSTMENTS/CHANGES IN CAPITALIZATION.** The Option is subject to the adjustment provisions set forth in Section 17 of the Plan.

13. **Employment Relationship.** Any questions as to whether and when there has been a termination of Grantee's employment with the Corporation or any Affiliate, and the cause of such termination, shall be determined by the Committee, with the advice of the employing corporation (if an Affiliate), and the Committee's determination shall be final. Nothing in the Plan or this Stock Option Agreement shall confer upon the Grantee any right to continue to serve the Corporation or an Affiliate in the capacity in effect at the Grant Date (or otherwise) or at any particular rate of compensation or shall affect the right of the Corporation or an Affiliate (which right is hereby expressly reserved) to modify or terminate the employment of the Grantee at any time with or without notice and with or without Cause. The Grantee acknowledges and agrees that any right to exercise the Option is earned only by continuing as an employee of the Corporation or an Affiliate at the will of the Corporation or such Affiliate, or satisfaction of any other applicable terms and conditions contained in the Plan and this Stock Option Agreement, and not through the act of being hired, being granted the Option or acquiring shares of Common Stock hereunder.

14. **Notice.** All notices required to be given under this Stock Option Agreement or the Plan shall be in writing and delivered in person or by registered or certified mail, postage prepaid, to the other party, in the case of the Corporation, at the address of its principal place of business (or such other address as the Corporation may from time to time specify), or, in the case of the Grantee, at the Grantee's address set forth in the Corporation's records; provided, however, any such notice to the Grantee may be delivered electronically to the Grantee's email address set forth in the Corporation's records. Each party to this Stock Option Agreement agrees to inform the other party immediately upon a change of address. All notices shall be deemed delivered when received.

15. **Arbitration.** Any dispute or controversy arising under or in connection with this Stock Option Agreement shall be settled by binding arbitration in [Houston, Texas] by one arbitrator appointed in the manner set forth by the American Arbitration Association. Any arbitration proceeding pursuant to this paragraph shall be conducted in accordance with the Employment Dispute Resolution Rules of the American Arbitration Association. Judgment may be entered on the arbitrators' award in any court having jurisdiction.

16. **Separability.** If any provision of this Stock Option Agreement is rendered or declared illegal or unenforceable by reason of any existing or subsequently enacted legislation or by the decision of any arbitrator or by decree of a court of last resort, the parties shall promptly meet and negotiate substitute provisions for those rendered or declared illegal or unenforceable to preserve the original intent of this Stock Option Agreement to the extent legally possible, but all other provisions of this Stock Option Agreement shall remain in full force and effect.

17. **Interpretation of the Plan and Option.** In the event there is any inconsistency or discrepancy between the provisions of this Stock Option Agreement and the provisions of the Plan, the provisions of the Plan shall prevail.

18. **Governing Law.** The execution, validity, interpretation, and performance of this Stock Option Agreement shall be governed by, and construed in accordance with, the laws of the State of Delaware, applied without giving effect to any conflicts-of-law principles, except to the extent pre-empted by federal law.

IN WITNESS WHEREOF, the Corporation has caused this Stock Option Agreement to be duly executed by one of its officers thereunto duly authorized, and Grantee has executed this Stock Option Agreement, all as of the day and year first above written.

CALPINE CORPORATION

---

---

Grantee

## CALPINE CORPORATION

## NON-QUALIFIED STOCK OPTION AGREEMENT

## Pursuant to the 2008 Equity Incentive Plan

**OPTION** granted on \_\_\_\_\_ (the "Grant Date") by Calpine Corporation, a Delaware corporation (the "Corporation"), to \_\_\_\_\_ (the "Grantee") pursuant to this Non-Qualified Stock Option Agreement ("Stock Option Agreement").

1. **GRANT OF OPTION.** The Corporation hereby grants to the Grantee the right and option (the "Option") to purchase, on the terms and subject to the conditions set forth herein and in the Plan (as defined below), up to \_\_\_\_\_ fully paid and nonassessable shares ("Total Shares") of the Corporation's Common Stock, par value \$.001 per share, at the option price of \$\_\_\_\_\_ per share, being not less than 100% of the Fair Market Value of such Common Stock on the Grant Date (the "Exercise Price").

The Option is granted pursuant to the Corporation's 2008 Equity Incentive Plan (the "Plan"), a copy of which is attached hereto. The Option is subject in its entirety to all the applicable provisions of the Plan as in effect from time to time, which are hereby incorporated herein by reference. The Option is not intended to qualify as an "incentive stock option" within the meaning of Section 422 of the Code. Except as otherwise provided herein, or unless the context clearly indicates otherwise, capitalized terms not otherwise defined herein shall have the same definitions as provided in the Plan.

2. **PERIOD OF OPTION.** The period of the Option shall commence on the Grant Date and expire on the tenth (10<sup>th</sup>) anniversary of the Grant Date, subject to earlier termination as set forth in the Plan and this Stock Option Agreement ("Option Period"). The Option (or any lesser amount thereof) may be exercised from time to time during the Option Period as to the number of Total Shares allowable under Section 3 below and the Plan.

3. **EXERCISE OF OPTION.** The Option shall become vested and exercisable as to 100% of the Total Shares on the third anniversary date of the Grant Date, provided the Grantee has been continuously employed by the Corporation or an Affiliate during the period commencing on the Grant Date and ending on the third anniversary of the Grant Date.

For purposes of this Stock Option Agreement, continuous employment includes any leave of absence approved by the Company or any Affiliate.

Notwithstanding any other provision herein to the contrary, upon the occurrence of a Change in Control (as defined in the Plan), the Option shall become immediately vested in full.

---

Upon full payment of the Exercise Price and satisfaction of all applicable tax obligations, and subject to the applicable terms and conditions of the Plan and the terms and conditions of this Stock Option Agreement, the Corporation shall cause certificates for the shares purchased hereunder to be delivered to the Grantee or cause a noncertificated book-entry representing such shares to be made to the extent not prohibited by any applicable law or the rules of any stock exchange.

4. **TERMINATION OF OPTION.** Subject to the terms and conditions of the Plan, upon termination of the Grantee's continuous employment with the Corporation or an Affiliate, any portion of the Option that is not then vested and exercisable in accordance with Section 3 shall immediately terminate and any portion of the Option that is then vested and exercisable shall remain exercisable until the earlier of (1) three months after the date of termination of employment or (2) the expiration of the Option Period, except as follows.

(i) **Death.** If the Grantee's continuous employment with the Corporation or an Affiliate is terminated by reason of death or if the Grantee dies during the three-month post-termination exercise period described in the preceding sentence, then the Option whether vested or unvested shall become immediately vested and shall remain exercisable until the earlier of one year after the date of death or the expiration of the Option Period.

(ii) **Retirement.** If the Grantee Retires on or after the one-year anniversary of the Grant Date, then the Option, whether vested or unvested, shall become immediately vested and exercisable and shall remain exercisable until the earlier of the one-year anniversary of the Grantee's date of Retirement or the expiration of the Option Period.

(iii) **Cause.** If the Grantee's continuous employment with the Corporation or an Affiliate is terminated for Cause, then the Option, whether vested or unvested, shall immediately terminate in its entirety.

5. **SECURITIES ACT REQUIREMENTS.** In addition to the requirements set forth herein and in the Plan, (i) the Option shall not be exercisable in whole or in part, and the Corporation shall not be obligated to issue any shares of Common Stock subject to the Option, if such exercise and sale or issuance would, in the opinion of counsel for the Corporation, violate the Securities Act of 1933 (the "1933 Act") or other Federal or state statutes having similar requirements, as they may be in effect at that time; and (ii) the Option shall be subject to the further requirement that, at any time that the Compensation Committee (the "Committee"), in consultation with counsel for the Corporation, shall determine, in its discretion, that the listing, registration or qualification of the shares of Common Stock subject to the Option under any securities exchange requirements or under any applicable law, or the consent or approval of any governmental regulatory body, is necessary or desirable as a condition of, or in connection with, the issuance of shares of Common Stock, the Option may not be exercised in whole or in part unless such listing, registration, qualification, consent or approval shall have been effected or obtained free of any conditions not acceptable to the Committee.

It is intended that the shares of Common Stock received upon the exercise of the Option shall have been registered under the 1933 Act. If Grantee is an "affiliate" of the Corporation, as that term is defined in Rule 144 under the 1933 Act ("Rule 144"), such Grantee may not sell any shares of

---

Common Stock received upon the exercise of the Option except in compliance with Rule 144. Any certificates representing shares of Common Stock received upon the exercise of the Option issued to an “affiliate” of the Corporation may bear a legend setting forth such restrictions on the disposition or transfer of said shares as the Corporation deems appropriate to comply with federal and state securities laws (and if the shares of Common Stock received upon the exercise of the Option are evidenced on a noncertificated basis, such shares shall be subject to similar stop transfer instructions). The Grantee acknowledges and understands that the Corporation may not be satisfying the current public information requirement of Rule 144 at the time the Grantee wishes to sell the shares of Common Stock received upon the exercise of the Option or other conditions under Rule 144 which are required of the Corporation. If so, the Grantee understands that Grantee will be precluded from selling such securities under Rule 144 even if the one-year holding period (or any modification thereof under the Rule) of said Rule has been satisfied. Prior to the Grantee's acquisition of the shares of Common Stock, the Grantee acquired sufficient information about the Corporation to reach an informed knowledgeable decision to acquire such shares. The Grantee has such knowledge and experience in financial and business matters as to make the Grantee capable of utilizing said information to evaluate the risks of the prospective investment and to make an informed investment decision. The Grantee is able to bear the economic risk of his or her investment in the shares of Common Stock. The Grantee agrees not to make, without the prior written consent of the Corporation, any public offering or sale of the shares of Common Stock received upon the exercise of the Option although permitted to do so pursuant to Rule 144(k) promulgated under the 1933 Act, until all applicable conditions and requirements of Rule 144 (or registration of the shares of Common Stock received upon the exercise of the Option under the 1933 Act) and this Stock Option Agreement have been satisfied.

6. **METHOD OF EXERCISE OF OPTION.** Subject to the provisions of the Plan and Section 4 hereof, the Exercise Price of any Common Stock acquired pursuant to the Option shall be paid, to the extent permitted by applicable statutes and regulations, either (i) in cash or by certified or bank check at the time the Option is exercised or (ii) in the discretion of the Committee, upon such terms as the Committee shall approve, the Exercise Price may be paid: (A) by delivery to the Corporation of other Common Stock, duly endorsed for transfer to the Corporation, with a Fair Market Value on the date of delivery equal to the Exercise Price (or portion thereof) due for the number of shares being acquired, or by means of attestation whereby the Grantee identifies for delivery specific shares of Common Stock that have a Fair Market Value on the date of attestation equal to the Exercise Price (or portion thereof) and receives a number of shares of Common Stock equal to the difference between the number of shares thereby purchased and the number of identified attestation shares of Common Stock (a “Stock for Stock Exchange”); (B) a “cashless” exercise program established with a broker; (C) by reduction in the number of shares of Common Stock otherwise deliverable upon exercise of the Option with a Fair Market Value equal to the aggregate exercise price at the time of exercise, or (D) in any other form of legal consideration that may be acceptable to the Committee. Notwithstanding the foregoing, during any period for which the Common Stock is publicly traded (i.e., the Common Stock is listed on any established stock exchange or a national market system) an exercise by Grantee that involves or may involve a direct or indirect extension of credit or arrangement of an extension of credit by the Corporation, directly or indirectly, in violation of Section 402(a) of the Sarbanes-Oxley Act (codified as Section 13(k) of the Exchange Act) shall be prohibited with respect to the Option.

---



7. **TRANSFERABILITY.** The Option is not transferable otherwise than by will or pursuant to the laws of descent and distribution, and is exercisable during the Grantee's lifetime only by the Grantee.

8. **BINDING AGREEMENT.** This Stock Option Agreement shall be binding upon and shall inure to the benefit of any successor or assign of the Corporation, and, to the extent herein provided, shall be binding upon and inure to the benefit of the Grantee's beneficiary or legal representatives, as they case may be.

9. **ENTIRE AGREEMENT AND AMENDMENTS.** This Stock Option Agreement and the Plan set forth the entire agreement of the parties with respect to the Option granted hereby and may be amended in accordance with Section 22 of the Plan.

10. **ELECTRONIC DELIVERY AND SIGNATURES.** The Corporation may, in its sole discretion, decide to deliver any documents related to the Option or to participation in the Plan or to future options that may be granted under the Plan by electronic means or to request the Grantee's consent to participate in the Plan by electronic means. Grantee hereby consents to receive such documents by electronic delivery and, if requested, to agree to participate in the Plan through an on-line or electronic system established and maintained by the Corporation or another third party designated by the Corporation. If the Corporation establishes procedures of an electronic signature system for delivery and acceptance of Plan documents (including this Stock Option Agreement or any Award Agreement like this Option), the Grantee hereby consents to such procedures and agrees that his or her electronic signature is the same as, and shall have the same force and effect as, his or her manual signature.

11. **WITHHOLDING OF TAX.** To the extent that the exercise of the Option or the disposition of shares of Common Stock acquired by exercise of the Option results in compensation income to the Grantee for federal, state or local income or other tax or social security purposes (or results in any taxes of any kind), the Grantee shall pay to the Corporation at the time of such exercise or disposition such amount of money or, if the Corporation so determines, shares of Common Stock (or shall make other arrangements in accordance with Section 21 of the Plan), as the Corporation may require to meet its obligation under applicable tax and other laws or regulations and, if the Grantee fails to do so, the Corporation is authorized to withhold from any cash or Common Stock remuneration then or thereafter payable to the Grantee, any tax or other amount required to be withheld by reason of such exercise, disposition or resulting compensation income, or the Corporation may otherwise refuse to issue or transfer any shares otherwise required to be issued or transferred pursuant to the terms hereof.

12. **ADJUSTMENTS/CHANGES IN CAPITALIZATION.** The Option is subject to the adjustment provisions set forth in Section 17 of the Plan.

13. **Employment Relationship.** Any questions as to whether and when there has been a termination of Grantee's employment with the Corporation or any Affiliate, and the cause of such termination, shall be determined by the Committee, with the advice of the employing corporation (if an Affiliate), and the Committee's determination shall be final. Nothing in the Plan or this Stock Option Agreement shall confer upon the Grantee any right to continue to serve the Corporation or an Affiliate in the capacity in effect at the Grant Date (or otherwise) or at any particular rate of

---

compensation or shall affect the right of the Corporation or an Affiliate (which right is hereby expressly reserved) to modify or terminate the employment of the Grantee at any time with or without notice and with or without Cause. The Grantee acknowledges and agrees that any right to exercise the Option is earned only by continuing as an employee of the Corporation or an Affiliate at the will of the Corporation or such Affiliate, or satisfaction of any other applicable terms and conditions contained in the Plan and this Stock Option Agreement, and not through the act of being hired, being granted the Option or acquiring shares of Common Stock hereunder.

14. **Notice.** All notices required to be given under this Stock Option Agreement or the Plan shall be in writing and delivered in person or by registered or certified mail, postage prepaid, to the other party, in the case of the Corporation, at the address of its principal place of business (or such other address as the Corporation may from time to time specify), or, in the case of the Grantee, at the Grantee's address set forth in the Corporation's records; provided, however, any such notice to the Grantee may be delivered electronically to the Grantee's email address set forth in the Corporation's records. Each party to this Stock Option Agreement agrees to inform the other party immediately upon a change of address. All notices shall be deemed delivered when received.

15. **Arbitration.** Any dispute or controversy arising under or in connection with this Stock Option Agreement shall be settled by binding arbitration in [Houston, Texas] by one arbitrator appointed in the manner set forth by the American Arbitration Association. Any arbitration proceeding pursuant to this paragraph shall be conducted in accordance with the Employment Dispute Resolution Rules of the American Arbitration Association. Judgment may be entered on the arbitrators' award in any court having jurisdiction.

16. **Separability .** If any provision of this Stock Option Agreement is rendered or declared illegal or unenforceable by reason of any existing or subsequently enacted legislation or by the decision of any arbitrator or by decree of a court of last resort, the parties shall promptly meet and negotiate substitute provisions for those rendered or declared illegal or unenforceable to preserve the original intent of this Stock Option Agreement to the extent legally possible, but all other provisions of this Stock Option Agreement shall remain in full force and effect.

17. **Interpretation of the Plan and Option .** In the event there is any inconsistency or discrepancy between the provisions of this Stock Option Agreement and the provisions of the Plan, the provisions of the Plan shall prevail.

18. **Governing Law.** The execution, validity, interpretation, and performance of this Stock Option Agreement shall be governed by, and construed in accordance with, the laws of the State of Delaware, applied without giving effect to any conflicts-of-law principles, except to the extent pre-empted by federal law.

---

IN WITNESS WHEREOF, the Corporation has caused this Stock Option Agreement to be duly executed by one of its officers thereunto duly authorized, and Grantee has executed this Stock Option Agreement, all as of the day and year first above written.

CALPINE CORPORATION

/s/ W. THADDEUS MILLER

---

W. Thaddeus Miller, Executive Vice President  
Chief Legal Officer and Secretary

---

Grantee

## CALPINE CORPORATION

**NON-QUALIFIED STOCK OPTION AGREEMENT**  
**Pursuant to the 2008 Equity Incentive Plan**

**OPTION** granted on **February 15, 2017** (the "Grant Date") by Calpine Corporation, a Delaware corporation (the "Corporation"), to **Charles M. Gates** (the "Grantee") pursuant to this Non-Qualified Stock Option Agreement ("Stock Option Agreement").

1. **GRANT OF OPTION.** The Corporation hereby grants to the Grantee the right and option (the "Option") to purchase, on the terms and subject to the conditions set forth herein and in the Plan (as defined below), up to **79,553** fully paid and nonassessable shares ("Total Shares") of the Corporation's Common Stock, par value \$.001 per share, at the option price of \$ **11.69** per share, being not less than 100% of the Fair Market Value of such Common Stock on the Grant Date (the "Exercise Price").

The Option is granted pursuant to the Corporation's 2008 Equity Incentive Plan (the "Plan"), a copy of which is attached hereto. The Option is subject in its entirety to all the applicable provisions of the Plan as in effect from time to time, which are hereby incorporated herein by reference. The Option is not intended to qualify as an "incentive stock option" within the meaning of Section 422 of the Code. Except as otherwise provided herein, or unless the context clearly indicates otherwise, capitalized terms not otherwise defined herein shall have the same definitions as provided in the Plan.

2. **PERIOD OF OPTION.** The period of the Option shall commence on the Grant Date and expire on the tenth (10<sup>th</sup>) anniversary of the Grant Date, subject to earlier termination as set forth in the Plan and this Stock Option Agreement ("Option Period"). The Option (or any lesser amount thereof) may be exercised from time to time during the Option Period as to the number of Total Shares allowable under Section 3 below and the Plan.

3. **EXERCISE OF OPTION.** The Option shall become vested and exercisable as to 100% of the Total Shares on the third anniversary date of the Grant Date, provided the Grantee has been continuously employed by the Corporation or an Affiliate during the period commencing on the Grant Date and ending on the third anniversary of the Grant Date.

For purposes of this Stock Option Agreement, continuous employment includes any leave of absence approved by the Company or any Affiliate.

Notwithstanding any other provision herein to the contrary, upon the occurrence of a Change in Control (as defined in the Plan), the Option shall become immediately vested in full.

Upon full payment of the Exercise Price and satisfaction of all applicable tax obligations, and subject to the applicable terms and conditions of the Plan and the terms and conditions of this Stock Option Agreement, the Corporation shall cause certificates for the shares purchased hereunder to be delivered to the Grantee or cause a noncertificated book-entry representing such shares to be made to the extent not prohibited by any applicable law or the rules of any stock exchange.

---

4. **TERMINATION OF OPTION.** Subject to the terms and conditions of the Plan, upon termination of the Grantee's continuous employment with the Corporation or an Affiliate, any portion of the Option that is not then vested and exercisable in accordance with Section 3 shall immediately terminate and any portion of the Option that is then vested and exercisable shall remain exercisable until the earlier of (1) three months after the date of termination of employment or (2) the expiration of the Option Period, except as follows.

(i) **Death.** If the Grantee's continuous employment with the Corporation or an Affiliate is terminated by reason of death or if the Grantee dies during the three-month post-termination exercise period described in the preceding sentence, then the Option whether vested or unvested shall become immediately vested and shall remain exercisable until the earlier of one year after the date of death or the expiration of the Option Period.

(ii) **Retirement.** If the Grantee Retires on or after the one-year anniversary of the Grant Date, then the Option, whether vested or unvested, shall become immediately vested and exercisable and shall remain exercisable until the expiration of the Option Period.

(iii) **Cause.** If the Grantee's continuous employment with the Corporation or an Affiliate is terminated for Cause, then the Option, whether vested or unvested, shall immediately terminate in its entirety.

5. **SECURITIES ACT REQUIREMENTS.** In addition to the requirements set forth herein and in the Plan, (i) the Option shall not be exercisable in whole or in part, and the Corporation shall not be obligated to issue any shares of Common Stock subject to the Option, if such exercise and sale or issuance would, in the opinion of counsel for the Corporation, violate the Securities Act of 1933 (the "1933 Act") or other Federal or state statutes having similar requirements, as they may be in effect at that time; and (ii) the Option shall be subject to the further requirement that, at any time that the Compensation Committee (the "Committee"), in consultation with counsel for the Corporation, shall determine, in its discretion, that the listing, registration or qualification of the shares of Common Stock subject to the Option under any securities exchange requirements or under any applicable law, or the consent or approval of any governmental regulatory body, is necessary or desirable as a condition of, or in connection with, the issuance of shares of Common Stock, the Option may not be exercised in whole or in part unless such listing, registration, qualification, consent or approval shall have been effected or obtained free of any conditions not acceptable to the Committee.

It is intended that the shares of Common Stock received upon the exercise of the Option shall have been registered under the 1933 Act. If Grantee is an "affiliate" of the Corporation, as that term is defined in Rule 144 under the 1933 Act ("Rule 144"), such Grantee may not sell any shares of Common Stock received upon the exercise of the Option except in compliance with Rule 144. Any certificates representing shares of Common Stock received upon the exercise of the Option issued to an "affiliate" of the Corporation may bear a legend setting forth such restrictions on the disposition or transfer of said shares as the Corporation deems appropriate to comply with federal and state securities laws (and if the shares of Common Stock received upon the exercise of the Option are evidenced on a noncertificated basis, such shares shall be subject to similar stop transfer instructions). The Grantee acknowledges and understands that the Corporation may not be satisfying the current public information requirement of Rule 144 at the time the Grantee wishes to sell the shares of Common Stock received upon the exercise of the Option or other conditions under Rule 144 which are required of the Corporation. If so, the Grantee understands that Grantee will be precluded from selling such securities under Rule 144 even if the one-year holding period (or any modification thereof under the Rule) of said Rule has been satisfied. Prior to the Grantee's acquisition of the shares of Common Stock, the Grantee acquired sufficient information about the Corporation to reach an informed knowledgeable

---

decision to acquire such shares. The Grantee has such knowledge and experience in financial and business matters as to make the Grantee capable of utilizing said information to evaluate the risks of the prospective investment and to make an informed investment decision. The Grantee is able to bear the economic risk of his or her investment in the shares of Common Stock. The Grantee agrees not to make, without the prior written consent of the Corporation, any public offering or sale of the shares of Common Stock received upon the exercise of the Option although permitted to do so pursuant to Rule 144(k) promulgated under the 1933 Act, until all applicable conditions and requirements of Rule 144 (or registration of the shares of Common Stock received upon the exercise of the Option under the 1933 Act) and this Stock Option Agreement have been satisfied.

6. **METHOD OF EXERCISE OF OPTION.** Subject to the provisions of the Plan and Section 4 hereof, the Exercise Price of any Common Stock acquired pursuant to the Option shall be paid, to the extent permitted by applicable statutes and regulations, either (i) in cash or by certified or bank check at the time the Option is exercised or (ii) in the discretion of the Committee, upon such terms as the Committee shall approve, the Exercise Price may be paid: (A) by delivery to the Corporation of other Common Stock, duly endorsed for transfer to the Corporation, with a Fair Market Value on the date of delivery equal to the Exercise Price (or portion thereof) due for the number of shares being acquired, or by means of attestation whereby the Grantee identifies for delivery specific shares of Common Stock that have a Fair Market Value on the date of attestation equal to the Exercise Price (or portion thereof) and receives a number of shares of Common Stock equal to the difference between the number of shares thereby purchased and the number of identified attestation shares of Common Stock (a “Stock for Stock Exchange”); (B) a “cashless” exercise program established with a broker; (C) by reduction in the number of shares of Common Stock otherwise deliverable upon exercise of the Option with a Fair Market Value equal to the aggregate exercise price at the time of exercise, or (D) in any other form of legal consideration that may be acceptable to the Committee. Notwithstanding the foregoing, during any period for which the Common Stock is publicly traded (i.e., the Common Stock is listed on any established stock exchange or a national market system) an exercise by Grantee that involves or may involve a direct or indirect extension of credit or arrangement of an extension of credit by the Corporation, directly or indirectly, in violation of Section 402(a) of the Sarbanes-Oxley Act (codified as Section 13(k) of the Exchange Act) shall be prohibited with respect to the Option.

7. **TRANSFERABILITY.** The Option is not transferable otherwise than by will or pursuant to the laws of descent and distribution, and is exercisable during the Grantee's lifetime only by the Grantee.

8. **BINDING AGREEMENT.** This Stock Option Agreement shall be binding upon and shall inure to the benefit of any successor or assign of the Corporation, and, to the extent herein provided, shall be binding upon and inure to the benefit of the Grantee's beneficiary or legal representatives, as they case may be.

9. **ENTIRE AGREEMENT AND AMENDMENTS.** This Stock Option Agreement and the Plan set forth the entire agreement of the parties with respect to the Option granted hereby and may be amended in accordance with Section 22 of the Plan.

10. **ELECTRONIC DELIVERY AND SIGNATURES.** The Corporation may, in its sole discretion, decide to deliver any documents related to the Option or to participation in the Plan or to future options that may be granted under the Plan by electronic means or to request the Grantee's consent to participate in the Plan by electronic means. Grantee hereby consents to receive such documents by electronic delivery and, if requested, to agree to participate in the Plan through an on-line or electronic system established and maintained by the Corporation or another third party designated by the Corporation. If the Corporation establishes procedures of an electronic signature system for delivery and acceptance of Plan documents (including this Stock Option Agreement or any Award Agreement like this Option), the Grantee hereby

---

consents to such procedures and agrees that his or her electronic signature is the same as, and shall have the same force and effect as, his or her manual signature.

11. **WITHHOLDING OF TAX.** To the extent that the exercise of the Option or the disposition of shares of Common Stock acquired by exercise of the Option results in compensation income to the Grantee for federal, state or local income or other tax or social security purposes (or results in any taxes of any kind), the Grantee shall pay to the Corporation at the time of such exercise or disposition such amount of money or, if the Corporation so determines, shares of Common Stock (or shall make other arrangements in accordance with Section 21 of the Plan), as the Corporation may require to meet its obligation under applicable tax and other laws or regulations and, if the Grantee fails to do so, the Corporation is authorized to withhold from any cash or Common Stock remuneration then or thereafter payable to the Grantee, any tax or other amount required to be withheld by reason of such exercise, disposition or resulting compensation income, or the Corporation may otherwise refuse to issue or transfer any shares otherwise required to be issued or transferred pursuant to the terms hereof.

12. **ADJUSTMENTS/CHANGES IN CAPITALIZATION.** The Option is subject to the adjustment provisions set forth in Section 17 of the Plan.

13. **Employment Relationship.** Any questions as to whether and when there has been a termination of Grantee's employment with the Corporation or any Affiliate, and the cause of such termination, shall be determined by the Committee, with the advice of the employing corporation (if an Affiliate), and the Committee's determination shall be final. Nothing in the Plan or this Stock Option Agreement shall confer upon the Grantee any right to continue to serve the Corporation or an Affiliate in the capacity in effect at the Grant Date (or otherwise) or at any particular rate of compensation or shall affect the right of the Corporation or an Affiliate (which right is hereby expressly reserved) to modify or terminate the employment of the Grantee at any time with or without notice and with or without Cause. The Grantee acknowledges and agrees that any right to exercise the Option is earned only by continuing as an employee of the Corporation or an Affiliate at the will of the Corporation or such Affiliate, or satisfaction of any other applicable terms and conditions contained in the Plan and this Stock Option Agreement, and not through the act of being hired, being granted the Option or acquiring shares of Common Stock hereunder.

14. **Notice.** All notices required to be given under this Stock Option Agreement or the Plan shall be in writing and delivered in person or by registered or certified mail, postage prepaid, to the other party, in the case of the Corporation, at the address of its principal place of business (or such other address as the Corporation may from time to time specify), or, in the case of the Grantee, at the Grantee's address set forth in the Corporation's records; provided, however, any such notice to the Grantee may be delivered electronically to the Grantee's email address set forth in the Corporation's records. Each party to this Stock Option Agreement agrees to inform the other party immediately upon a change of address. All notices shall be deemed delivered when received.

15. **Arbitration.** Any dispute or controversy arising under or in connection with this Stock Option Agreement shall be settled by binding arbitration in [Houston, Texas] by one arbitrator appointed in the manner set forth by the American Arbitration Association. Any arbitration proceeding pursuant to this paragraph shall be conducted in accordance with the Employment Dispute Resolution Rules of the American Arbitration Association. Judgment may be entered on the arbitrators' award in any court having jurisdiction.

16. **Separability.** If any provision of this Stock Option Agreement is rendered or declared illegal or unenforceable by reason of any existing or subsequently enacted legislation or by the decision of any arbitrator or by decree of a court of last resort, the parties shall promptly meet and negotiate substitute provisions for those rendered or declared illegal or unenforceable to preserve the original intent of this Stock

---

Option Agreement to the extent legally possible, but all other provisions of this Stock Option Agreement shall remain in full force and effect.

17. **Interpretation of the Plan and Option** . In the event there is any inconsistency or discrepancy between the provisions of this Stock Option Agreement and the provisions of the Plan, the provisions of the Plan shall prevail.

18. **Governing Law.** The execution, validity, interpretation, and performance of this Stock Option Agreement shall be governed by, and construed in accordance with, the laws of the State of Delaware, applied without giving effect to any conflicts-of-law principles, except to the extent pre-empted by federal law.

---



IN WITNESS WHEREOF, the Corporation has caused this Stock Option Agreement to be duly executed by one of its officers thereunto duly authorized, and Grantee has executed this Stock Option Agreement, all as of the day and year first above written.

CALPINE CORPORATION

/s/ W. THADDEUS MILLER

---

W. Thaddeus Miller

EVP, Chief Legal Officer and Secretary

---

Charles M. Gates

## CERTIFICATIONS

I, John B. (Thad) Hill III, certify that:

1. I have reviewed this quarterly report on Form 10-Q of Calpine Corporation (the “registrant”);
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.

Date: April 27, 2017

/s/ JOHN B. (THAD) HILL III

---

John B. (Thad) Hill III  
President, Chief Executive Officer and Director  
Calpine Corporation

## CERTIFICATIONS

I, Zamir Rauf, certify that:

1. I have reviewed this quarterly report on Form 10-Q of Calpine Corporation (the “registrant”);
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.

Date: April 27, 2017

/s/ ZAMIR RAUF

---

Zamir Rauf  
Executive Vice President and  
Chief Financial Officer  
Calpine Corporation

**CERTIFICATION PURSUANT TO  
18 U.S.C. SECTION 1350,  
AS ADOPTED PURSUANT TO  
SECTION 906 OF THE SARBANES-OXLEY ACT OF 2002**

In connection with the Quarterly Report of Calpine Corporation (the “Company”) on Form 10-Q for the period ended March 31, 2017, as filed with the Securities and Exchange Commission on the date hereof (the “Report”), each of the undersigned does hereby certify, pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002, that, to the best of his or her knowledge, based upon a review of the Report:

- (1) The Report fully complies with the requirements of Section 13(a) or 15(d) of the Securities Exchange Act of 1934; and
- (2) The information contained in the Report fairly presents, in all material respects, the financial condition and results of operations of the Company.

/s/ JOHN B. (THAD) HILL III

---

John B. (Thad) Hill III  
President,  
Chief Executive Officer and Director  
Calpine Corporation

/s/ ZAMIR RAUF

---

Zamir Rauf  
Executive Vice President and  
Chief Financial Officer  
Calpine Corporation

Dated: April 27, 2017

A signed original of this written statement required by Section 906 has been provided to Calpine Corporation and will be retained by Calpine Corporation and furnished to the Securities and Exchange Commission or its staff upon request.