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PUBLIC DOCUMENT
TRADE SECRET INFORMATION REDACTED

April 15, 2013

Dr. Burl Haar
Executive Secretary
Minnesota Public Utilities Commission
121 East Seventh Place, Suite 350
St. Paul, MN 55101

Re: *In the Matter of the Petition Northern States Power Company to Initiate a Competitive Resource Acquisition Process, Docket No. E-002/CN-12-1240.*
Calpine's Mankato Energy Center Expansion Proposal

Dear Dr. Haar:

Pursuant to the Minnesota Public Utilities Commission's ("Commission") March 5, 2013 Order Extending Bidding Deadline and Refining Procedural Framework in the above-referenced proceeding, Calpine Corporation and its affiliate Mankato Energy Center, LLC ("Calpine") is pleased to submit its Proposal to address a portion of the Xcel Energy's resource needs of up to 500 MW in the 2017 to 2019 time frame that has been approved by ("Commission") in its March 5, 2103 Order in Docket No. E-002/RP-10-825.

Calpine's proposed expansion of the existing Mankato Energy Center achieves the goals of providing electricity to meet customer demand efficiently and with state-of-the-art, environmentally responsible technology. Approval of Calpine's Proposal will provide Minnesota ratepayers with a flexible and economic capacity and energy resource that is ideally suited to complement the State's strong interest in promoting intermittent wind and other renewable resources.

Discrete parts of Calpine's Proposal has been designated as **Trade Secret** due to its commercially sensitive nature – including pricing information that if disclosed would cause economic harm to Calpine and place Calpine at a disadvantage vis-à-vis its competitors in the energy markets. In particular, Calpine designates Appendix B to its Proposal as **Non-Public Document – Contains Trade Secret Information–Non-Public Data**.

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Appendix B sets forth the specific terms and conditions of Calpine's Proposal, including pricing and other competitive information. Pursuant to Minn. Stat. § 13.37, subd. 1(b), the trade secret information in its Proposal was properly designated by Calpine because it: (1) was supplied by Calpine; (2) is the subject of reasonable efforts by Calpine to maintain its secrecy; and (3) derives independent economic value, actual or potential, from not being generally known to or accessible by the public. Calpine has identified the Trade Secret and other Non-Public Information pursuant to Minn. Rule 7829.0500.

Thank you for attention to this matter. Feel free to contact me with any questions or concerns.

Very truly yours,

LEONARD, STREET AND DEINARD
Professional Association

/s/ *Brian M. Meloy*

BRIAN M. MELOY

Enclosures



CALPINE CORPORATION

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MANKATO ENERGY CENTER EXPANSION PROPOSAL

Minnesota Public Utilities Commission Docket No. E-002/CN-12-1240:
In the Matter of the Petition Northern States Power Company to Initiate a
Competitive Resource Acquisition Process



Submitted by:

Calpine Corporation

April 15, 2013

www.calpine.com

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Introduction

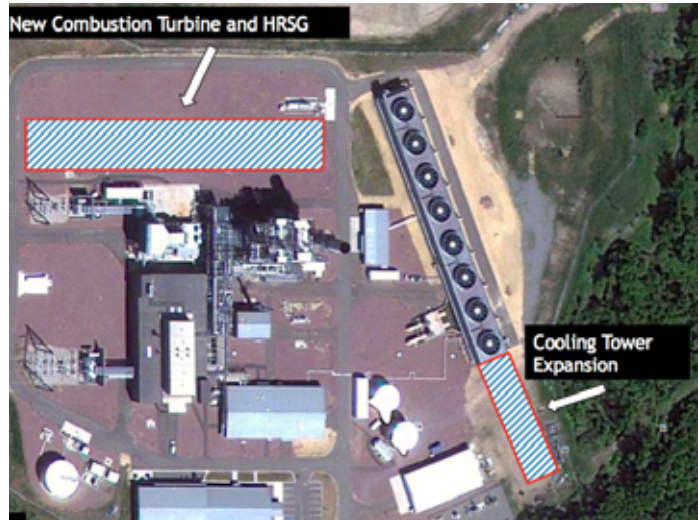
Calpine Corporation (“Calpine”) and its affiliate, Mankato Energy Center, LLC, submit this proposal (the “Proposal”) in response to the Commission’s March 5, 2013 Order in Docket No. E-002/CN-12-1240 to address a portion of the resource need of up to 500 megawatts in the 2017 to 2019 timeframe that has been approved in the Commission’s March 5, 2013 Order in Docket No. E-002/RP-10-825.

Calpine is an independent power producer that specializes in the development, construction, ownership, and operation of wholesale electric generating facilities. Calpine owns and operates the largest and most modern fleet of clean, reliable and fuel-efficient gas-fired and geothermal power plants in North America, with a portfolio of more than 93 power plants located throughout the U.S. and Canada with a combined total of approximately 28,000 megawatts of electric generating capacity. Calpine’s fleet produced more than 100 billion kilowatt-hours of electric energy during 2012. More information about Calpine’s fleet and the Company’s financial strength is included in Appendix A and is available at www.calpine.com.

Calpine is an active participant in the wholesale power market in Minnesota. Calpine owns and operates the Mankato Energy Center, a 375-megawatt natural gas-fired combined-cycle generating facility located in the City of Mankato, Blue Earth County, Minnesota, the output of which is sold to Xcel Energy under a long term Power Purchase Agreement (“PPA”).

Project Summary

Calpine proposes to supply 345 megawatts of the estimated 500 megawatts of Xcel Energy's forecasted capacity and energy needs for the 2017 to 2019 timeframe (the "Proposal"). The Proposal involves expansion of the Mankato



Energy Center (the "Mankato Expansion") through the addition of one natural gas-fired combustion turbine generator ("CTG"), an additional heat recovery steam generator ("HRSG"), and related ancillary equipment. The Mankato Expansion would increase the plant's output by adding 290 megawatts of intermediate combined-cycle capacity and 55 megawatts of peaking capacity.¹ A general description of the Mankato Expansion and Calpine's experience and qualifications is provided in Appendix A. The specific pricing, terms, and conditions of the Proposal are provided in Appendix B, which is designated as Trade Secret—Non-Public Information due to the commercially sensitive nature of the information in Appendix B.

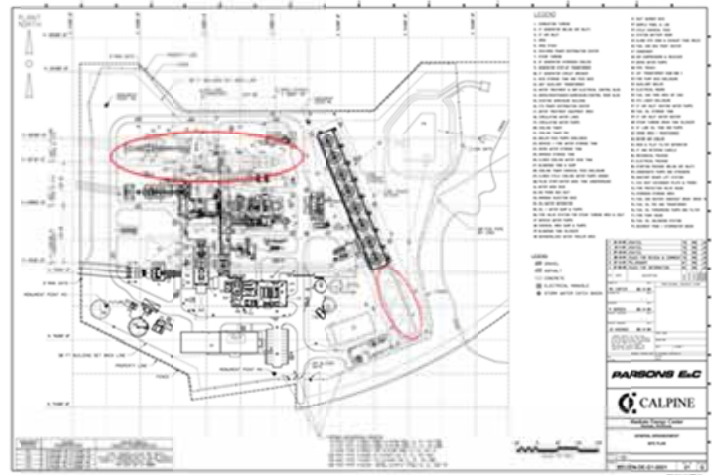
The Mankato Expansion represents a flexible capacity addition to Xcel Energy's supply portfolio that is consistent with the Commission's Order to seek competitive proposals for intermediate and peaking capacity resources. The Proposal includes an integrated combination of combined-cycle capability, which not only represents an energy efficient and environmentally responsible capacity addition but also provides

¹ Capacity values based on reference conditions at 6° F and 68% relative humidity.

significant long-term energy production benefits to Xcel Energy, and installation of duct-fired peaking, which maximizes the design flexibility of the Mankato Expansion and provides additional incremental capacity in an economically efficient manner.²

Project Benefits

Calpine's Proposal capitalizes on the natural economies of scale and site characteristics of the Mankato Energy Center paired with Calpine's unparalleled experience developing, constructing, and operating one of the world's largest fleets of combustion turbine power



2004 Site Plan Showing Design of Full Plant Including Expansion

generating facilities. The Mankato Expansion optimizes the use of infrastructure currently installed at the existing plant, which was designed and permitted—including a Commission-approved Certificate of Need and Site Permit³—to be constructed in two phases as a full 720-megawatt power plant, utilizing two CTG's and two HRSG's that would operate as an integrated 2x2x1 combined-cycle unit. The first phase entered commercial operation in 2006. This Proposal represents construction of the second phase and completion of the project as originally designed.

² Calpine further notes that the Mankato Expansion can, if required, accommodate installation of dual-fuel capability and/or the use of a bypass stack, which would allow extended simple-cycle operation of the additional combustion turbine. These design elements are not included in the specific pricing, terms, and conditions associated with this Proposal.

³ See Order Granting Certificate of Need issued September 22, 2004 in Docket No. IP-6345/CN-03-1884, and Site Permit issued September 16, 2004 in MEQB Docket No. 04-76-PPS-CALPINE.

The Mankato Energy Center was constructed so as to accommodate future installation of an additional power train (CTG and HRSG) and already includes a steam turbine generator and gas pipeline lateral that are sufficiently sized for the Mankato Expansion. Therefore, Calpine's Proposal will optimize existing, under-utilized, on-site power generation equipment with incremental improvements to the economic and environmental operating characteristics of the power plant. The Proposal is a perfect example of the economically attractive expansion of an existing resource to meet future needs that the Commission must take into consideration in evaluating new capacity additions under Minn. R.7849.0120, subp. A(5).

Subject to timely regulatory approvals, execution of a tolling agreement with Xcel Energy, consent of financing parties and final approval by Calpine's Board of Directors, Calpine anticipates that the Mankato Expansion could achieve commercial operation by June 1, 2017.

Consistent with the Commission's directive that parties be held to the cost information provided in their bids,⁴ the specific pricing, terms and conditions of Calpine's Proposal represent a fixed-price indicative offer⁵ with long-term performance guaranties wherein Calpine will assume the construction, delivery date and long-term operating risk of the Mankato Expansion. This construct provides numerous benefits and protections to Xcel Energy's ratepayers compared with traditional utility cost-of-service self-build generation projects and so-called "target cost" projects where ratepayers are partially insulated from power plant investment risk but still remain exposed to long-term

⁴ See MPUC Order Paragraph 3 of the March 5, 2013 Order in Docket No. E-002/CN-12-1240.

⁵ Subject to any material changes in project timing and/or scope required by the Commission or identified during final tolling agreement negotiations. Proposed pricing assumes a 2017 commercial operation date.

operating risk. Calpine's Proposal both protects ratepayers against construction cost overruns and provides substantially greater operating risk protections by including long-term guaranties including availability and heat rate.

The Mankato Expansion will allow Minnesota to take advantage of what is widely predicted to be a sustained era of low natural gas prices, and will provide low cost load following capability to support the State's continued investment in intermittent wind and other renewable resources. Calpine's Proposal is a low cost, energy efficient and environmentally responsible option using state-of-the-art technology to meet a portion of the resource need identified by the Commission that will complement other types of proposals that the Commission may approve in this proceeding.

Calpine is highly confident that gas-fired resources in the MISO region will continue to experience much higher capacity factors than have been seen in the past. Natural gas is part of the optimal solution to replace aging coal and nuclear capacity resources in Minnesota and throughout the MISO region as they continue to face environmental and economic pressures that could lead to a greater-than-expected level of retirements. Indeed, failing to invest in gas-fired capacity would be imprudent in the context of current and expected market conditions.

However, while stand-alone gas-fired peaking units can certainly help meet a portion of Xcel Energy's future needs, the Commission should be careful not to over invest exclusively in peaking resources, which could lead to an unfavorable situation where such units, which are designed for short run-time operations, would be dispatched beyond what is operationally, economically and environmentally appropriate. In contrast, investing in combined-cycle generation, which is designed for long run-time

operations, will provide Xcel with clean, low cost and energy efficient generating technology that can help meet future supply needs in an appropriately balanced manner.

Calpine's Proposal is both cost-effective and provides numerous material non-price benefits with respect to air quality, use of recycled water, increased existing plant flexibility and reliability, optimization of under-utilized existing plant equipment, and community benefits. The Mankato Expansion enjoys strong local support and would be



developed on an existing site with minimal land use and other local impacts. The project would provide both near-term and long-term local economic benefits through construction jobs, tax revenues to the City of Mankato and revenues for the City of Mankato water department.

Calpine encourages the Commission to consider the Proposal's broad range of benefits when evaluating it against other proposed projects. The Mankato Expansion:

- Utilizes an existing brownfield site already dedicated to electric power generation;
- Has lower SO₂, NO_x and other emissions on a per unit basis than older power generation units and stand-alone combustion turbine peaking units;
- Utilizes existing natural gas and electric power transmission infrastructure;
- Avoids proliferation of additional generating sites and/or transmission corridors;
- Takes advantage of an award-winning water recycling agreement with the City of Mankato that reduces phosphorus loading in the Minnesota River;

- Brings meaningful new economic activity to the greater Mankato region;
- Provides Xcel Energy's ratepayers with a truly fixed price combined-cycle resource where Calpine, alone, bears all construction, delivery date and long term performance risk; and
- Provides flexibility to Xcel's operations by delivering to both the 345kV and the 115kV transmission systems.

Conclusion

While Calpine's Proposal does not address the entire need of up to 500 megawatts that has been established by the Commission, it represents an ideal complement to other types of facilities that, combined with the Mankato Expansion, will help establish a balanced and diverse supply portfolio for Xcel Energy and its ratepayers. Based on combined-cycle technology with a low marginal energy cost and emissions rate, in addition to being combined with integrated peaking capability, Calpine's Proposal is a prudent and compelling way to help meet a portion of the need established by the Commission and will provide substantial long-term cost benefits to Xcel Energy's ratepayers.

Calpine appreciates this opportunity to submit its fixed-price competitive bid, which contains cost and long-term performance guarantees, into the Commission's resource acquisition proceeding, and looks forward to working expeditiously and productively with Xcel Energy, Minnesota's regulatory bodies and Mankato community officials to bring the Mankato Expansion to fruition.

Dated this 15th day of April, 2013.

/s/ T. Thornton

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MANKATO EXPANSION APPENDIX A

1. Executive Summary
2. Developer Experience and Qualifications

Executive Summary

The Mankato Energy Center ("MEC") is a natural gas fired, combined cycle plant currently consisting of one Siemens 501FD combustion turbine generator ("CTG"), one Nooter/Erikson heat recovery steam generator ("HRSG") and one Toshiba TCDF 40L steam turbine generator ("STG") and other machinery and equipment needed for MEC's safe and efficient operation. MEC was designed with the option to be expanded into a 2x2x1 natural gas-fired, combined-cycle facility by adding an additional Siemens 501FD CTG or equivalent gas turbine and HRSG connected into the existing STG. As such, MEC has the opportunity to add a CTG and HRSG for an additional 345 megawatts at an incremental cost which is lower than the cost of adding new "greenfield" or "brownfield" generation.

The Proposal herein provides the Commission and the customers of Northern States Power Company ("Xcel Energy") with capacity, energy, ancillary services and load-following capability as well as flexibility to react to the changes in market supply and demand. Calpine's proposal provides Xcel Energy with the ability to integrate the Mankato Expansion into its resource pool. The Mankato Expansion provides Xcel Energy with the following:

- A high efficiency 2x2x1 Siemens 501FD combined-cycle power plant which provides Capacity, Energy and Ancillary Services
- Fast start capability
- The flexibility to balance Xcel Energy's current and future intermittent renewable resources
- Automatic Generation Control ("AGC")
- Start/stop scheduling flexibility
- The ability to use the capacity for either energy or ancillary services (regulation, spinning reserve and supplemental reserve)

As part of the application process to receive Commission approval for the construction of MEC in 2004, Calpine designed the water, gas and electrical systems as well as the site layout to accommodate the Mankato Expansion project. The existing 20" gas lateral is capable of delivering the requisite gas for both MEC and the MEC Expansion. Some of the permitting authorization to construct the second unit (state and federal air permits) has expired and will need to be completed prior to construction. Obtaining any required construction authorizations is expected to be straightforward and non-controversial, and the emission limits for the Mankato Expansion should be equal to or better than the emission limits for MEC.

Calpine intends to follow the PPA structure used in the Purchased Power Agreement between MEC and Northern States Power Company executed on March 11, 2004 ("MEC PPA") for expediency, cost effectiveness and negotiating efficiency.

Developer Experience and Qualifications:

a) Selling Party and Developer:

Selling Party: Mankato Energy Center, LLC or a Calpine Affiliate

Developer: Calpine and its Affiliates

b) Business and History:

Calpine Corporation [nyse:cpn] is one of the largest independent power producers in America, with a fleet of 93 power plants in operation or under construction, representing more than 28,793 megawatts of generation capacity. Serving customers in 20 states and Canada, we specialize in developing, constructing, owning and operating natural gas-fired and renewable geothermal power plants that use advanced technologies to generate power in a low-carbon and environmentally responsible manner.

The company was established on the premise that a strong commitment to the environment is inextricably linked to excellence in power generation and corporate responsibility. Since its founding in 1984, Calpine has led the power industry in its unwavering commitment to operating clean, modern, flexible and efficient natural gas plants, as well as renewable geothermal plants that use steam generated deep below the earth's surface to produce electricity.

Our portfolio is primarily comprised of two types of power generation technologies: natural gas-fired combustion turbines, which are primarily combined-cycle plants, and renewable geothermal conventional steam turbines. We are among the world's largest owners and operators of industrial gas turbines as well as cogeneration power plants. The Geysers assets located in northern California comprises 15 geothermal plants with a generating capacity of 725 megawatts, represents the largest geothermal power generation portfolio in the U.S. and produced approximately 18% of all renewable energy in the state of California.

Calpine's plants emit the fewest greenhouse gases per megawatt hour (MWh) generated of any pure-play IPP. The fuel efficiency and advanced emissions controls of our fleet result in dramatically lower greenhouse gas-, smog- and acid rain-producing emissions than coal and other typical fossil-fueled power

plants. The average age of Calpine's fleet is about 13 years, compared to its IPP peers whose fleets' average ages range from 29 to 35 years.

Calpine's diverse portfolio of baseload, intermediate and peaking power plants enables us to match our suite of products - wholesale power, steam, capacity, renewable energy credits and ancillary services - to the needs of our individual customers, including utilities, independent electric system operators, industrial and agricultural companies, retail power providers, municipalities and power marketers.

With the exception of projects that operate under tolling agreements, Calpine purchases natural gas and fuel oil as fuel for our power plants, engage in related natural gas transportation and storage transactions, and purchase electric transmission rights to deliver power to our customers. We also enter into natural gas and power physical and financial contracts to hedge certain business risks and optimize our portfolio of power plants.

Calpine is traded on the New York Stock Exchange under the ticker symbol CPN. Calpine employs more than 2,100 employees and maintains its corporate headquarters in Houston, TX.

c) Experience in Development, Financing, Construction and Operations:

Our portfolio, including partnership interests, includes 93 operating power plants in operation or under construction, located throughout 20 states in the U.S. and Canada, with an aggregate generation capacity of 27,321 megawatts and 1,472 megawatts under construction. Our fleet, including projects under construction, consists of 75 combustion turbine-based plants, 2 fossil steam-based plants, 15 geothermal turbine-based plants and 1 photovoltaic solar plant. Calpine operates an aggregate generation capacity of 6,751 MW with an additional 773 MW under construction in the West, 8,014 MW with an additional 390 MW under construction in Texas, 7,320 MW with an additional 309 MW under construction in the North and 5,236 MW in the Southeast.

Calpine's engineering and construction accomplishments include:

- Successfully completed and commissioned over 23,600 MW of natural gas-fired technology plants since 1999
- Developed, engineered, procured, constructed, and commissioned over 98 gas turbines since 1999
- Completed over 50 projects under a number of different project delivery methods including EPC, modified EPC, and Calpine construct

- Actively growing the fleet, including:
 - York Energy Center, online in early 2011, three months ahead of schedule
 - Russell City Energy Center under construction
 - Los Esteros Critical Energy Facility upgrade underway
 - Upgrades of 260 MW per project of baseload capacity underway, at our Channel and Deer Park Energy Centers
 - Garrison Energy Center 309 MW

d) Financial Strength

Since February 2008, Calpine has successfully raised capital across a wide range of markets, including high yield, term loan and non-recourse project finance markets. In total, Calpine has raised over \$11 billion since 2008 primarily to de-risk the balance sheet by refinancing near-term maturities. As a result of capital raising activities, Calpine has no material maturities before 2016. Additionally, the refinancing program allowed Calpine to stagger future maturities resulting in no corporate maturity exceeding \$2 billion in any one year. A detailed list of corporate financing activities is listed below:

- \$1.2 billion Sr. Secured Notes (7.25%, 2017)
- \$0.4 billion Sr. Secured Notes (8.000%, 2019)
- \$1.1 billion Sr. Secured Notes (7.875%, 2020)
- \$2.0 billion Sr. Secured Notes (7.500%, 2021)
- \$1.2 billion Sr. Secured Notes (7.875%, 2023)
- \$1.0 billion Corporate Revolver
- \$1.3 billion Corporate Term Loan
- \$0.36 billion Corporate Term Loan
- \$0.835 billion Corporate Term Loan

Calpine has an equally notable record of accomplishments securing capital at the project level, as highlighted by the successful execution of the following transactions entered into since 2007:

- \$498.5 million Amendment and Extension of Steamboat Credit Facility
- \$1.0 billion Sr Secured Notes (8%, 2016) by Calpine Construction Finance Company
- \$156 million recapitalization of Deer Park Energy Center
- \$265 million senior term loan refinancing of Metcalf
- \$90 million senior term loan refinancing of Blue Spruce Energy Center (asset sold)
- \$594 million non-recourse project financing of Greenfield Energy Centre (50% ownership)
- \$377 million non-recourse project financing of Otay Mesa Energy Center

Calpine continues to improve its credit metrics, particularly with respect to improving cash flow stability through operating excellence, prudent hedging strategy, shedding of non-core assets and strategic capital allocation, notably, the acquisition of the Conectiv Mid-Atlantic fleet in 2010. Additionally, Calpine continues to deliver on guidance and increase market share despite significant challenges posed by the overall economic environment and related impacts on power markets. Calpine's efforts have been recognized by the one notch upgrade it received from Moody's Investor Services in May of 2010.

Calpine is also focused on maintaining the liquidity required to effectively support its operations. As mentioned earlier, through a series of deliberate and opportunistic transactions in 2010, Calpine took advantage of the strong capital markets and refinanced the entire legacy corporate term loan and \$1 billion revolving line of credit. Calpine was thus able to strengthen its balance sheet while achieving strategic growth, improving its financial flexibility and preserving strong liquidity of over \$2.2 billion as of December 31, 2012.

e) Development Plans for Successfully Competing Transaction:

Calpine is a long-time owner and operator of existing generation in the proposed community. Calpine has a proven track record of successful community relations for both its operating assets and during the development of the MEC. Prior to and upon being awarded a Purchased Power Agreement ("PPA"), Calpine will work closely with the Commission and Xcel Energy (as it has in the past) to ensure that members of the community are well informed about the Proposal and have a chance to fully participate in the relevant permitting aspects of the MEC Expansion.

f) Calpine proposes that Calpine, the Commission and Xcel Energy work in a coordinated fashion to ensure that a high degree of community awareness is maintained for the selected Proposal and that local concerns are appropriately addressed. Calpine has experience in working successfully with the Commission and Xcel Energy Community Relations staff, and is confident that this Proposal can be executed with a high degree of community acceptance. Community officials and business leaders have already formally expressed their support for the Mankato Expansion.

g) Midwest Independent Transmission System Operator ("MISO") Experience:

Calpine is a member of the MISO and owns, operates and maintains two generating power plants totaling 878 MW in the states of Wisconsin and Minnesota. In Minnesota, Calpine owns the Mankato Energy Center (Mankato, Minnesota). In Wisconsin, Calpine owns the RockGen Energy Center (Cambridge, Wisconsin).

APPENDIX A
To Calpine's Mankato Expansion Proposal

Calpine has, under a combination of mid- to long-term agreements, contracted a significant amount of the output associated with each of these power plants. These power plants have sold capacity, energy, ancillary services and other energy products to Xcel Energy and Alliant. In addition, Calpine has experience selling power to Madison Gas & Electric through its recently sold Riverside generating facility and to Wisconsin Public Service from the Fox Energy Center which is now owned by General Electric. Both Riverside and the Fox Energy Center are operating MISO generating facilities today.

Any remaining capacity and energy not under contract is bilaterally offered into the MISO capacity and energy markets.

Set forth below is certain information regarding our operating power plants and projects under construction as of April 1, 2013.

SEGMENT /Power Plant	NERC Region	U.S. State or Canadian Province	Technology	Calpine Interest Percentage	Calpine Net Interest Baseload (MW)	Calpine Net Interest With Peaking (MW)
WEST						
Geothermal						
McCabe #5 & #6	WECC	CA	Renewable	100%	78	78
Ridge Line #7 & #8	WECC	CA	Renewable	100%	69	69
Calistoga	WECC	CA	Renewable	100%	66	66
Eagle Rock	WECC	CA	Renewable	100%	66	66
Quicksilver	WECC	CA	Renewable	100%	53	53
Cobb Creek	WECC	CA	Renewable	100%	52	52
Lake View	WECC	CA	Renewable	100%	52	52
Sulphur Springs	WECC	CA	Renewable	100%	51	51
Socrates	WECC	CA	Renewable	100%	50	50
Big Geysers	WECC	CA	Renewable	100%	48	48
Grant	WECC	CA	Renewable	100%	43	43
Sonoma	WECC	CA	Renewable	100%	42	42
West Ford Flat	WECC	CA	Renewable	100%	24	24
Aidlin	WECC	CA	Renewable	100%	17	17
Bear Canyon	WECC	CA	Renewable	100%	14	14
Natural Gas-Fired						
Delta Energy Center	WECC	CA	Combined Cycle	100%	835	857
Pastoria Energy Center	WECC	CA	Combined Cycle	100%	770	749
Hermiston Power Project	WECC	OR	Combined Cycle	100%	566	635
Otay Mesa Energy Center	WECC	CA	Combined Cycle	100%	513	608

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SEGMENT /Power Plant	NERC Region	U.S. State or Canadian Province	Technology	Calpine Interest Percentage	Calpine Net Interest Baseload (MW)	Calpine Net Interest With Peaking (MW)
Metcalf Energy Center	WECC	CA	Combined Cycle	100%	564	605
Sutter Energy Center	WECC	CA	Combined Cycle	100%	542	578
Los Medanos Energy Center	WECC	CA	Cogen	100%	518	572
South Point Energy Center	WECC	AZ	Combined Cycle	100%	520	530
Gilroy Energy Center	WECC	CA	Simple Cycle	100%	-	141
Gilroy Cogeneration Plant	WECC	CA	Cogen	100%	109	130
King City Cogeneration Plant	WECC	CA	Cogen	100%	120	120
Greenleaf 1 Power Plant	WECC	CA	Combined Cycle	100%	50	50
Greenleaf 2 Power Plant	WECC	CA	Cogen	100%	49	49
Wolfskill Energy Center	WECC	CA	Simple Cycle	100%	-	48
Yuba City Energy Center	WECC	CA	Simple Cycle	100%	-	47
Feather River Energy Center	WECC	CA	Simple Cycle	100%	-	47
Creed Energy Center	WECC	CA	Simple Cycle	100%	-	47
Lambie Energy Center	WECC	CA	Simple Cycle	100%	-	47
Goose Haven Energy Center	WECC	CA	Simple Cycle	100%	-	47
Riverview Energy Center	WECC	CA	Simple Cycle	100%	-	47
King City Peaking Energy Center	WECC	CA	Simple Cycle	100%	-	44
Agnews Power Plant	WECC	CA	Combined Cycle	100%	28	28
Subtotal					5,909	6,751
TEXAS						
Deer Park Energy Center	TRE	TX	Cogen	100%	843	1,014
Baytown Energy Center	TRE	TX	Cogen	100%	782	842
Pasadena Power Plant ⁽⁴⁾	TRE	TX	Cogen/Combined Cycle	100%	763	781
Bosque Energy Center	TRE	TX	Combined Cycle	100%	740	762
Freestone Energy Center	TRE	TX	Combined Cycle	75%	779	746
Magic Valley Generating Station	TRE	TX	Combined Cycle	100%	662	692
Channel Energy Center	TRE	TX	Cogen	100%	463	608
Brazos Valley Power Plant	TRE	TX	Combined Cycle	100%	520	606
Corpus Christi Energy Center	TRE	TX	Cogen	100%	426	500
Texas City Power Plant	TRE	TX	Cogen	100%	400	453
Clear Lake Power Plant	TRE	TX	Cogen	100%	344	400
Hidalgo Energy Center	TRE	TX	Combined Cycle	78.5%	392	374
Freeport Energy Center ⁽⁵⁾	TRE	TX	Cogen	100%	210	236

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SEGMENT /Power Plant	NERC Region	U.S. State or Canadian Province	Technology	Calpine Interest Percentage	Calpine Net Interest Baseload (MW)	Calpine Net Interest With Peaking (MW)
NORTH						
Bethlehem Energy Center	RFC	PA	Combined Cycle	100%	1,037	1,130
Hay Road Energy Center	RFC	DE	Combined Cycle	100%	1,030	1,130
Edge Moor Energy Center	RFC	DE	Steam Cycle	100%	-	725
York Energy Center	RFC	PA	Combined Cycle	100%	519	565
Westbrook Energy Center	NPCC	ME	Combined Cycle	100%	552	552
Greenfield Energy Centre ⁽⁶⁾	NPCC	ON	Combined Cycle	50%	422	519
RockGen Energy Center	MRO	WI	Simple Cycle	100%	-	503
Zion Energy Center	RFC	IL	Simple Cycle	100%	-	503
Mankato Power Plant	MRO	MN	Combined Cycle	100%	280	375
Cumberland Energy Center	RFC	NJ	Simple Cycle	100%	-	191
Deepwater Energy Center ⁽⁷⁾	RFC	NJ	Steam Cycle	100%	-	158
Kennedy International Airport Power Plant	NPCC	NY	Cogen	100%	110	121
Sherman Avenue Energy Center	RFC	NJ	Simple Cycle	100%	-	92
Bethpage Energy Center 3	NPCC	NY	Combined Cycle	100%	60	80
Middle Energy Center ⁽⁷⁾	RFC	NJ	Simple Cycle	100%	-	77
Carll's Corner Energy Center	RFC	NJ	Simple Cycle	100%	-	73
Cedar Energy Center ⁽⁷⁾	RFC	NJ	Simple Cycle	100%	-	68
Mickleton Energy Center	RFC	NJ	Simple Cycle	100%	-	67
Missouri Avenue Energy Center ⁽⁷⁾	RFC	NJ	Simple Cycle	100%	-	60
Bethpage Power Plant	NPCC	NY	Combined Cycle	100%	55	56
Christiana Energy Center	RFC	DE	Simple Cycle	100%	-	53
Bethpage Peaker	NPCC	NY	Simple Cycle	100%	-	48
Stony Brook Power Plant	NPCC	NY	Cogen	100%	45	47
Tasley Energy Center	RFC	VA	Simple Cycle	100%	-	33
Whitby Cogeneration ⁽⁸⁾	NPCC	ON	Cogen	50%	25	25
Delaware City Energy Center	RFC	DE	Simple Cycle	100%	-	23
West Energy Center	RFC	DE	Simple Cycle	100%	-	20
Bayview Energy Center	RFC	VA	Simple Cycle	100%	-	12
Crisfield Energy Center	RFC	MD	Simple Cycle	100%	-	10
Vineland Solar Energy Center	RFC	NJ	Renewable	100%	-	4
Subtotal					4,135	7,320

APPENDIX A
To Calpine's Mankato Expansion Proposal

SEGMENT /Power Plant	NERC Region	U.S. State or Canadian Province	Technology	Calpine Interest Percentage	Calpine Net Interest Baseload (MW)	Calpine Net Interest With Peaking (MW)
SOUTHEAST						
Oneta Energy Center	SPP	OK	Combined Cycle	100%	980	1,134
Morgan Energy Center	SERC	AL	Cogen	100%	720	807
Decatur Energy Center	SERC	AL	Combined Cycle	100%	782	795
Columbia Energy Center	SERC	SC	Cogen	100%	455	606
Osprey Energy Center	FRCC	FL	Combined Cycle	100%	537	599
Carville Energy Center	SERC	LA	Cogen	100%	449	501
Hog Bayou Energy Center	SERC	AL	Combined Cycle	100%	235	237
Santa Rosa Energy Center	SERC	FL	Combined Cycle	100%	235	225
Pine Bluff Energy Center	SERC	AR	Cogen	100%	184	215
Auburndale Peaking Energy Center	FRCC	FL	Simple Cycle	100%	-	117
Subtotal					4,577	5,236
Total operating power plants (92)					21,945	27,321
Project under construction and advanced development						
Projects under construction						
Russell City Energy Center	WECC	CA	Combined Cycle	75%	429	464
Los Esteros Critical Energy Facility ⁽⁹⁾	WECC	CA	Combined Cycle	100%	243	309
Channel Energy Center Expansion	TRE	TX	Cogen	100%	260	200
Deer Park Energy Center Expansion	TRE	TX	Cogen	100%	260	190
Garrison Energy Center	RFC	DE	Combined Cycle	100%	273	309
Total operating power plants, and projects					23,410	28,793

- (1) Natural gas-fired fleet capacities are generally derived on as-built as-designed outputs, including upgrades, based on site specific annual average temperatures and average process steam flows for cogeneration power plants, as applicable. Geothermal capacities are derived from historical generation output and steam reservoir modeling under average ambient conditions (temperatures and rainfall).
- (2) Natural gas-fired fleet peaking capacities are primarily derived on as-built as-designed peaking outputs based on site specific average summer temperatures and include power enhancement features such as heat recovery steam generator duct-firing, gas turbine power augmentation, and/or other power augmentation features. For certain power plants with definitive contracts, capacities at contract conditions have been included. Oil-fired capacities reflect capacity test results.
- (3) These outputs do not factor in the typical MW loss and recovery profiles over time, which natural-gas fired turbine power plants display associated with their planned major maintenance schedules.
- (4) Pasadena is comprised of 260MW of cogen technology and 521 MW of combined cycle (non-cogen) technology.
- (5) Freeport Energy Center is owned by Calpine; however, it is contracted and operated by The Dow Chemical Company.
- (6) Calpine holds a 50% partnership interest in Greenfield LP through its subsidiaries; however, it is operated by a third party.
- (7) We have provided notice to PJM that we plan to retire these units before commencement of the PJM Reliability Pricing Model 2015/2016 delivery year.
- (8) Calpine holds a 50% partnership interest in Whitby Cogeneration through its subsidiaries; however, it is operated by Atlantic Packaging Products Ltd.
- (9) Los Esteros Critical Energy Facility is currently under construction to upgrade from a 188 MW simple-cycle generation power plant to a 309 MW combined-cycle generation power plant.

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APPENDIX B
To Calpine's Mankato Expansion Proposal

MANKATO EXPANSION APPENDIX B

NOT FOR PUBLIC DISCLOSURE

1. In-Service Date
2. Capacity Amount
3. Energy Amount
4. Delivery
5. Resource Type
6. Emissions and Carbon Dioxide
7. Capacity Pricing
8. Energy Pricing
9. Other Payments
10. Scheduling Provisions
11. Curtailments and Excuses for Reduced Delivery
12. Security for Performance
13. Conditions to Performance
14. Additional Considerations for Unit Contingent Proposals

PUBLIC DOCUMENT
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APPENDIX B
To Calpine's Mankato Expansion Proposal

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To Calpine's Mankato Expansion Proposal

Trade Secret Ends]

STATE OF MINNESOTA
BEFORE THE
MINNESOTA PUBLIC UTILITIES COMMISSION

*In the Matter of the Petition of
Northern States Power Company to
Initiate a Competitive Resource
Acquisition Process*

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MPUC Docket No. E002/CN-12-1240

CERTIFICATE OF SERVICE

Susan Hartinger, certifies that on April 15, 2013 she served true and correct copies of the **Public Version of Calpine Corporation’s Mankato Energy Center Expansion Proposal** upon the following parties via e-filing and/or U.S. Mail:

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