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Minneapolis, MN 55401

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February 28, 2020

—Via Electronic Filing—

Will Seuffert
Executive Secretary
Minnesota Public Utilities Commission
121 7th Place East, Suite 350
St. Paul, MN 55101

RE: ANNUAL REPORT
COMMISSION INVESTIGATION INTO SELF-COMMITMENT AND SELF-
SCHEDULING OF LARGE BASELOAD GENERATION FACILITIES
DOCKET NO. E999/CI-19-704

Dear Mr. Seuffert:

Northern States Power Company, doing business as Xcel Energy, submit this annual report analyzing the Company's options for seasonal dispatch, self-commitment and self-scheduling in compliance with Order Point Nos. 8, 9, and 10 of the Minnesota Public Utilities Commission's November 13, 2019 ORDER ACCEPTING 2017-2018 ELECTRIC REPORTS AND SETTING ADDITIONAL REQUIREMENTS in Docket No. E999/AA-18-373. In addition, this report satisfies Order Point No. 5 of the Commission's February 7, 2019 ORDER ACCEPTING 2016-2017 REPORTS AND SETTING ADDITIONAL REQUIREMENTS in Docket Nos. E999/AA-17-492 and E999/AA-18-373.

Please note that portions of Attachment A, B and C are marked as "Not Public." Certain data is considered to be "not public data" pursuant to Minn. Stat. §13.02, Subd.9, and is "Trade Secret" information pursuant to Minn. Stat. §13.37, subd. 1(b) as this data derives independent economic value, actual or potential, from not being generally known to, and not being readily ascertainable by proper means by other persons who can obtain economic value from its disclosure or use.

Pursuant to Minn. Stat. § 216.17, subd. 3, we have electronically filed this document, and served copies of the summary on the parties on the attached service list.

Please contact Rebecca Eilers at rebecca.d.eilers@xcelenergy.com / 612-330-5570 or me at christopher.j.shaw@xcelenergy.com / 612- 330-7974 if you have any questions regarding this filing.

SINCERELY,

/s/

CHRISTOPHER SHAW
MANAGER, REGULATORY POLICY

Enclosures
c: Service List

STATE OF MINNESOTA
BEFORE THE
MINNESOTA PUBLIC UTILITIES COMMISSION

Katie J. Sieben	Chair
Valerie Means	Commissioner
Matthew Schuerger	Commissioner
John A. Tuma	Commissioner

IN THE MATTER OF AN INVESTIGATION
INTO SELF-COMMITMENT AND SELF-
SCHEDULING OF LARGE BASELOAD
GENERATION FACILITIES

DOCKET NO. E999/CI-19-704

ANNUAL REPORT

OVERVIEW

Northern States Power Company, doing business as Xcel Energy, submit this annual report analyzing the Company's options for seasonal dispatch, self-commitment and self-scheduling in compliance with Order Point Nos. 8, 9, and 10 of the Minnesota Public Utilities Commission's November 13, 2019 ORDER ACCEPTING 2017-2018 ELECTRIC REPORTS AND SETTING ADDITIONAL REQUIREMENTS in Docket No. E999/AA-18-373. In addition, this report satisfies Order Point No. 5 of the Commission's February 7, 2019 ORDER ACCEPTING 2016-2017 REPORTS AND SETTING ADDITIONAL REQUIREMENTS in Docket Nos. E999/AA-17-492 and E999/AA-18-373.

We provide the requested analysis for the 18-month Electric Annual Automatic Adjustment of Charges (AAA) Report period, July 1, 2018-December 31, 2019.¹ For comparison, we provided analysis of the 2016-2017 and 2017-2018 AAA periods in our May 9, 2019 compliance filing in Docket Nos. E999/AA-17-493 and E999/AA-18-373.

¹ See Docket No. E999/AA-20-171 for the Company's complete Electric AAA Report.

ANNUAL REPORT

A. Seasonal Dispatch Options

Order Point No. 8 of the November 13 Order states:

Minnesota Power, Otter Tail, and Xcel shall submit an annual compliance filing analyzing the potential options for seasonal dispatch generally, and potential options and strategies for utilizing “economic” commitments for specific coal-fired generating plants. The utilities shall include a specific explanation of barriers or limitations to each of these potential options, including but not limited to technical limits of the units and contract requirements (shared ownership, steam offtake contracts, minimum fuel supply requirements, (shared ownership, steam offtake contracts, minimum fuel supply requirements, etc.) as relevant, on March 1, 2020, and each year thereafter.

The Company provided the analysis required by ordering paragraph 8 in our December 20, 2019 Petition in Docket No. E002/M-19-809, which proposed a Unit Commitment Plan for the Allen S. King Plant (King Plant) and Sherco Unit 2 (Sherco 2). That analysis is still current, and it aligns with our 2020 fuel forecast recently approved in Docket No. E002/AA-19-293. Comments in that docket are due on April 1, 2020.

We anticipate using this same analysis methodology in future annual compliance filings in this investigation docket. As discussed in the Unit Commitment Plan Petition, the Company will provide in future March 1 annual reports in this investigation docket additional analysis of the impacts of our Unit Commitment Plan, including an analysis of the hours King or Sherco 2 would have been committed if offered into the MISO day-ahead market.

B. Consequence of Xcel Energy’s Self-Commitment and Self-Scheduling Decisions for the 18-Month AAA Reporting Period (July 2018-December 2019)

Order Point No. 5 of the February 7, 2019 Order states:

In future AAA Reports, Minnesota Power, Otter Tail Power, and Xcel shall each provide a complete analysis and discussion of the consequences of self-commitment and self-scheduling of their generators, including the annual difference between production costs and corresponding prevailing market prices.

Order Point No. 9 of the November 13, 2019 Order states:

The Commission will open an investigation in a separate docket and require Minnesota Power, Otter Tail, and Xcel to report their future self-commitment and self-scheduling analyses using a consistent methodology by including fuel cost and variable O&M costs, matching the offer curve submitted to MISO energy markets.

In compliance with these order points, we provide the discussion below.

The Company analyzed the economic impact of its self-commit actions for the period July 2018 to December 2019 by comparing the MISO day-ahead and real-time (DART) revenues and charges that Xcel Energy received from its self-commit approach for certain resources to the production costs of those resources to determine margin. While we cannot perform a what-if margin analysis of allowing MISO to commit and dispatch the Xcel Energy units, as only MISO could model the market costs of the path not taken, the Company did analyze the total DART margins of the actions it did take to self-commit these resources.

The analysis evaluates actions taken for Xcel Energy's baseload units, exclusive of its Refuse Derived Fuel units. These baseload units also comprise a large part of the Company's MISO settlement and are the bulk of our strategic self-commit decisions. Since 2019, the Company's practice is to offer our coal facilities with an economic commit status – as opposed to self-commit – as much as possible. The Company has also proposed to suspend normal operations at King Plant and Sherco 2 during non-peak seasons, as discussed in Docket No. E002/M-19-809.

In evaluating instances of self-commit of these units, we also excluded hours when Xcel Energy's self-commit action in the MISO market was unavoidable (*e.g.*, mandatory generating resource testing, fuel and steam offtake contract requirements, and generating resource maintenance outages). We note that the combined cycle and simple cycle combustion turbines are not included in the analysis because these generating resources are offered to MISO as economic units unless testing or operating directives (*i.e.* MISO or transmission operations directives) require otherwise.

The resulting DART margin by resource is shown in Figure 1. The DART margin during the strategic self-commit for the period was \$386,934,105, which means that market revenues during these self-commitment periods exceeded the production costs of the units.

Figure 1 - DART Margin by Year for Self-Commit of Baseload Units

Day Ahead and Real Time Margins for NSP Base Load Resources								
Date	King_G1	Monticello_1	PR_ISLD_1	PR_ISLD_2	SHERC3	SHERCO_G1	SHERCO_G2	Grand Total
2018: 7/1/18 - 12/31/18	10,498,542	53,285,790	33,691,377	44,555,082	8,158,295	8,763,094	10,550,718	169,502,898
2019: 1/1/19 - 12/31/19	2,277,093	73,807,319	62,056,485	62,530,008	7,002,333	4,446,355	5,311,613	217,431,207
Total	12,775,635	127,093,109	95,747,862	107,085,090	15,160,628	13,209,449	15,862,332	386,934,105

We believe this DART margin data represents an appropriate metric for determining whether the Company's self-commitment decisions were beneficial, and the data provided in Figure 1 demonstrates that the Company's customers received value as a result of its decision to self-commit the baseload resources.

In compliance with Order Point No. 10 of the November 13, 2019 Order, the Company's detailed analysis of the consequences of self-commitment of its generators is included in Attachments A-C as live Excel spreadsheets.² We note that, when the Company submits a commit status of "Must-Run" for a unit (self-commits), it designates a resource as committed to MISO per Xcel Energy's request and makes the resource available for dispatch by MISO. To self-schedule for energy, Xcel Energy would have to submit a resource to operate at a specific MW value or operating level for energy and set the energy dispatch status to "Self-Schedule." For July 2018 – December 2019, Xcel Energy did not find any instances of self-scheduling of resources for energy; therefore, Attachments A-C do not capture the consequences of self-scheduling. The attachments do, however, present the impact of self-commitment.

As stated above, the analysis only includes instances when Xcel Energy strategically self-commits select baseload units. There are circumstances when self-commit is unavoidable, such as testing, operating directives from MISO or Transmission Operations, or third party contractual requirements. Strategic decisions to self-commit units are based on a number of considerations, including MISO model limitations, contractual obligations, and system reliability.

Self-commitment can be better suited for Xcel Energy units that have longer minimum downtimes or are slow to come online. MISO's 24-hour commitment model provides no assurance that units will be cycled economically across multiple days. MISO's current day-ahead market construct is not designed to forecast economic commitment beyond the next day, leading to potential uneconomic cycling of units with long lead times or high startup costs. Until MISO develops the market design for a Multi-day Financial Commitment Model, self-committing the units with

² Attachment A provides items a-t for coal units; Attachment B provides items a-t for nuclear units; Attachment C provides items u-y.

long lead periods ensures that their operational parameters are met and emissions output managed.

In addition to the economic value received from these self-commitment actions, there are other reasons why the Company self-commits generation resources. Xcel Energy participates in a joint operating agreement with SMMPA at Sherco 3 that divides the unit output between the two parties. This agreement limits Xcel Energy's ability to offer the unit economically.

Xcel Energy strongly considers reliability when making decisions about self-committing units. Extreme weather conditions, elevated MISO conditions, high load days, tight capacity conditions, and transmission requirements increase reliability risks and are factored into our decisions to self-commit units.

Xcel Energy constantly monitors system conditions, looking for opportunities to lower customer costs. At times when we believe system reliability risks are low, as when renewable generation is forecasted to be high, loads are forecasted to be low, and plant availability is high, we have offered baseload units into MISO as economic, making them available to be de-committed. In several instances coal units offered with an "Economic" status have been de-committed by MISO.

In addition, Xcel Energy continually evaluates opportunities to provide resource flexibility to MISO, which may lessen the need to self-commit and self-schedule units. Widening unit dispatch ranges, improving unit start capabilities, reducing cycling times, and exploring nuclear flexible operations gives MISO more opportunities to commit and dispatch our units economically.

Xcel Energy also seeks market changes that will accommodate better economic commit and dispatch opportunities. The development of a multi-day financial commitment market design in MISO will optimize these long lead resources, such as coal units, across multiple days while still honoring their operating parameters. A multi-day commitment process is able to evaluate reliability risks and minimize total production costs over a longer time horizon, making it a superior process and better suited to also optimize baseload resources with slower start-up times and longer minimum down times. Without a multi-day commitment there is less assurance that the market will commit and de-commit these units in an optimal manner on behalf of customers. Xcel Energy has been and remains an advocate for a multi-day commitment process for multiple years. At this time, MISO anticipates that the multi-day commitment process enhancement for the market will be delayed until the fourth quarter of 2021.

CONCLUSION

We respectfully request that the Commission accept this filing in compliance with the November 13, 2019 ORDER ACCEPTING 2017-2018 ELECTRIC REPORTS AND SETTING ADDITIONAL REQUIREMENTS in Docket No. E999/AA-18-373 and Commission's February 7, 2019 ORDER ACCEPTING 2016-2017 REPORTS AND SETTING ADDITIONAL REQUIREMENTS in Docket Nos. E999/AA-17-492 and E999/AA-18-373.

Dated: February 28, 2020

Northern States Power Company

CERTIFICATE OF SERVICE

I, Paget Pengelly, hereby certify that I have this day served copies of the foregoing document on the attached list of persons.

xx by depositing a true and correct copy thereof, properly enveloped with postage paid in the United States mail at Minneapolis, Minnesota

xx electronic filing

DOCKET No. E999/CI-19-704

Dated this 28th day of February 2020

/s/

Paget Pengelly
Regulatory Administrator

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