

BEFORE THE MINNESOTA PUBLIC UTILITIES COMMISSION

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

In the Matter of an Investigation into Self-Commitment and Self-Scheduling of Large Baseload Generation Facilities

ISSUE DATE: December 1, 2021

DOCKET NO. E-999/CI-19-704

ORDER ACCEPTING REPORTS AND SETTING ADDITIONAL REQUIREMENTS

PROCEDURAL HISTORY

On November 13, 2019, the Commission required Northern States Power Company d/b/a Xcel Energy (Xcel Energy), Minnesota Power, and Otter Tail Power Company (Otter Tail) to submit annual compliance filings analyzing seasonal dispatch and economic commitments for the three companies' coal-fired generating plants.¹

On January 11, 2021, the Commission found the March 2020 filings by Xcel Energy, Minnesota Power, and Otter Tail were adequate. The Commission also asked the three companies to provide specific information in their March 2021 filings and to provide information on economic or seasonal dispatch relative to self-scheduling at coal-fired generating plants.²

On February 1, 2021, Minnesota Power filed its compliance report for July 2018 through December 2019 with the Commission.

On March 1, 2021, Xcel Energy, Minnesota Power, and Otter Tail filed their annual compliance reports for 2020 with the Commission.

¹ *In the Matter of the Review of the 2017-2018 Annual Automatic Adjustment Report for All Electric Utilities*, Docket No. E-999/AA-18-373, Order Accepting 2017-2018 Electric Reports and Setting Additional Requirements (Nov. 13, 2019).

² Order Evaluating Self-Commitment and Self-Scheduling Reports and Establishing Additional Filing Requirements (Jan. 11, 2021). This order was concurrently filed *In the Matter of the Petition of Northern State Power Company for Approval of a Plan to Offer Generating Resources into the MISO Market on a Seasonal Basis*, Docket No. E-002/M-19-809.

On April 30, 2021, the Department of Commerce, Division of Energy Resources (the Department), Fresh Energy, and Sierra Club filed comments in response to the three companies' annual compliance reports.

By June 15, 2021, reply comments were received from the following:

- Xcel Energy,
- Minnesota Power,
- Otter Tail,
- The Department,
- Fresh Energy,
- Sierra Club, and
- Office of the Attorney General—Residential Utilities Division (OAG).

On October 14, 2021, this matter came before the Commission.

FINDINGS AND CONCLUSIONS

I. Summary

In this order, the Commission approves Xcel Energy's, Minnesota Power's, and Otter Tail's annual compliance reports filed through March 2021. Moving forward, the Commission asks the three utilities to continue submitting compliance filings, though with additional reporting requirements moving forward.

II. Background on Dispatch Options

Midcontinent Independent System Operator (MISO) operates the power grid across 15 states and the Canadian province of Manitoba. The MISO markets identify the supply of electric generation available throughout the MISO region and the anticipated demand for electricity in each area. On an ongoing basis, MISO selects generators for dispatch to minimize overall costs to the system while meeting reliability requirements.

Operators of electric generators (e.g. coal, wind, hydro, and natural gas power plants) offer power supply for dispatch in the MISO market in various ways. One option is economic dispatch, where a utility specifies the production cost of its generator and MISO dispatches the unit only if the market price meets or exceeds the unit's production cost. Ideally, economic dispatch results in the selection of the least expensive generating resources, minimizing the cost of electricity.

Another option intended to optimize economic production is seasonal dispatch, where the normal operations of an electric generator are suspended during uneconomic periods, except if needed for reliability or an emergency.

On the other hand, an electric generator may be set for self-commitment dispatch, which allows a market participant to request MISO commit a particular unit to run, regardless of market price. An alternate option is self-schedule dispatch, where an operator commits a fixed minimum

amount of energy, per hour, to the market from a generating unit—under this process, the utility must accept the market price of electricity up to its commitment.³ Both self-commitment and self-schedule dispatch may result in a loss to an operator if the wholesale market price of electricity is below the operating cost of the electric generator.

Self-committed and self-scheduled electric generators may displace more economical generating resources, typically renewables such as wind and solar. Since 2019, the Commission has required Xcel Energy, Minnesota Power, and Otter Tail to annually report on their self-commitment and self-scheduling of coal-fired generating plants. Because the data produced in these reports uses a consistent methodology, it allows for a meaningful comparison of self-commitment and self-scheduling from year to year.

III. Xcel Energy

Xcel Energy filed its annual compliance report on March 1, 2021. In its filing, Xcel Energy highlighted the steps it has taken to economically commit its coal-fired, baseload generating plants within the bounds of maintaining reliability and operability.

A. Positions of the Parties

1. Xcel Energy's Report

In 2020, Xcel Energy began seasonably dispatching its Allen S. King Plant and Sherburne County Generating Station (Sherco) Unit 2. It also reached an agreement with the Southern Minnesota Municipal Power Agency, the co-owner of Sherco Unit 3, on combining their shares in the plant into a single offering for the MISO market and submitting the plant for economic dispatch in the future.

Xcel Energy noted it was unable to economically dispatch Sherco Unit 1 at this time. First, the plant provides steam for cold startup of the other Sherco units and building heating. Second, Sherco Unit 1 is used to provide steam to Liberty Paper, Inc., a large paper recycler in Becker Minnesota. Xcel Energy noted that the length of this contractual relationship and the costs of maintaining the steam system are not part of its base rates. Because of this ongoing need for steam, Xcel Energy was in the process of replacing two auxiliary boilers at Sherco.

2. Fresh Energy

Fresh Energy argued Xcel Energy's report would have been more complete had it provided analysis on economically dispatching Sherco Unit 1. However, it appreciated the need to run Sherco Unit 1 to generate steam to maintain the overall facility and to meet the requirements of the Liberty Paper, Inc. contract.

Fresh Energy believed it would be helpful if Xcel Energy submitted additional compliance filings providing updates on the replacement of two auxiliary boilers, which could allow for the economic dispatch of Sherco Unit 1 in the future.

³ If the self-schedule is less than the electric generator's maximum output, the generator may be dispatched above the self-schedule on an economic basis.

B. Commission Action

Having reviewed the record in this proceeding, the Commission will find Xcel Energy's annual compliance report for 2020 is adequate and meets the filing requirements. In the previous order in this docket issued on January 11, 2021, the Commission stated its goals in requiring these filings:

The Commission required the utilities to submit self-commitment and self-scheduling reports in order to analyze the potential options and strategies for seasonal dispatch and economic commitment of baseload coal-fired generating plants, along with potential barriers or limitations to these options.⁴

Because of the annual filing, the Commission has an assurance Xcel Energy has considered the economic dispatch of its coal-fired generating plants. More significantly, the Commission has had the opportunity to observe the significant steps Xcel Energy has taken toward committing its coal-fired generating plants for economic dispatch. These steps have included working with the Southern Minnesota Municipal Power Agency to combine their offers for Sherco Unit 3 to MISO and economically dispatch the unit in the future.

The Commission appreciates Xcel Energy's explanation for why Sherco Unit 1 cannot be economically dispatched at this time and understands the replacement of two auxiliary boilers may affect this moving forward. The Commission agrees with Fresh Energy that updates regarding the boiler replacement will be helpful in this docket moving forward and, therefore, will require additional filings about when milestones are reached, including completion of boiler construction, permitting, and decisions with Liberty Paper, Inc. relating to the sources of steam. These milestones are significant, clear, and will be of help to all the parties.

IV. Minnesota Power

Minnesota Power filed the information for its annual compliance reports on February 1, 2021, and March 1, 2021. Minnesota Power emphasized the steps it had taken at the Boswell Energy Center (Boswell), a coal-fired, baseload generating plant.

A. Positions of the Parties

1. Minnesota Power's Report

Minnesota Power considered economic dispatch in relation to Boswell Unit 3 and Unit 4. It expected to begin economic dispatch of Boswell Unit 3 starting July 1, 2021, and shortly thereafter, to reduce the operational minimum from 175 megawatts (MW) to 75 MW. In addition, Minnesota Power was working with WPPI Energy, the co-owner of Boswell Unit 4, on combining their offerings in the MISO market and limiting the unit to economic dispatch as much as reasonably possible.

⁴ Order Evaluating Self-Commitment and Self-Scheduling Reports and Establishing Additional Filing Requirements (Jan. 11, 2021). This order was concurrently filed *In the Matter of the Petition of Northern State Power Company for Approval of a Plan to Offer Generating Resources into the MISO Market on a Seasonal Basis*, Docket No. E-002/M-19-809.

Minnesota Power, however, highlighted several obstacles to limiting Boswell Unit 3 and Unit 4 to purely economic dispatch at this time. First, Minnesota Power emphasized the need for at least one unit to provide heat and steam to the plant. Second, it emphasized the need to have some certainty over its coal volume to limit potential liquidated damages due to over-commitment under its existing contracts. Third, it emphasized the need to run units for at least three to five days in some instances to ensure compliance with emission limitations.⁵

Minnesota Power also mentioned its broad concerns related to Boswell's position in the transmission system in Northern Minnesota. Based on its experience from both Boswell units being offline, it believed some amount of local short circuit capability and voltage support was necessary to provide a continuous and predictable source of electricity to its customers. Despite these concerns, Minnesota Power was committed to exploring the issue and had already commissioned a consultant to provide a detailed assessment of the system and recommend long-term solutions.

2. Fresh Energy

Fresh Energy believed Minnesota Power's filing was adequate and complete. It underscored Minnesota Power's progress on economic commitment over the past year, including considering economically dispatching both Boswell units depending on the weather.

In addition, Fresh Energy appreciated Minnesota Power's exploration of the transmission system issues and asked for additional information related to the consultant and requested the study be filed with the Commission.

B. Commission Action

Having reviewed the record in this proceeding, the Commission will find Minnesota Power's annual compliance reports for 2019 and 2020 were adequate and met the filing requirements. Minnesota Power has provided the Commission with sufficient information to analyze the seasonal dispatch and economic dispatch of Boswell in 2020 and onward.

Notably, Minnesota Power identified potential reliability issues with the transmission system related to economically dispatching both Boswell Unit 3 and Unit 4. Minnesota Power has proactively taken steps to hire a consultant to assess the situation and recommend long-term solutions. For the benefit of all, the Commission will require Minnesota Power to file information—at a minimum the request for proposals or solicitation used to select a consultant and the scope of work for the study—within 10 days of this order. Providing more parties with access to that information now, will serve as a potential start for a more detailed and sophisticated analysis of economic and seasonal dispatch options moving forward.

V. Otter Tail

Otter Tail filed its annual compliance report for 2020 on March 1, 2021. Otter Tail analyzed two of its coal-fired generating plants: Big Stone, which is fueled by Power River Basin coal railed-in

⁵ Minnesota Power explained every third to fifth start-up may require a longer run time to ensure compliance with the 30-day rolling average permit requirement.

from Wyoming, and Coyote Station, a mine-mouth generating plant adjacent to a lignite coal mine in North Dakota.

A. Positions of the Parties

1. Otter Tail's Report

Otter Tail noted that both plants included multiple co-owners and dispatched energy into both MISO and the Southwest Power Pool (SPP), which do not coordinate with each other.⁶ Additionally, market prices are higher in SPP than in MISO, which affects the amount of time Big Stone and Coyote Station are dispatched. Despite these issues, Otter Tail had reached an agreement with the other co-owners to economically dispatch both Big Stone and Coyote Station when feasible. Notably, Otter Tail and the co-owners of Coyote Station moved forward the date to begin economic dispatch to mid-April 2021, and on May 1, 2021, Coyote Station was economically decommitted for the first time.

2. Fresh Energy

Fresh Energy appreciated the agreements with the co-owners of Big Stone and Coyote Station to economically dispatch both plants. Fresh Energy, however, believed Otter Tail could provide additional production cost modeling.

3. Sierra Club

Sierra Club focused on the operation of Big Stone and Coyote Station in 2020. It noted both were uneconomically self-committed a majority of the time, resulting in significant revenue loss at both plants. Sierra Club suggested the Commission should require Otter Tail to address these issues in its upcoming integrated resource plan.

Sierra Club also raised specific issues with Coyote Station. It concluded the co-ownership arrangements impeded economic commitment of Coyote Station in 2020. Additionally, it found the mine-mouth coal contract was one of the most restrictive third-party coal mining agreements signed in 2012 or thereafter, placing a significant risk on ratepayers.

4. OAG

OAG raised issues with the operation of Coyote Station, which it concluded ran at a loss for 85% of its hours. OAG emphasized that these issues would be exacerbated moving forward because of Otter Tail's own projections of a significant capacity surplus in the near term. Because of the issues, OAG asked Otter Tail to take steps to consider the divestment of Coyote Station in the near future in its integrated resource plan.

Furthermore, OAG took issue with Otter Tail's coal contract, which is for a 25-year period and imposes a large, fixed cost on the facility. OAG contends the environmental regulatory risk over that period should have been calculated into the contract.

⁶ SPP oversees the bulk electric grid and wholesale power market in the central United States on behalf of a diverse group of utilities and transmission companies in 17 states.

B. Commission Action

Having reviewed the record in this proceeding, the Commission will find Otter Tails' annual compliance report for 2020 was adequate and met the filing requirements. Otter Tail has provided the required information and complied with the filing requirements.

The Commission appreciates the comments from Sierra Club and OAG related to Otter Tail's continued operation of Big Stone and Coyote Station—any issue that poses a significant risk to ratepayers deserves the Commission's attention. The current docket, however, though rich in information is not intended to address any and all issues related to Otter Tails' coal-fired generating plants. The issues raised by the Sierra Club and OAG will continue to be developed in Otter Tail's upcoming integrated resource plan and other contexts as well.

VI. Additional Reporting

A. The Department

The Department explained that economic dispatch has multiple benefits. To track these benefits moving forward, the Department suggested the Commission require Xcel Energy, Minnesota Power, and Otter Tail to provide additional information about the economic and environmental effects of economic dispatch in future filings. Fresh Energy supported the Department's recommendations.

B. Commission Action

The Commission has previously noted its investigation into the potential for seasonal and economic dispatch may require additional analysis. The Commission previously required Xcel Energy, Minnesota Power, and Otter Tail to provide supplemental information to what was initially required in the order in this docket from January 11, 2021, which has helped shape the current 2021 compliance filings and ensured their value.

The Commission believes even more information will be helpful moving forward and, in addition to the previous requirements, will order Xcel Energy, Minnesota Power, and Otter Tail to provide additional environmental data, specifically information on annual carbon dioxide emissions, and economic data as explicitly outlined below.

ORDER

1. The Commission finds that Northern States Power Company's d/b/a Xcel Energy (Xcel Energy) March 1, 2021, filing for 2020 in this docket is adequate and met the filing requirements.
2. The Commission directs Xcel Energy in its next annual report in this docket to update the Commission and stakeholders when milestones in the Sherburne County Generating Station (Sherco) auxiliary boiler project are reached, including: completion of boiler construction; approval, denial, or delay of the Air Emission Permit Amendment;

decisions made by Xcel Energy and/or Liberty Paper, Inc. relating to the sources of steam used by Liberty Paper, Inc.; and updates to the feasibility and use of economic commitment at Sherco Unit 1.

3. The Commission finds that Minnesota Power's February 1, 2021, updated filing of 2019 data is adequate and met the filing requirements.
4. The Commission finds that Minnesota Power's March 1, 2021, filing in this docket for 2020 is adequate and met the filing requirements.
5. The Commission directs Minnesota Power, within 10 days of this Order, to make a compliance filing that provides more information about the system strength study that Minnesota Power has commissioned a consultant to complete. This filing should include, at a minimum, the request for proposal or solicitation used to select a consultant and the scope of work for the study.
6. The Commission directs Minnesota Power to file the system strength study in this docket when completed.
7. The Commission finds that Otter Tail Power Company's March 1, 2021, filing for 2020 in this docket is adequate and met the filing requirements.
8. The Commission carries forward all the requirements from prior orders in Docket Nos. E-999/AA-18-373 and E-999/CI-19-704 and requires inclusion of the following in future reports:
 - a. Information on annual carbon dioxide emissions,
 - b. Reasons for unavoidable self-commit status designations,
 - c. Plant startup conditions (e.g. cold, warm, or hot),
 - d. Equivalent Forced Outage Rate information to be tracked over time, and
 - e. Descriptions of changes to operating procedures and physical modifications to units to ensure plants are becoming more flexible to meet upcoming challenges as applicable.
9. The Commission directs Xcel Energy, Minnesota Power, and Otter Tail to develop a methodology, that is consistent to the extent possible, for splitting fuel costs such that one part depends on the megawatt-hour (MWh) production (i.e. variable cost) and the other part is independent of the MWh generated (i.e. fixed cost) and update the reporting template accordingly.

10. The Commission requires the utilities to work together to develop a consistent method for estimating the best-case and worst-case potential for economic commitment for each plant.
11. This order shall become effective immediately.

BY ORDER OF THE COMMISSION



Will Seuffert
Executive Secretary



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CERTIFICATE OF SERVICE

I, Chrishna Beard, hereby certify that I have this day, served a true and correct copy of the following document to all persons at the addresses indicated below or on the attached list by electronic filing, electronic mail, courier, interoffice mail or by depositing the same enveloped with postage paid in the United States mail at St. Paul, Minnesota.

Minnesota Public Utilities Commission
ORDER ACCEPTING REPORTS AND SETTING ADDITIONAL
REQUIREMENTS

Docket Number **E-999/CI-19-704**

Dated this 1st day of December, 2021

/s/ Chrishna Beard

First Name	Last Name	Email	Company Name	Address	Delivery Method	View Trade Secret	Service List Name
Alison C	Archer	aarcher@misoenergy.org	MISO	2985 Ames Crossing Rd Eagan, MN 55121	Electronic Service	No	OFF_SL_19-704_Official
Generic Notice	Commerce Attorneys	commerce.attorneys@ag.state.mn.us	Office of the Attorney General-DOC	445 Minnesota Street Suite 1400 St. Paul, MN 55101	Electronic Service	Yes	OFF_SL_19-704_Official
Brooke	Cooper	bcooper@allete.com	Minnesota Power	30 W Superior St Duluth, MN 558022191	Electronic Service	No	OFF_SL_19-704_Official
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Bruce	Gerhardson	bgerhardson@otpc.com	Otter Tail Power Company	PO Box 496 215 S Cascade St Fergus Falls, MN 565380496	Electronic Service	No	OFF_SL_19-704_Official
Allen	Gleckner	gleckner@fresh-energy.org	Fresh Energy	408 St. Peter Street Ste 220 Saint Paul, Minnesota 55102	Electronic Service	Yes	OFF_SL_19-704_Official
Kim	Havey	kim.havey@minneapolismn.gov	City of Minneapolis	350 South 5th Street, Suite 315M Minneapolis, MN 55415	Electronic Service	No	OFF_SL_19-704_Official
Adam	Heinen	aheinen@dakotaelectric.com	Dakota Electric Association	4300 220th St W Farmington, MN 55024	Electronic Service	No	OFF_SL_19-704_Official
Kristin	Henry	kristin.henry@sierraclub.org	Sierra Club	2101 Webster St Ste 1300 Oakland, CA 94612	Electronic Service	No	OFF_SL_19-704_Official
Holly	Lahd	holly.lahd@target.com	Target Corporation	33 South 6th St CC-28662 Minneapolis, MN 55402	Electronic Service	No	OFF_SL_19-704_Official

First Name	Last Name	Email	Company Name	Address	Delivery Method	View Trade Secret	Service List Name
Leann	Oehlerking Boes	lboes@mnpower.com	Minnesota Power	30 W Superior St Duluth, MN 55802	Electronic Service	No	OFF_SL_19-704_Official
Generic Notice	Residential Utilities Division	residential.utilities@ag.state.mn.us	Office of the Attorney General-RUD	1400 BRM Tower 445 Minnesota St St. Paul, MN 551012131	Electronic Service	Yes	OFF_SL_19-704_Official
Isabel	Ricker	ricker@fresh-energy.org	Fresh Energy	408 Saint Peter Street Suite 220 Saint Paul, MN 55102	Electronic Service	Yes	OFF_SL_19-704_Official
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