

July 23, 2020

Will Seuffert  
Executive Secretary  
Minnesota Public Utilities Commission  
121 7<sup>th</sup> Place East, Suite 350  
Saint Paul, Minnesota 55101-2147

RE: **Comments of the Minnesota Department of Commerce, Division of Energy Resources**  
Docket No. E999/CI-19-704

Dear Mr. Seuffert:

Attached are the Comments of the Minnesota Department of Commerce, Division of Energy Resources (Department), in the following matter:

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

The Department recommends that the Minnesota Public Utilities Commission (Commission) **take certain actions on a going-forward basis**. The Department is available to answer any questions that the Commission may have in this matter.

Sincerely,

/s/ STEVE RAKOW  
Analyst Coordinator

SR/ja  
Attachment



**Before the Minnesota Public Utilities Commission**  

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**Comments of the Minnesota Department of Commerce**  
**Division of Energy Resources**

Docket No. E999/CI-19-704

**I. INTRODUCTION**

On November 13, 2019, the Minnesota Public Utilities Commission (Commission) issued its *Order Accepting 2017-2018 Electric Reports and Setting Additional Requirements* (2019 Order) in Docket No. E999/AA-18-373. In the 2019 Order the Commission included the following Order Points (footnote omitted):

8. 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, [sic] (shared ownership, steam offtake contracts, minimum fuel supply requirements, etc.) as relevant, on March 1, 2020, and each year thereafter.
9. 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 [Midcontinent Independent System Operator, Inc.] energy markets.
10. In the investigation docket, Minnesota Power, Otter Tail, and Xcel shall provide stakeholders with the underlying data (work papers) used to complete their analyses, in a live Excel spread sheet, including, at a minimum, the data points listed below for each generating unit, with the understanding that this may include protected data.

Hourly data for all units:

- a) Date and hour
- b) Commit status (Null / Economic / Emergency / Must Run / Outage / Not Participating)
- c) Dispatch Status for Energy (Null / Economic / Self Schedule)
- d) Cleared MW
- e) Day ahead locational marginal price at unit node
- f) Real time MW adjustment

- g) Real time locational marginal price at unit node
- h) Day ahead dispatch minimum
- i) Real time dispatch minimum
- j) Fuel cost (\$/MWh)
- k) Variable operations and maintenance costs (\$/MWh)
- l) Day ahead locational marginal price representative of utility load zone
- m) Real time locational marginal price representative of utility load zone
- n) Whether Day Ahead Cleared = Day Ahead Dispatch Minimum (0 or 1)
- o) Actual production in MWh (for all 8,760 hours of the year)
- p) Day ahead MISO payment
- q) Real time MISO payment
- r) Net MISO energy payment
- s) Production costs  $((J+K) * O)$
- t) Net cost or benefit  $(R-S)$

Monthly or annual data for all units:

- u) Revenue from ancillary services (Monthly)
- v) Fixed operations and maintenance costs (preferably monthly) or reasonable estimates in approximation thereof
- w) Capital revenue requirements (annual) or reasonable estimates in approximation thereof
- x) Average heat rate at economic minimum
- y) Average heat rate at economic maximum

On December 13, 2019, the Commission issued its *Notice of Comment Period* (Notice) in the instant docket. The Notice established comment periods regarding procedural issues.

In response to the Notice, on January 13, 2020, procedural comments were filed by:

- City of Minneapolis;
- Fresh Energy;
- Minnesota Department of Commerce, Division of Energy Resources (Department);
- Minnesota Office of the Attorney General—Residential Utilities Division;
- Minnesota Power, a public utility operating division of ALLETE, Inc. (Minnesota Power);
- Northern States Power Company, doing business as Xcel Energy (Xcel);
- Otter Tail Power Company (Otter Tail); and
- Sierra Club.

On January 28, 2020, reply comments were filed by Minnesota Power, Otter Tail, and Xcel.

On February 28, 2020 Xcel filed its *Annual Report* (Xcel Report). The Xcel Report provided data regarding:

- Allen S. King Generating Station (King);
- Monticello Nuclear Generating Station (Monticello);
- Prairie Island Nuclear Generating Station (Prairie Island) units 1 and 2; and
- Sherburne County Generating Station (Sherco) units 1, 2, and 3.<sup>1</sup>

On March 2, 2020 Minnesota Power filed its *Annual Compliance Filing* (MP Report). The MP Report provided data regarding Boswell Energy Center (Boswell) units 3 and 4.<sup>2</sup> Also, Otter Tail filed its *Annual Compliance Filing* (OTP Report) as well. The OTP Report provided data regarding the Big Stone Plant (Big Stone) and Coyote Station (Coyote).<sup>3</sup>

Table 1 below shows the ownership arrangements for Big Stone and Coyote.

**Table 1: OTP Unit Ownership Arrangements**

Utility	Big Stone Ownership Share	Coyote Ownership Share	ISO Membership
<b>Otter Tail Power Company</b>	53.9%	35.0%	MISO
<b>Montana Dakota Utilities</b>	22.7%	25.0%	MISO
<b>NorthWestern Energy</b>	23.4%	10.0%	SPP
<b>Minnkota Power Cooperative</b>	0.0%	30.0%	MISO

On May 4, 2020 the Commission issued its *Order Clarifying Filing Requirements and Schedule*.

On May 5, 2020 Sierra Club requested a one-week extension to the comment deadline, to June 8, 2020.

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<sup>1</sup> Regarding Sherco unit 3, Southern Minnesota Municipal Power Agency (SMMPA) owns 41 percent and Xcel owns the remainder. SMMPA serves 18 municipal electric utilities in Minnesota.

<sup>2</sup> Regarding Boswell unit 4, WPPI Energy owns 20 percent and Minnesota Power owns the remainder. WPPI Energy serves 51 cooperative and municipal electric utilities.

<sup>3</sup> Note that NorthWestern Energy provides electric and/or natural gas services to 349 cities in the western two-thirds of Montana, eastern South Dakota and central Nebraska. Montana-Dakota Utilities is a subsidiary of MDU Resources Group, Inc., a company providing retail natural gas and/or electric service to parts of Montana, North Dakota, South Dakota and Wyoming. Minnkota Power Cooperative serves as operating agent for the Northern Municipal Power Agency; Northern Municipal Power Agency actually owns the share of Coyote and serves 12 municipal electric utilities in eastern North Dakota and northwestern Minnesota.

On May 11, 2020 the Commission granted Sierra Club's request.

On June 8, 2020 comments were filed by:

- Sierra Club;
- Fresh Energy; and
- Minnesota Department of Commerce, Division of Energy Resources (Department).

On June 10, 2020, the Commission issued its *Notice of Extended Reply and Response Comment Period* (Second Notice). The Second Notice established reply and response comment periods regarding the following issues:

- Are the March 1, 2020 filings by the utilities adequate?
- What conclusions can be drawn from the data filed by the utilities on March 1, 2020 in conjunction with what has been learned earlier in this investigation?
- How should the Commission use the information provided by the utilities in this docket going forward?
- Should the Commission require the utilities to evaluate any specific facilities for economic commitment?
- Should the Commission establish enforcement procedures for this issue?
- Are there other issues or concerns related to this matter?

On July 8, 2020 reply comments were filed by the Department, Minnesota Power, Otter Tail, and Xcel.

The Department's previous comments requested that the utilities explain the phenomenon of dispatching above the minimum even when a unit was not economic.

Below are the Department's response comments to the utilities' reply comments.

## **II. DEPARTMENT ANALYSIS**

Below, the Department summarizes the utilities' reply comments, and then provides a suggested additional reporting requirement to help the Commission and stakeholders better understand the full financial consequences of unit dispatch.

### **A. MINNESOTA POWER REPLY**

First, regarding economic or seasonal dispatch, Minnesota Power stated "In Minnesota Power's IRP [Integrated Resource Plan] extension request filed May 29, 2020 (Docket No. E015/RP-15-690, E015/M-17-568, and E015/GR-16-664) the Company committed to file on December 1, 2020, an interim report on the operating requirements and impacts of utilizing economic dispatch at each Boswell unit." Minnesota Power indicated that it prefers to provide the analysis in the IRP process

because “[t]here is a need to understand the reliability of the transmission system infrastructure and the Integrated Resource Plan is a better platform to conduct that analysis and make those resource operating decisions.”

The Department continues to recommend that decisions regarding economic or seasonal dispatch be made in this proceeding. First, the Department agrees that issues regarding reliability should be considered as part of the overall benefit-cost analysis regardless of the forum. Also, the Department agrees that some forums are better than others for certain issues. Second, this process was created specifically to address dispatch decisions at baseload units. Third, Minnesota Power’s IRP will be somewhat complicated already—having to address retirement decisions for Boswell units 3 and 4. Moving the dispatch analysis to the IRP will serve to make the IRP more complicated. Fourth, Minnesota Power has only committed to providing an “interim update” in the IRP; interim updates do not elicit the full review that is done on the final analysis. Finally, Minnesota Power has requested a substantial delay in filing the IRP.<sup>4</sup> Even if Minnesota Power’s request is not granted, the Department’s computers that run EnCompass—the resource planning model—will not be available until after the Xcel IRP is completed. Due to the complexity of Xcel’s IRP the Department expects significant delays in processing Xcel’s IRP, and thus analysis of Minnesota Power’s IRP will also be delayed if it were to be filed on the current due date. Thus, for a timely dispatch decision to be made, a forum other than Minnesota Power’s next IRP is necessary.

Second, Minnesota Power provided two basic reasons for uneconomic dispatch above the minimum.

The first is that both Boswell Units 3 & 4 participate in the MISO Ancillary Services Market. MISO clears ancillary products (spinning reserves, supplemental reserves, and regulation) when needed, which makes the clearing appear uneconomic.

The other reason for the appearance that MISO uneconomically dispatched a unit is due to the fact that an incremental offer curve is utilized which is based on an estimated cost of fuel. In the analysis Minnesota Power provided as Attachment 1 of the March 2, 2020 Compliance filing the unit fuel was based on actual fuel costs and not incremental fuel costs.

#### *B. OTTER TAIL REPLY*

First, regarding economic or seasonal dispatch, Otter Tail stated that “in April of this year, Otter Tail and its co-owners finalized a plan that now allows Big Stone to be offered into both the MISO and SPP markets on an economic basis when feasible for all owners of the plant.”

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<sup>4</sup> See Minnesota Power’s May 29, 2020 petition in Docket Nos. E015/RP-15-690, E015/M-17-568, and E015/GR-16-664.

Second, regarding uneconomic dispatch above the minimum Otter Tail stated that “MISO determines economic dispatch and associated unit clearing levels above a unit’s self-commitment when offered economically.” Otter Tail offered the following reasons why the phenomenon of MISO dispatching above the minimum output may occur even when a unit is not economic:

1. MISO has chosen to dispatch a unit for reliability purposes (the losses would be covered by make-whole payments);
2. MISO actually utilizes a three-part economic offer [startup costs, no-load costs, and variable energy costs] for each unit. The sum of these three offer components represents the variable costs associated with committing the plant and generating output. Under a must-run commitment, MISO is not obligated to make the unit whole to its three-part offer. Instead MISO dispatches the unit above its economic minimum, or self-schedule, based only on one (variable energy costs) of the three offer components.
3. Both Big Stone and Coyote are co-owned units operating in multiple wholesale energy markets. Otter Tail’s variable energy offer assumes that each co-owner’s share is being dispatched proportionally by its respective Independent System Operator (ISO).
4. Unit testing (e.g., for emissions compliance).
5. Physical configuration transitions required within a plant to move from one operating level to another operating level. Those transitions take time and may not be advisable in response to abrupt price changes.
6. The ramp rate of the unit is not fast enough to keep up with volatile locational marginal prices.
7. The unit has dropped to minimum output levels, but the actual energy output slightly fluctuates moment to moment, resulting in real time production slightly higher than minimum output.
8. The unit is ramping online or offline.

*C. XCEL REPLY*

First, regarding economic or seasonal dispatch, Xcel agreed to provide the analysis of alternatives for both Sherco 1 and 3 in the next annual report due on March 1, 2021. However, Xcel noted that it cannot commit to making dispatch changes at Sherco 3 unless SMMPA, the unit’s co-owner, agrees.

Second, regarding uneconomic dispatch above the minimum Xcel stated that:

When MISO commits generating units, they look at the economics of a generator across the *entire operating day*. As required, our report provides the final settled hourly data by unit, but analyzing the economics of each market hour independently does not take into account the full picture that results from examining a full day. . . .

[I]nstances of non-discretionary self-commitment or self-dispatch must be taken into consideration. For example, environmental testing is frequently conducted at specific generating levels . . . A generating unit cannot be dispatched by the market when in startup mode – it has to (initially) raise output according to design specifications, clarity of water in boiler tubes, and other specifications without regard to locational marginal price (LMP). . . . [M]aintenance issues can arise which require a “raised minimum,” where a unit may not be able to reduce output, particularly issues with environmental controls.

Similar to Otter Tail, Xcel noted that:

MISO recognizes that not all hours will be economic during a generator’s minimum run by including “make whole payments” in their market design. If MISO has chosen to economically commit a unit (as opposed to utility self-commit), and if the generator has followed dispatch instructions and market rules, MISO will guarantee that the unit receives payment to cover its variable costs across the entire generating unit commit period with make whole payments.

Based upon this information, the Department notes that a review of detailed information regarding the make-whole payments associated with each generating unit may provide further insight into the consequences of dispatch decisions. Therefore, the Department recommends that the Commission consider whether information regarding make-whole payments would be a helpful supplement to better understand the full financial consequences of unit dispatch.

### **III. CONCLUSION AND RECOMMENDATIONS**

The Department offers the following revised recommendations.

#### ***A. RECOMMENDATION FOR COMPLIANCE FILING***

To remedy various differences still present in the calculations and data reporting, the Department recommends that the Commission require the utilities to file a compliance filing within 60 days of the Commission’s order containing an Excel spreadsheet of the required data, with formulas intact, that the utilities will fill out for each unit in future filings, including clear definitions of the inputs. As part of developing this spreadsheet, the Department recommends that the Commission determine if:

- a breakdown into unit fuel cost and unit variable O&M cost is necessary or if only a total variable cost is necessary;
- ancillary services revenues should be included in the overall calculation of hourly net benefit / (cost);



- data regarding unavoidable self-commitment should be added to the utilities' filings in the future; and
- information regarding make-whole payments would be a helpful supplement to better understand the full financial consequences of unit dispatch.

The Department takes no position on the value of the new and/or changed inputs.

*B. RECOMMENDATIONS FOR NEXT YEAR'S FILINGS*

Regarding Minnesota Power, the Department recommends that the Commission require Minnesota Power to provide an analysis of the overall benefits and costs of alternatives, such as economic or seasonal dispatch, at Boswell unit 3 and Boswell unit 4 in the Company's next annual filing in this proceeding.

Regarding Otter Tail, the Department no longer recommends that the Commission require Otter Tail to provide an analysis of economic or seasonal dispatch at Big Stone. This is due to the fact that the co-owners decided that Big Stone will be offered into both the MISO and SPP markets on an economic basis when feasible for all owners of the plant.

Regarding Xcel, the Department recommends that the Commission require Xcel to provide an analysis of the overall benefits and costs of alternatives, such as economic or seasonal dispatch, at Sherco unit 1 and Sherco unit 3 in the Company's next annual filing in this proceeding.

Regarding all three utilities, the Department recommends that the Commission determine if information regarding make whole payments would be a helpful (either as part of the spreadsheet discussed above or separately).

/ja

### **CERTIFICATE OF SERVICE**

I, Linda Chavez, hereby certify that I have this day served copies of the following document on the attached list of persons by electronic filing, e-mail, or by depositing a true and correct copy thereof properly enveloped with postage paid in the United States Mail at St. Paul, Minnesota.

### **MINNESOTA DEPARTMENT OF COMMERCE – COMMENTS**

Docket Nos.   **E999/CI-19-704**

Dated this **23rd** day of **July, 2020**.

/s/Linda Chavez

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First Name	Last Name	Email	Company Name	Address	Delivery Method	View Trade Secret	Service List Name
Christopher	Anderson	canderson@allete.com	Minnesota Power	30 W Superior St  Duluth, MN 558022191	Electronic Service	No	OFF_SL_19-704_Official
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
Sharon	Ferguson	sharon.ferguson@state.mn.us	Department of Commerce	85 7th Place E Ste 280  Saint Paul, MN 551012198	Electronic Service	No	OFF_SL_19-704_Official
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
Douglas	Larson	dlarson@dakotaelectric.com	Dakota Electric Association	4300 220th St W  Farmington, MN 55024	Electronic Service	No	OFF_SL_19-704_Official
Leann	Oehlerking Boes	lboes@mnpower.com	Minnesota Power	30 W Superior St  Duluth, MN 55802	Electronic Service	No	OFF_SL_19-704_Official
Randy	Olson	rolson@dakotaelectric.com	Dakota Electric Association	4300 220th Street W.  Farmington, MN 55024-9583	Electronic Service	No	OFF_SL_19-704_Official

First Name	Last Name	Email	Company Name	Address	Delivery Method	View Trade Secret	Service List Name
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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Stuart	Tommerdahl	stommerdahl@otpc.com	Otter Tail Power Company	215 S Cascade St PO Box 496 Fergus Falls, MN 56537	Electronic Service	No	OFF_SL_19-704_Official
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