

June 15, 2021

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 Commerce Department, Division of Energy Resources**  
Docket No. E999/CI-19-704

Dear Mr. Seuffert:

Attached are the Comments of the Minnesota Commerce Department, 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/ ADWAY DE, PH.D.  
Energy Planner, Principal

AD/ja  
Attachment



## Before the Minnesota Public Utilities Commission

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

Docket No. E999/CI-19-704

#### I. INTRODUCTION

##### A. PROCEDURAL HISTORY

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:

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.

On January 11, 2021, the Commission issued its *Order Evaluating Self-commitment and Self-scheduling Reports and Establishing Additional Filing Requirements* approving the March 1, 2020 filings by Northern States Power Company, doing business as Xcel Energy (Xcel) and Otter Tail Power Company (Otter Tail) covering July 1, 2018 to December 31, 2019. The Commission also ordered Minnesota

Power to provide a more detailed filing for the same time period by February 1, 2021, and amended the requirements for the March 1, 2021 filings. Specifically, the Commission ordered:

1. A complete analysis of the costs and benefits of economic or seasonal dispatch relative to self-scheduling at six named facilities for Minnesota Power, Otter Tail, and Xcel.
2. Inclusion of ancillary services revenues and other make-whole payments as a separate column on all reporting on revenue.
3. Provision of unit fuel cost and unit variable cost as separate line items.
4. Inclusion of an analysis including fixed fuel costs, if any fuel costs are usually excluded by the utility from MISO offer curves or otherwise treated as fixed.
5. Include preventative maintenance in operations and maintenance (O&M) costs.
6. Label any hours with unavoidable self-commitment, including cause.
7. Analysis of self-commitment should include all production costs, including variable O&M, fuel, and other variable costs associated with the plant.
8. Provision of information including minimum decommit time for each unit, number of times each unit incurred losses over a duration greater than or equal to that minimum, which of those periods had losses greater than startup costs, and sum of losses in excess of startup costs.
9. Analysis of Economic Dispatch options for co-owned plants.
10. Analysis of benefits of reducing minimum operating levels.
11. Creation of a template by the utilities with party input to standardize future filings in this docket, for approval by the Executive Secretary.

On February 11, 2021, Minnesota Power filed a standardized hourly template on behalf of itself and the other utilities in compliance with the January 11, 2021 Order.

On February 22, 2021, the Commission approved the reporting template to be used by utilities for their annual compliance filing.

On March 1, 2021, Xcel, Otter Tail and Minnesota Power filed their second annual compliance filings covering January 1, 2020 to December 31, 2020. Xcel's 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> Minnesota Power's report provided data regarding Boswell Energy Center (Boswell) units 3 and 4.<sup>2</sup> Also, Otter Tail's report provided data regarding the Big Stone Plant (Big Stone) and Coyote Station (Coyote).

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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.

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

**Table 1. OTP Unit Ownership Arrangements<sup>3</sup>**

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 March 16, 2021, the Commission issued its Notice of Extension variance – Extended Comment Period which laid out the timeline for initial comments (April 30, 2021), reply comments (June 1, 2021) and response comments (June 15, 2021).

On April 30, 2021 comments were filed by:

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

On May 27, 2021 reply comments were filed by Minnesota Power.

On June 1, 2021 reply comments were filed by Xcel Energy (Xcel), Otter Tail Power Company (OTP) and the Office of the Attorney General.

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 the stakeholders better understand the full financial consequences of unit dispatch.

### *A. MINNESOTA POWER REPLY*

First, regarding fixed vs variable fuel costs, Minnesota Power explained their two-step process to calculate unit fuel costs. First, they calculate the average cost of coal inventory on hand each month.

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<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.

Second, this average cost of inventory value is then applied to the current month's coal burn to calculate unit fuel costs that were reported. All costs are counted as variable costs. This method implies unit fuel costs are calculated as an average fuel cost, and not the marginal fuel cost. The use of an average fuel cost in place of the marginal fuel cost should not be used to extrapolate costs in alternate scenarios with higher Economic Dispatch because, in an alternate scenario, the average cost of inventory would be different giving rise to a different unit fuel cost. However, using average fuel cost estimates to calculate profitability (or lack thereof) of running these plants under a must run commitment status is meaningful.

Second, the description of Minnesota Power's experience of putting Boswell Unit 3 on Economic Dispatch was helpful. The description highlighted technical challenges like delayed start up times, economic challenges through real time prices, communication practices, startup process improvements to ensure reliability, staff scheduling to assist with startup and maintenance strategies. As Minnesota Power learns from these experiences, it would be helpful to create quantitative metrics that can measure a unit's readiness for greater flexibility. Such metrics would be crucial to track a system's potential to integrate higher amounts of renewables while ensuring reliability.

Third, Minnesota Power is supportive of the Department's suggestion to include carbon dioxide emission reductions that arise from coal plants as they transition to greater Economic Commitment.

#### *B. OTTER TAIL REPLY*

First, regarding Economic Commitment status, Otter Tail stated Big Stone has been offered both into the MISO and SPP market on an economic basis since April of 2020. Otter Tail also stated that Coyote is also being offered in the MISO and SPP market on Economic Dispatch since March 8, 2021. These are moves in the right direction. To ensure least cost generation and greatest benefit for ratepayers, Otter Tail must minimize must run hours at these units.

Second, regarding fixed vs variable fuel costs, Otter Tail stated all of the fuel costs at Big Stone are variable. For the plant at Coyote, the mine operator had initially estimated how to split monthly invoices into fixed and variable costs. Otter Tail has used this estimated breakdown of fixed and variable costs to develop their MISO pricing offers. If the plant produced zero MWh, the plant would likely have to pay these fixed costs.

Third, Otter Tail explained that they maintain a diversified generation fleet with one mine mouth and one rail delivered coal generation plant. The way costs are split depend on the fuel source. While Big Stone is capable of taking advantage of a competitive market for its fuel, Coyote as a captive buyer has limited options. While this can mean lower supply risk, it can also lead to the mine extracting a large surplus from Otter Tail and hence its ratepayers.

Fourth, Otter Tail explained why its “all-in” cost of fuel on a per MWh basis is higher for Coyote compared to Big Stone. Since fewer tons of coal were burnt at Coyote, the cost on a per ton basis was higher due to fixed costs of the mine. The Department notes that this was during a year when the plant was operating on must run status for the entire year. This problem will only get worse as Coyote transitions to Economic Commitment. Furthermore, the fuel at Coyote has a lower heating value. These highlight systematic problems with the plant at Coyote that will continue to make its operation uneconomic under current locational marginal prices (LMP).

Fifth, regarding estimating possible savings from Economic Dispatch at Coyote, Otter Tail explained that it is not possible for them to look back and determine what offer status the company would have endorsed. Beginning March 8, 2021, Coyote Station co-owners agreed to allow for implementation of strategic applications of economic offers. Since that time, Otter Tail has been maintaining records of co-owner offer requests. As a result, moving forward from March 8, 2021, Otter Tail will be able to complete a similar analysis comparing actual Coyote Station operations against hours Otter Tail would have endorsed self-commitment.

Sixth, Otter Tail explained that reasons for must run commitment were not recorded until implementation of economic offer capability at both its units.

Seventh, regarding possible customer savings from Economic Commitment from Coyote during 2020, Otter Tail explained that Coyote’s fixed fuel costs will remain whether or not the unit is operated. Furthermore, Otter Tail’s share of Coyote Station (149.9 MW) is 106.1 MW lower than Otter Tail’s share of Big Stone Plant (256.0 MW). Given Coyote Station’s reduced capacity and fixed fuel costs, it is probable that total economic offer savings associated at Coyote Station would be less than the total economic offer savings at the Big Stone Plant. Estimating savings from implementation of an economic offer at Coyote Station for the 2020 reporting year would be very difficult.

Eight, regarding the increase in wind curtailment in 2020, Otter Tail explained the primary reason was low LMPs. There are multiple reasons that can cause low LMPs including must run coal plants. It is difficult for Otter Tail to comment on the specific impact of Big Stone Plant and Coyote Station self-commitment as it relates to Otter Tail’s purchased power agreement wind generation curtailment.

Ninth, Otter Tail is supportive of the Department’s suggestion to include carbon dioxide emission reductions that arise from coal plants as they transition to greater Economic Commitment.

Tenth, Otter Tail provided a list of reasons for unavoidable self-commitment at its coal plants. Otter Tail noted that the “significant number of must run hours with no explanation” were largely driven by the fact that Big Stone did not have economic offer capability until the end of April 2020 and Coyote only recently implemented economic offer capability in March of 2021.

Eleventh, Otter Tail is supportive of the Department’s suggestion to include plant startup conditions (cold, warm or hot) in future filings. Otter Tail suggested incorporating the startup data within the existing reporting template in coordination with the other utilities and stakeholders.

Twelfth, Otter Tail is supportive of the Department’s suggestion to supply Equivalent Forced Outage Rate (EFOR) information in next year’s filing.

Thirteenth, Otter Tail explained that the potential for renegotiation of the Coyote lignite supply agreement (LSA) is very complex and very limited. As per the current contract, if Otter Tail purchases less coal from the mine due to Economic Commitment of Coyote, the cost of fuel per MWh will increase further reducing profitability. Renegotiation of the fuel contract would require consensus among co-owners of the plant. As the co-owners have already decided to transition Coyote to Economic Commitment, renegotiation of the LSA might be one option to prevent an increase in losses by the co-owners.

Fourteenth, Otter Tail is supportive of the Department's suggestion to describe in their future filings, the changes to their operating procedures and physical modifications to their units to ensure these plants are becoming more flexible to meet the upcoming challenges.

Fifteenth, Otter Tail explained how in the current reporting template, they split fixed vs variable fuel costs. Otter Tail is also willing to change this if there is consensus among stakeholders about a different representation.

Sixteenth, regarding creation of benchmark scenarios, Otter Tail explained the worst-case scenario is straightforward. The best-case scenario is more complicated. Otter Tail appreciated the intent of the Department's request and agreed to the Department's recommendation that the utilities meet to determine a consistent methodology to calculate the best-case scenario. Otter Tail suggested a simplified best-case benchmark calculation process that would be representative of highly efficient commitment processes as opposed to one which ensures maximum net benefits.

### *C. XCEL REPLY*

Firstly, Xcel provided details about its steam contract with Liberty Paper, Inc. (LPI). Based on the Department review of Xcel's reply comments regarding the Liberty Paper Inc. (LPI) Contract, the Department does not consider this to be a significant concern at this time. Xcel noted that the steam was used for other purposes including heating for other Sherco plants and for cold start requirements. Additionally, there are protections to ensure construction cost and purchase power costs related to the LPI Contract are not paid for by ratepayers. The LPI Contract can also be served by other units, if needed, and there is a termination clause if needed. The LPI Contract allows LPI to provide for its process steam needs without installing a stationary emission source. Finally, Xcel agreed to be more precise to differentiate between steam usage by LPI and steam needed for plant operations in future annual reports in this docket.

Second, Xcel explained that average remaining unit fuel cost for Sherco units 1 and 2 were high because the Department calculated the average by weighting each hour the same. Instead Xcel proposed weighting them proportional to the MWh produced during that hour. The Department notes that this makes sense and would be a better methodology for calculating average costs for all units in this proceeding. Weighting methodology becomes more important as units cycle more due to greater Economic Commitment.

Third, Xcel explained why it reported zero fixed fuel costs for the King plant during several hours. Xcel stated limitations of the mutually agreed-upon reporting format, combined with a temporary adjustment in the offer strategy, combined to inadvertently implying a lack of fixed costs when the unit was completely offline. Xcel agreed to work with the other utilities to improve the reporting going forward. Xcel will include all costs in its offer curve at MISO from 2021.

Fourth, Xcel discussed the difference in fixed and variable fuel costs. For Xcel's coal fired units, most of the fuel costs were variable costs.

Fifth, regarding the increase in wind curtailment in 2020, Xcel explained the primary reason was regional congestion and low LMPs. Much of the curtailment was concentrated in five wind projects which are no longer eligible for Production Tax Credits and are located in areas where congestion increased significantly in 2020. Xcel stated that the company is making efforts to dispatch its coal units more flexibly in recognition of the additional wind capacity in the market.

Sixth, Xcel was supportive of the new reporting requirements proposed by the Department and said it would work with the other utilities in order to try to provide more consistent information in future reports.

### **III. CONCLUSION AND RECOMMENDATION**

The Department offers the following revised recommendations.

#### *A. RECOMMENDATIONS FOR COMPLIANCE FILING*

Based on the reply comments from the utilities, it is clear that the only unit with significant fixed cost as part of its fuel cost in Coyote. Thus, it is not required to modify the template for this specific purpose. The Department will work with Otter Tail to analyze effects of fixed costs for Coyote in subsequent filings.

The Department still concludes it will be useful to develop a benchmark scenario to understand the maximum potential for Economic Commitment for each plant (the best-case scenario results). The Department recommends utilities should work together to come up with a consistent methodology to estimate this quantitatively. The worst-case scenario is straight forward and should be easy to compute following the methodology outlined in the Department's comments on April 30, 2021. These can help track the utilities progress towards greater Economic Commitment over time.

#### *B. RECOMMENDATIONS FOR NEXT YEAR'S FILING*

The Department had recommended Otter Tail discuss their ability to renegotiate their fuel contract for the Coyote plant and move the plant to Economic Commitment in next year's filing. Given that Coyote's operations will be explored in Otter Tail's upcoming resource plan docket, if any changes to



Coyote's operations are recommended, then those will be explored in subsequent fuel cost dockets. The Department will continue to monitor all such dockets to analyze what is in the best interest of ratepayers.

/ja

## **CERTIFICATE OF SERVICE**

I, Sharon Ferguson, hereby certify that I have this day, served copies of the following document on the attached list of persons by electronic filing, certified mail, 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 No. E999/CI-19-704**

**Dated this 15<sup>th</sup> day of June 2021**

**/s/Sharon Ferguson**

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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
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