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October 14, 2022



Ms. Patricia Van Gerpen
Executive Director
South Dakota Public Utilities Commission
Capitol Building, 1st floor
500 East Capitol Avenue
Pierre, SD 57501-5070

**PUBLIC – TRADE SECRET DATA
HAS BEEN EXCISED**

**RE: IN THE MATTER OF OTTER TAIL POWER COMPANY’S SUBMITTAL OF
ITS 2022-2036 RESOURCE PLAN**

Dear Ms. Van Gerpen:

The purpose of this letter is to address recent developments that may affect our Initial Filing and to notify the Commission of our intent to accordingly revise the modeling used in our Initial Filing.

Please note that this supplemental filing includes information Otter Tail deems to be Confidential Information under ARSD 20:10:01:39 and is provided on the condition that it is not filed or otherwise publicly disclosed pending a determination under ARSD 20:10:01:41 and 20:10:01:42, or an agreement by the parties to this proceeding regarding its disclosure. Such Confidential Information is marked “CONFIDENTIAL” and noted where applicable as [PROTECTED DATA BEGINS... ..PROTECTED DATA ENDS].

The primary reason for updating our resource plan modeling is recent action by the Federal Energy Regulatory Commission (FERC) and the Midcontinent Independent System Operator (MISO). On August 31, 2022, FERC approved MISO Tariff revisions that include the adoption of a seasonal resource adequacy construct and capacity requirements.¹ These changes allow MISO to move forward with seasonal capacity auctions with each season having its own capacity requirement based on seasonal coincident peak loads and a seasonal reserve margin. The changes also allow MISO to accredit resources based on their historic availability during Resource Adequacy (RA) hours rather than on the forced outage rate methodology where all hours are treated equally. These changes will be implemented in the 2023/2024 planning year.

On September 6, 2022, the MISO Loss of Load Expectation Working Group (LOLE Working Group) published draft results for the 2023/2024 Planning Reserve Margin and Local

¹ 180 FERC ¶ 61,141 Order Accepting Proposed Tariff Revisions Subject to Condition, August 31, 2022. FERC Docket Nos. ER22-495-000, ER22-495-001.

Reliability Requirements.² The LOLE Working Group proposed the following planning reserve margins (PRM):

Season	PRM Percentage
Summer	7.40
Fall	14.90
Winter	25.50
Spring	24.50

These reserve margins are significant deviations from MISO's 2022/2023 annual planning reserve margin of 8.7 percent. While the change to a seasonal construct was expected, the substantial increase in PRM percentages for the winter and spring seasons was not anticipated. Of particular consequence for our company is the PRM percentage of 25.50 percent for the winter season.³ The LOLE Working Group will share study results and a draft LOLE study report with stakeholders at the October 2022 LOLE Working Group meeting. By November 1, 2022, MISO will apply final values to an updated seasonal load forecast for the 2023/2024 planning Module E Capacity Tracking Tool (MECT). It is possible the PRM percentages will change; however, we do not expect significant revisions.

The PRM percentages likely to be adopted by MISO differ significantly from those forecast in the modeling for our Initial Filing. We are in the preliminary stages of assessing the impact of these changes. Updated modeling is necessary to fully assess the impact of changes associated with a seasonal construct. That said, the magnitude of the changes to the PRM percentages under a seasonal construct is likely to have some impact on our capacity position. This is especially true in view of several large load additions since our Initial Filing.⁴

In addition to modeling the impact of MISO's adoption of a seasonal construct we believe it prudent to update our modeling to account for the recently enacted Inflation Reduction Act (IRA), which President Biden signed into law on August 16, 2022. The IRA provides approximately \$369 billion toward wind, solar, clean energy storage, and clean energy manufacturing projects. Notably the IRA extends tax incentives for wind and solar facilities that were set to expire and creates other new tax credits for renewable energy projects, including new clean electricity and clean hydrogen tax credits, and extends tax credits for carbon capture and sequestration.

Our intent is to file the updated modeling results and any revisions to our Initial Filing by March 31, 2023. This aligns with the proposed amended procedural schedule we simultaneously filed with the Minnesota Public Utilities Commission in Docket No.

² <https://cdn.misoenergy.org/20220906%20LOLEWG%20Item%20003%20PY%202023-24%20Preliminary%20LOLE%20Study%20Results626211.pdf>

³ Otter Tail is a winter peaking utility in the summer peaking MISO region. While the proposed spring season PRM percentage is similar to the proposed winter season PRM percentage the impact is not nearly as great because of lower spring coincidental peak loads and a likely increase in non-thermal units' accreditation.

⁴ Otter Tail continues to see load growth opportunities in our services areas. Since our Initial Filing approximately one year ago, Otter Tail has secured several larger commercial/industrial loads, including new agricultural processing and data mining loads in North Dakota, and is working with entities seeking to construct net zero fuel production facilities in South Dakota.

E017/RP-21-339.⁵ We also anticipate assessing changes in MISO Planning Resource Auction (PRA) prices and changes to capacity projections since our Initial Filing.⁶ The change in PRA prices is due to a MISO capacity surplus shifting to a capacity shortfall.⁷ MISO warns of potential capacity deficits through at least the 2027/2028 planning year depending on the pace of generator retirements and new capacity additions.⁸

Our updated IRP filing will include revised modeling assumptions and results.

Please note that our revised modeling will not alter our efforts to add dual fuel capability at Astoria Station. We believe it is appropriate to address dual fuel at Astoria Station without delay to strengthen the resilience and availability of the unit during extreme conditions. We believe this is necessary to protect our customers from extreme events and related market volatility. Our preferred plan anticipates 2026 commercial operation of dual fuel at Astoria Station, and we are currently engaged in development activities with that target date in mind. Current supply chain issues and inflationary pressures are sufficiently complex that delays on this particular element of our IRP filing would expose our customers to cost increases and would not be in the public interest.

Dual fuel at Astoria Station mitigates the risk of intra-day pricing volatility and overall energy pricing risk.⁹ It also mitigates the risk of natural gas pipeline supply disruption. These risks were evident during Winter Storm Uri in February 2021. While Astoria Station did not lose physical delivery of natural gas during that event, pipeline constraints caused timely daily Ventura hub natural gas to settle in excess of \$180/MMBtu. Dual fuel at Astoria supports the resilience and availability of the unit when natural gas is constrained, excessively priced, or altogether unavailable.

Recent proposals by MISO highlight its increased awareness of planning attributes beyond unforced capacity (UCAP.) Long-duration energy, fuel assurance, and fuel availability are part

⁵ The Minnesota Public Utilities Commission has a procedural order in place that currently requires parties to comment on our Initial Filing by November 14, 2022, with reply comments due approximately thirty days thereafter. We have asked the Minnesota Commission to amend this schedule to permit updates to our modeling. We have also informed the North Dakota Public Service Commission of our intent to update our modeling in Case No. PU-21-380.

⁶ PRA prices for planning year 2022-2023 recently cleared at the cost of new entry (CONE) compared to the much lower historical PRA clearing prices of sub-\$5/MW-Day. Clearing prices from MISO's 2022-2023 PRA reflect capacity shortfalls in four zones, exposing nearly 8 GW in MISO North/Central to the Cost of New Entry. For reference, zone 1 auction clearing prices have been no higher than \$5.00 per MW-Day since planning year 2017-2018. In 2022 zone 1 auction clearing prices were \$236.66 per MW-Day. *MISO Planning Resource Auction (PRA) for Planning Year 2022-2023 Results Posting, May 14, 2022.*

⁷ This shift was expressed by MISO in May 2022, when it projected insufficient firm resources to cover peak 2022 summer forecasts under typical demand and generation outages, and that "[e]mergency resources and non-firm energy imports are projected to be needed to maintain system reliability. *MISO Summer Readiness Workshop Summer 2022.*

⁸ *2022 OMS-MISO Survey Results Posting June 10, 2022.* These capacity deficits follow a concentrated period of generation plant retirements within MISO. Capacity in the MISO North/Central region fell by 3.2 GW since the last capacity auction. *MISO Planning Resource Auction (PRA) for Planning Year 2022-2023 Results Posting May 14, 2022.* MISO notes that unless more reliable generation is built shortfalls such as this will continue.

⁹ Since our Initial Filing, natural gas and market energy pricing have experienced a period of heightened volatility. The natural gas forecast in our Initial Filing included a \$3.00 per MMBtu average price for 2022. Through August 2022, the Ventura Hub average timely price per MMBtu was \$6.21/MMBtu. Similarly, our 2022 market energy forecasts in our Initial Filing included peak energy of approximately \$28.50 and off-peak energy of \$21.00. Through August, the 2022 actual peak and off-peak pricing for Otter Tail's load zone were \$56.34 and \$38.21, respectively.

of MISO's six proposed reliability attributes. These attributes are at the forefront of MISO's planning and are part of the discussion to address future requirements.¹⁰ Increased frequency of significant weather events,¹¹ the impact on natural gas supply, and the attributes being contemplated by MISO all support the Astoria dual fuel project. Furthermore, other independent system operators are recognizing the importance of dual fuel and the risks that are prevalent with natural gas delivery.¹²

Our development work has allowed us to refine the plan for dual fuel at Astoria Station. Our Initial Filing proposed fuel oil as the secondary on-site fuel. Since then, **[PROTECTED DATA BEGINS...**

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Our Initial Filing sought approval to advance the dual fuel project with a preliminary estimated cost of **[PROTECTED DATA BEGINS...**

...PROTECTED DATA ENDS.] For reference, the estimated cost of converting Astoria Station to dual fuel using **[PROTECTED DATA BEGINS...** **...PROTECTED DATA ENDS.]** The benefits for adding dual fuel to Astoria, as described in our Initial Filing, still exist despite the revised cost estimate.

Should you have any questions, please contact me at njensen@otpc.com or (218) 739-8989.

Sincerely,

/s/ NATHAN JENSEN
Nathan Jensen
Manager, Resource Planning

/s/ CARY STEPHENSON
Cary Stephenson
Associate General Counsel

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Enclosures
By electronic service

¹⁰MISO's September 21, 2022, System Attributes Stakeholder Workshop presentation: [prehttps://cdn.misoenergy.org/20220921%20System%20Attributes%20Workshop%20Presentation626391.pdf](https://cdn.misoenergy.org/20220921%20System%20Attributes%20Workshop%20Presentation626391.pdf)

¹¹ MISO's September 14, 2022, Advisory Committee Resilience Presentation. Slide 2: <https://cdn.misoenergy.org/20220914%20AC%20Item%2008%20Current%20Issue%20Kick%20Off%20-%20Resilience%20626359.pdf>

¹²https://view.officeapps.live.com/op/view.aspx?src=https%3A%2F%2Fwww.iso-ne.com%2Fstatic-assets%2Fdocuments%2F2022%2F09%2Fa05b_mc_2022_09_13-14_rca_raq_enhancements_presentation_.pptx&wdOrigin=BROWSELINK