

**Ryan D. Retzlaff**  
**Evidentiary Hearing Testimony Summary**  
**Case No. PU- 23-066 - Astoria Station On-Site Fuel Storage ADP**

My name is Ryan D. Retzlaff. I am employed by Otter Tail Power Company as its Manager of Power Services. The following is a summary of my pre-filed testimony in support of Otter Tail's request for an Advanced Determination of Prudence for an on-site liquified natural gas fuel storage project at Astoria Station. My pre-filed testimony addresses the potential economic consequences and risk factors associated with natural gas and electric markets, logistical concerns of the daily natural gas and electric trading schedules, the impacts of Winter Storms Uri and Elliot, the robustness of natural gas transport service utilized to deliver fuel to Astoria Station, and the associated benefits provided by the addition of onsite LNG fuel storage.

Astoria Station is a MISO capacity accredited resource which maintains a daily must offer requirement. This means Otter Tail is obligated to offer Astoria Station's energy to the MISO market every day the unit is not on outage, regardless of market conditions. Throughout many of hours of the year, natural gas fired generation is the marginal generation resource, meaning it's the generation type acting to determine market pricing. During extreme system events, such as Winter Storm Uri or Winter Storm Elliot, increased demand for natural gas can result in extremely volatile gas and electric markets.

Otter Tail's procurement of natural gas fuel is subject to the daily natural gas schedule, and our submission of generation offers to the MISO market is subject to the daily MISO offer schedule. The timeline of these two schedules do not align well, and under extreme system conditions can make fuel procurement for natural gas fired generators exceedingly difficult. As an example, the daily Astoria deadline for timely natural gas nominations is 8:30 AM. In other words, a decision to purchase timely, or next day gas, must be made by the 8:30 AM deadline. The MISO generation offer submission deadline is 9:30 AM. It isn't until 12:30 PM that MISO posts its cleared day ahead awards, which indicate how MISO intends to commit and dispatch the unit. This means Otter Tail must buy gas in advance of knowing if or how MISO will clear its offer. Otter Tail will not know, until 12:30 PM, if it will need to purchase additional gas or if it will need to sell back unused gas in order to match MISO commitment and dispatch obligations. Furthermore, Otter Tail will not know what the cost of the gas will be upon reaching the 12:30 PM MISO clearing results, or if those costs will vary significantly from the costs utilized to craft the 9:30 AM offer. Otter Tail refers to this phenomenon as intraday pricing risk.





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Intraday pricing risk can also occur in the real time when MISO calls for commitment of a unit and the actual cost of fuel procurement deviates from cost utilized to craft the offer. In the most basic terms, intraday pricing risk is the risk of having to make generation offers to MISO without the ability to know what the cost of those offers will ultimately be. This issue is further compounded when considering MISO only guarantees make whole payments based on offer costs, not actual fuel procurement costs.

Intraday pricing risk is especially problematic during extreme system events where pricing can change quickly and drastically. During these events natural gas market prices can quickly spike to ruinously high levels – the cost of which are collected from customers, or in some cases gas may not be available at any price, with potentially severe consequences for reliability. This phenomenon was seen during Winter Storm Uri in February 2021 and Winter Storm Elliot in December 2022. I believe the Commission is very aware of the catastrophic reliability and cost impacts suffered in some parts of the United States because of Winter Storm Uri. During Uri, Otter Tail avoided these risks because Astoria Station was not yet commercially operational and was undergoing unit startup and commissioning.

Winter Storm Elliot, a very different event than Winter Storm Uri, also highlighted the benefit of on-site fuel storage. Where Uri had little regional wind generation, Elliot had considerable regional wind generation. Where Uri saw Astoria electric LMP pricing follow natural gas pricing, Elliot saw Astoria electric LMP pricing diverge from natural gas pricing. During Elliot, MISO committed and dispatched Astoria Station into a low LMP market despite an Astoria offer of over \$1,000 per MWh. As this was not a commitment based on market economics, Otter Tail views this MISO commitment was initiated to maintain system reserves and reliability. Most notably, during Winter Storm Elliot, Astoria Station experienced an approximate two day forced outage due to lack of fuel supply. On site LNG storage at Astoria Station would have allowed the unit to avoid the forced outage and remain available for the duration of the winter storm event.

In considering onsite LNG storage at Astoria Station, Otter Tail completed a financial event analysis based on Winter Storm Uri. We examined what might have occurred had Astoria been offered to the market, as would be required today. The analysis examined sensitivities to two variables: timely natural gas procurement and market pricing scenarios. In many of these scenarios, the addition of onsite LNG fuel storage provided considerable financial benefits. Those benefits would be realized through the



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elimination of timely natural gas procurement decisions and maintaining a low-cost onsite fuel supply that could be offered into a very high market.

As noted in my pre-filed testimony, I take issue with portions of testimony of Advocacy Staff Witness Mr. James Heidell. I do not believe Mr. Heidell accurately accounts for natural gas/electric scheduling logistics, transport robustness, or the complexity and uncertainty of making fuel procurement decisions during an extreme system event. Specifically, I noted his criticism of our Uri financial event analysis erroneously assumed timely gas could be purchased after MISO posts day ahead commitment and dispatch instructions. This is not accurate. Otter Tail is required to make timely natural gas purchase decisions four plus hours in advance of knowing MISO commitment instructions. I also noted Mr. Heidell's criticism of our Uri financial analysis assumes perfect, after the fact knowledge, that during an extreme system event, a previous day's performance should be a strong predictor of a future day's performance. Such a presumption does not account for the difficulties, uncertainties, and mixed market signals inherent in navigating an extreme winter event. I also noted Mr. Heidell's assertion that Astoria Station experienced a forced outage during Winter Storm Elliot due to a lack of sufficient transport service, is incorrect. In fact, Astoria Station experienced a forced outage due to lack of fuel supply within the pipeline. If fuel supply would have been available, Astoria Station maintains robust transport service that would have enabled fuel delivery to the plant.

Otter Tail actively manages risks associated with misalignment between natural gas and MISO energy markets. We contract with Tenaska Marketing Ventures (Tenaska) an industry leader in natural gas procurement, transport, and consulting. Otter Tail uses Tenaska natural gas price forecasts to craft Astoria generation offers. We also evaluate a wide range of financial hedging instruments. While these steps can help manage some types of risk, they are unable to adequately mitigate intra-day pricing risk, particularly during extreme system events, which supports Otter Tail seeking an on-site fuel storage system at Astoria Station. Adding LNG fuel storage at Astoria Station ensures a known, constant, flexible, and reliable fuel supply regardless of extreme events.

This concludes my opening statement.

