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February 2, 2024

Mr. Steve Kahl
Director of Administration/Executive Secretary
North Dakota Public Service Commission
State Capitol
600 East Boulevard, Dept. 408
Bismarck, ND 58505-0408

**PUBLIC DOCUMENT-
NOT PUBLIC (OR PRIVILEGED)
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**RE: In the Matter of Otter Tail Power Company Advance Prudence Application–
Astoria Station Onsite Fuel Inventory System
Case No. PU-23-066
OAH File No. 202300080
Post Hearing Briefing Papers
Findings of Facts, Conclusion of Law, and Order**

Dear Mr. Kahl:

Otter Tail Power Company (Otter Tail) hereby submits to the North Dakota Public Service Commission (Commission) its Post-Hearing Brief and Proposed Findings of Facts, Conclusion of Law, and Order in the above-referenced matter. Also included in this filing is the transcript of the hearing held on December 12, 2024.

Please note that in preparing this filing we identified several items concerning exhibits at trial that that require correction.

- Docket Entry # 49 is described as OTP 6 Pre-filed Direct Testimony of Ryan Retzlaff - Redacted. OTP 6 should be described as the Pre-filed Rebuttal Testimony of Ryan Retzlaff -Redacted. This is the public version of Mr. Retzlaff's pre-filed rebuttal testimony with redactions for protected information.
- Docket Entry #50 is described as OTP 7 Protected Information Pre-filed Direct Testimony of Ryan Retzlaff. OTP 7 is actually the non-public, protected version of Mr. Retzlaff's pre-filed rebuttal testimony.

To be clear the record contains all the exhibits submitted at hearing and no protected information is publicly available.

Post- Hearing Briefing Papers contain trade secret information. In accordance with N.D. Admin. Code § 69-02-09-02, a single copy of the trade secret version of the Briefing Papers in a sealed envelope marked **PROTECTED INFORMATION – PRIVATE**.

65 PU-23-66 Filed 02/02/2024 Pages: 259

Letter Enclosing Post Hearing Briefing Papers - Redacted, Proposed
Findings of Facts, Conclusion of Law, Order, and 12/12/23 Hearing Transcript
Otter Tail Power Company
Cary Stephenson, Assoc. Gen. Counsel

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Mr. Kahl
February 2, 2024
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Copies will be sent to you via USPS. Please contact me at (218) 739-8956, or cstephenson@otpc.com should you have any questions with respect to this filing.

Very truly yours,

/S/ CARY STEPHENSON
Cary Stephenson
Associate General Counsel

vjm
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**STATE OF NORTH DAKOTA
BEFORE THE
NORTH DAKOTA PUBLIC SERVICE COMMISSION**

In the Matter of Otter Tail Power Company Advance Prudence Application
Astoria Station Onsite Fuel Inventory System

Case No. PU-23-066
OAH FILE NO. 202300080

Post-Hearing Brief of Otter Tail Power Company

February 2, 2024

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I. INTRODUCTION

Otter Tail Power Company (Otter Tail or Company) submits this post-hearing brief to the North Dakota Public Service Commission (Commission) in support of the Company's Application for Advance Determination of Prudence (ADP Application). The Company seeks a determination of prudence to add a liquefied natural gas (LNG) storage system at Astoria Station, the Company's 250 MW natural gas-fired, frame-style, simple cycle combustion turbine generation facility near Astoria, South Dakota.

This brief follows a hearing on December 12, 2023, where the Commission received testimony and other evidence from Otter Tail and Advocacy Staff witnesses. As more fully stated below, the record demonstrates a need for fuel storage capability at Astoria Station to address natural gas market volatility and supply disruptions associated with extreme events. The record also demonstrates that LNG fuel storage is the most effective means to address the need, and that other measures such as financial hedging instruments or alternative storage options are inadequate, financially infeasible, or not available. The record further reflects that there are multi-faceted benefits from LNG fuel storage at Astoria Station, including mitigation of intraday pricing risk, enhanced reliability from fuel assurance, protection of Astoria Station capacity accreditation, and energy hedge value for Otter Tail's customers.

Finally the record does not support Advocacy Staff's recommendation that the project should not be deemed prudent because this position rests on faulty analysis of key issues and assumes Otter Tail's customers should assume a level of risk incongruent with the facts. When all key factors are considered, the record supports the addition of LNG fuel storage at Astoria Station.

II. BACKGROUND

A. Project Summary

Astoria Station was placed into service in 2021. Astoria Station has quick-start capability to serve a load-following function and provide for peak capacity. Astoria Station includes a short segment of natural gas pipeline necessary to interconnect to the Northern Border Pipeline, and a generation-tie line interconnecting Astoria Station to the Big Stone South-Brookings County 345 kV electric transmission line.

Otter Tail designed and constructed Astoria Station to replace the capacity and dispatchable attributes of Otter Tail's Hoot Lake coal-fired generating plant, retired in 2021.¹ Like many natural gas peaker plants, Astoria Station depends on just-in-time, pipeline delivered fuel. The LNG fuel storage project proposed by Otter Tail will provide stored LNG sufficient to operate the combustion turbine for five days, providing an alternative and back up to just-in-time pipeline delivered gas.² The project consists of an LNG storage tank and the required pumps and vaporizers to convert the liquid to a gas. The vaporized gas will be delivered to the turbine via the same onsite route as pipeline natural gas.

The project's key components include (1) an LNG truck unloading facility, (2) a 5-million-gallon LNG storage tank, and (3) a forwarding pump and vaporizer to convert the LNG to conditions suitable for the existing combustion turbine. Other systems associated with the project are secondary containments in the event of a LNG release, fire protection systems, LNG boil off gas reliquifier, and all required electrical systems. All of the project's components will be located adjacent to the current plant on land owned exclusively by Otter Tail. Figure 1 is the current proposed layout of the project.

¹ Astoria Station combined with the Merricourt Wind Energy Center comprised Otter Tail's two-part plan to reliably meet our customers' electric needs, replace expiring capacity purchase agreements, and to respond to the 2021 retirement of the 1950s-era 140 MW Powder River Basin (PRB) coal-fired Hoot Lake Plant near Fergus Falls, Minnesota. ADP Application (OTP Exhibit 1) p. 1, n. 2.

² The conceptual design criteria for the LNG storage project includes five days of onsite fuel storage based on Astoria Station's maximum winter capacity of 286 megawatts (MWs). Another base assumption was that the fuel stored at Astoria Station would be completely consumed once every four years. Phinney Direct (OTP Exhibit 9) p. 5.

FIGURE 1 – ASTORIA STATION SITE LAYOUT

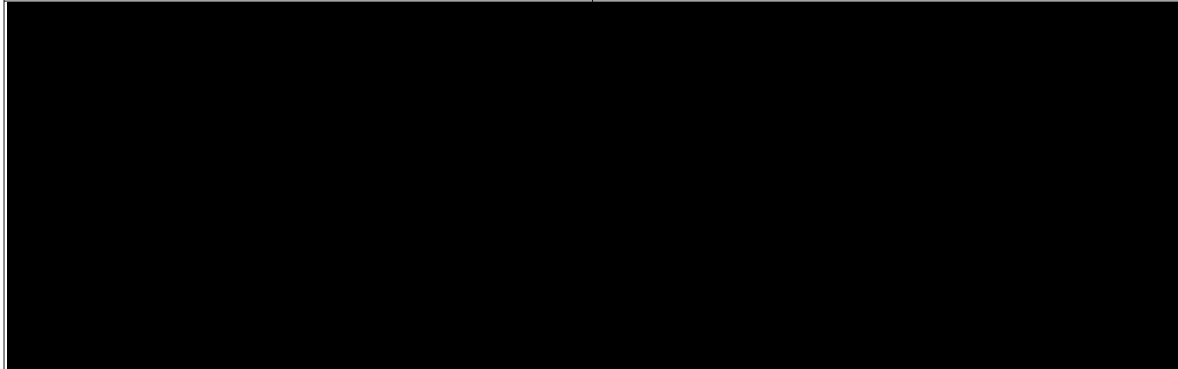


Astoria Station will utilize an LNG storage tank and the required pumps and vaporizers to convert the liquid to a gas. The vaporized gas will be delivered to the turbine via the same onsite route as pipeline natural gas. Since vaporized LNG is like pipeline natural gas, combustion turbine modifications will not be required, and combustion turbine operations will remain the same.

The estimated cost of the Astoria Station fuel storage project is **[PROTECTED DATA BEGINS... [REDACTED] ...PROTECTED DATA ENDS]**. A further breakdown of the project cost is provided in the following table:

TABLE 1: Project Cost Estimates.³

[PROTECTED DATA BEGINS...



...PROTECTED DATA ENDS]

Otter Tail anticipates that the fuel storage project will be in-service in Q3 of 2027 assuming all regulatory approvals are timely secured.

B. Procedural Background

Otter Tail’s ADP Application is rooted in the Company’s Integrated Resource Plan (IRP) pending before the Commission.⁴ Otter Tail’s initial filing (Initial IRP) filed on September 1, 2021 introduced a plan to add dual fuel capability to Astoria Station as a key part of a resilient generation portfolio that would enable Otter Tail to protect our customers from severe market disruptions and reliability threats caused by extreme weather events, such as Winter Storm Uri.⁵ We noted that dual fuel capability at Astoria Station was a cost-effective option that would “allow Otter Tail to use natural gas supplied

³ Phinney Direct (OTP Ex. 10 Not Public) p. 8; ADP Application (OTP Ex. 2 Not Public) pp.9-10. As noted in the pre-filed Direct Testimony of Kirk Phinney, these are initial cost estimates based on the best information now available and are provided in advance of the commencement of the bidding and procurement process for the Project. Given this stage of development the Company’s initial cost estimate includes a reasonable contingency.

⁴ *In the Matter of Otter Tail Power Company’s Submittal of its 2022–2036 Integrated Resource Plan*, Case No. PU-21-380 (hereinafter Initial IRP).

⁵ Initial IRP pp. 54-55. At the time Otter Tail filed its Initial IRP it proposed using fuel oil as a secondary fuel source, subject to further analysis. Otter Tail anticipated the dual fuel project could be in service by 2026 in its Initial IRP.

by the current pipeline as the main source of fuel and use stored fuel oil during rare instances of pipeline unavailability or volatile natural gas markets.”⁶

On October 14, 2022, we notified the Commission of our intent to update our Initial IRP and its modeling to account for the Midcontinent Independent System Operator’s (MISO) recent adoption of a seasonal resource adequacy construct with a proposed planning reserve margins (PRMs) substantially different than what was modeled in our Initial IRP. We also noted our intent to address the enactment of the Inflation Reduction Act, MISO capacity projections, and other recent developments. We also noted our intent to seek an ADP for dual fuel at Astoria Station.⁷

Otter Tail filed its Application for Advance Prudence on February 8, 2023, which identified liquified natural gas (LNG) as the best dual fuel option for Astoria Station. The Company reiterated many of the points included in the Initial IRP filing, but also provided significantly more project details, including the use of LNG as the secondary fuel source for the plant and a projected project cost.

Otter Tail filed a supplement to its Initial IRP (Supplemental IRP) on March 1, 2023, addressing the issues identified in the Company’s October 14, 2022, letter. On June 2, 2023, Otter Tail filed a letter consenting to an extension of the statutory seven-month period for a determination on an ADP application.

⁶ Initial IRP p. 35.

⁷ “[O]ur revised modeling will not alter our efforts to add dual fuel capability at Astoria Station. 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. 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. To this end we plan to file a request for an advance determination of prudence (ADP) with the Commission. Our development work has allowed us to refine the plan for dual fuel at Astoria Station. We will outline those refinements in our ADP filing.” Otter Tail Supplemental Letter, October 14, 2022, p. 2, Case No. PU-21-380.

The hearing on the Company's ADP Application took place on December 12, 2023. Otter Tail presented the testimony of Bradley E. Tollerson,⁸ Kirk A. Phinney,⁹ Nathan R. Jensen,¹⁰ and Ryan D. Retzlaff.¹¹ Commission Advocacy Staff presented the testimony of consultant James A. Heidell.¹²

III. ASTORIA STATION LNG FUEL STORAGE IS PRUDENT

Many ADP applications before the Commission propose a generation resource intended to address an energy or capacity need. Based on that need, the applicant identifies a resource addressing the need, and then identifies a specific project that is the most responsible, lowest cost means to satisfy that need. Otter Tail's ADP Application takes a similar approach that is necessarily different in part because of the nature of the need the Company seeks to address.

The Company seeks to modify an existing generation facility not to address an energy or capacity need, but to address the need for fuel assurance and resilience for a key capacity resource dependent on pipeline-delivered fuel. Specifically, the Company seeks to address the risks associated with extreme disruptive events which can create extraordinary natural gas market volatility and, in some cases, interrupt the delivery of pipeline-delivered fuel. This risk is most acute during extreme weather events, such as those seen during Winter Storm Uri and more recently during Winter Storm Elliot. The market volatility caused by these events is especially worrisome because of structural misalignment of natural gas and energy markets causing intra-day pricing risk; a risk that can expose utilities and their customers to drastic price spikes during extreme events.

Having identified a risk-based need, Otter Tail has put forward a plan that best addresses the need: LNG fuel storage at Astoria Station. As proposed by Otter Tail, LNG fuel storage addresses the full range of risks associated with extreme events and does

⁸ Vice President of Energy Supply, Otter Tail Power Company, Tollerson Direct (OTP Ex. 3) p.1.

⁹ Manager, Supply Engineering, Otter Tail Power Company, Phinney Direct (OTP Ex. 9) p. 1.

¹⁰ Manager of Resource Planning, Otter Tail Power Company, Jensen Direct (OTP Ex. 11) p. 1.

¹¹ Manager of Power Service, Otter Tail Power Company, Retzlaff Direct (OTP Ex. 5) p.1.

¹² Partner, PA Consulting Group, Inc., Heidell Direct (PSC Ex. 1) p.1.

so more cost-effectively and responsibly than other alternatives. In short, the record before the Commission supports a determination of prudence for LNG fuel storage at Astoria Station.

A. Legal Standard

North Dakota Century Code Section 49-05-16(1) authorizes the Commission to issue an order approving the prudence of a proposed project if four conditions are met:

1. The public utility files with its application a projection of costs to the date of the anticipated commercial operation of the resource addition
2. The public utility files with its application a fee ... of one hundred seventy-five thousand dollars....
3. The commission provides notice and holds a hearing, if appropriate, in accordance with [N.D.C.C.] section 49-02-02; and
4. The commission determines that the resource addition is prudent. For facilities located or to be located in this state the commission, in determining whether the resource addition is prudent, shall consider the benefits of having the resource addition located in this state.

A “resource addition” means the “construction, modification, purchase, or lease of an energy conversion facility, renewable energy facility, demand response system, transmission facility, or a contract to acquire energy, capacity, or demand response for the purpose of providing electric service.¹³ Otter Tail’s ADP application seeks approval for onsite LNG fuel storage at Astoria Station, which is the modification of on an existing energy conversion facility.

The core legal issue under the ADP statute is whether adding LNG fuel storage at Astoria Station as proposed by the Company is prudent. This standard is similar to the “honestly and prudently invested” standard that the Commission uses for ratemaking.¹⁴ The general prudence standard calls for determining whether the utility action was

¹³ N.D.C.C. § 49-05-16.

¹⁴ See N.D.C.C. § 49-06-02.

reasonable at the time it was taken under all relevant circumstances.¹⁵ The Commission regularly grants ADPs where there is a need, and the record reflects that the proposed project will satisfy that need.¹⁶

B. The Need to Address Risk at Astoria Station

The record demonstrates a need for fuel storage at Astoria Station to address two significant risks driven by extreme weather events. The first is the risk of disruptions in pipeline delivered natural gas due to production facility freeze offs, pipeline line disruptions, and related interruptions affecting the delivery of fuel.¹⁷ In basic terms Astoria Station can't be dispatched into the MISO market absent fuel, and recent events demonstrate the impact severe weather can have on natural gas production and delivery. On-site storage of LNG ensures that Astoria Station will be able to operate notwithstanding the inability to receive pipeline delivered fuel. By ensuring the availability of fuel regardless of pipeline delivery constraints, Otter Tail seeks to embed into Astoria Station the key MISO reliability attribute of fuel assurance.¹⁸

The second risk addressed by on-site LNG fuel storage is the risk created by misalignment of natural gas and energy markets. During periods of extreme natural gas

¹⁵ See Charles F. Philips, Jr., *The Regulation of Public Utilities – Theory and Practice* at 292 (Public Utility Reports 1988); see also David J. Muchow & William A. Mogel, *Energy Law and Transactions* at § 4.02[3][b] (2009).

¹⁶ NDAC 69-09-12-03 (requiring utilities identify the resources needed to meet forecasted capacity and energy needs); NDAC 69-09-02-33 (requiring utilities to adhere to the principle of least-cost development); *Mont.-Dakota Utils. Co., A Division of MDU Res. Gp., Inc.*, Case Nos. PU-17-268 & PU-17-269, Order at 2 (Nov. 16, 2017) (granting an ADP to MDU for its Thunder Spirit Wind Expansion when MDU's IRP forecasted annual growth and MDU selected a least-cost proposal to expand its existing Thunder Spirit Wind Facility).

¹⁷ This aligns with recent a recent study by the University of North Dakota Energy and Environmental Center, which notes “[a] potential weakness to the North Dakota generation fleet is the supply of natural gas to combustion turbine generation facilities. The primary source of fuel for these units is the Northern Border pipeline. The pipeline imports Canadian and Bakken produced natural gas. Natural gas-fired combustion turbines do not store fuel on-site. Therefore, the reliability of this fuel source should be considered as part of generation resource availability.” *North Dakota Grid Resiliency Plan, Final Report prepared for North Dakota Transmission Authority by North Dakota Energy & Environmental Research Center*, September 1, 2023, at p. 52, cited in Jensen Rebuttal (OTP Ex. 12) at p. 5.

¹⁸ MISO has identified six key attributes necessary for system reliability: (1) availability, (2) fuel assurance, (3) ramping capability, (4) long duration energy at high output, (5) rapid start up, and (6) voltage stability. See *System Attributes Stakeholder Workshop*, September 21, 2022, RASC-2202-1; *Identification of Sufficient System Reliability Attributes*, MISO Resource Adequacy Subcommittee, RASC-2022-1, January 18, 2023, cited in Jensen Rebuttal (OTP Ex. 12) p.3 n.3. Mr. Jensen noted the relationship between fuel assurance and resiliency. Id. p. 3.

market volatility (usually during extreme weather conditions) this misalignment amplifies intraday pricing risk, exposing Otter Tail to the risk of having to secure natural gas for Astoria Station in volatile market conditions, where natural gas can spike to extraordinary levels. This risk is ultimately borne by Otter Tail customers through the Company's fuel clause. Otter Tail witness Ryan Retzlaff described intraday pricing risk in detail in pre-filed testimony and at hearing.¹⁹ In general intraday pricing risk is driven by the fact that Otter Tail must buy day ahead natural gas for Astoria Station and offer Astoria Station's output to MISO well in advance of MISO clearing Otter Tail's offer. Depending on how MISO clears the Company's offer, the Company may need to secure additional natural gas at then prevailing market rates or sell back unused gas. As noted by Mr. Retzlaff, "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."²⁰ Under normal operating conditions this risk is not significant.²¹ It is during extreme weather events that natural gas markets experience the most volatility, which in turn exposes Otter Tail customers to greatly elevated intraday pricing risk.

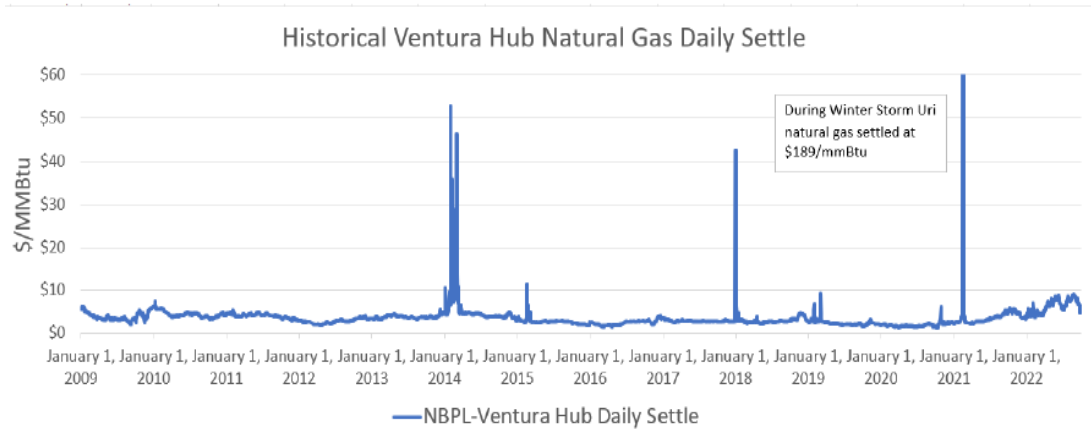
That natural gas markets experience volatility during extreme weather events should not be in dispute. ADP Figure 3-11 from the Company's ADP Application depicts natural gas market prices at the Ventura Hub since January 2009 through January 2022.

¹⁹ Retzlaff Direct (OTP Ex. 5) p. 4; Retzlaff Rebuttal (OTP Ex. 6) pp. 9-12; Retzlaff Transcript pp. 68-72; 98-104.

²⁰ Retzlaff Transcript pp. 70-71. Mr. Retzlaff has also explained that "[i]ntraday pricing risk can also occur if MISO were to call upon the unit unexpectedly during the real time market, which occurred during Winter Storm Elliot. Forward gas purchases, natural gas call options, and natural gas storage alternatives, are bound to the scheduling constraints of the daily natural gas trading schedule. They must be nominated, executed, or liquidated at defined periods of the gas trading day. As such, these mechanisms would experience extended periods of unavailability. Onsite LNG storage is available on demand at any time of the day, under all market conditions, and is the optimal hedging mechanism for intraday pricing risk. It is also the only hedging mechanism that can hedge against loss of physical natural gas supply." Retzlaff Surrebuttal (OTP Ex. 8) p.3.

²¹ Retzlaff Transcript p. 80.

ADP Figure 3-11: Historic Ventura Hub Natural Gas Prices



As reflected in ADP Figure 3-11²² over the past decade, there have been three events (not including Winter Storm Elliot) that caused high gas prices, the most severe of which was Winter Storm Uri in February 2021.

Winter Storm Uri (February 13-17, 2021) and Winter Storm Elliot (December 21-26, 2022) highlight the two primary risks Otter Tail seeks to address, albeit in different ways. Winter Storm Uri’s impacts are now well documented. At its peak, Winter Storm Uri left millions of customers without electricity.²³ These events mostly affected the areas served by the Electric Reliability Council of Texas (ERCOT) and the Southwest Power Pool (SPP). Beyond outages, renewable generation was at times not available, natural gas availability was at times limited, and electricity market prices and natural gas prices were at times extremely high.²⁴ What Winter Storm Uri highlighted more so than any time before is natural gas volatility and intra-day price risk; risks that onsite fuel storage at

²² ADP Application (OTP Ex. 1) p. 21. Note also that the “Y” axis values have been reduced to better illustrate the market variability over the period. Note also that during the That during Winter Storm Uri, gas settlements were above the highest point of the “Y” axis of ADP Figure 3-11.

²³ “In February 2021, a severe cold weather event – also known as Winter Storm Uri – caused numerous outages, derates or failures to start at electric generating plants scattered across the region. The Texas grid operator (Electric Reliability Council of Texas or ERCOT) ordered a total of 20,000 MW of rolling blackouts in an effort to prevent grid collapse; this represents the largest manually controlled load shedding event in U.S. history. More than 4.5 million people in Texas lost power – some for as long as four days. Tragically, the loss of electricity caused the deaths of numerous Texans.” FERC News Release, November 16, 2021 available at <https://www.ferc.gov/news-events/news/final-report-february-2021-freeze-undercores-winterization-recommendations>. FERC, NERC and Regional Entity Staff Report on Winter Storm Uri is available at <https://www.ferc.gov/media/february-2021-cold-weather-outages-texas-and-south-central-united-states-ferc-nerc-and> The Commission can take judicial notice of FERC’s news release and report.

²⁴ ADP Application (OTP Ex.1) p. 2.

Astoria Station would protect against.²⁵ Otter Tail customers were spared from Winter Storm Uri's impacts in large part because Astoria Station was not yet in service.²⁶ Winter Storm Uri was a watershed event not only for Otter Tail but the electric industry as a whole.²⁷

Winter Storm Elliot was deemed a bomb cyclone, bringing extreme cold temperatures to the eastern two-thirds of United States, with blizzard conditions occurring in several states.²⁸ During Winter Storm Elliot, Otter Tail experienced: (1) a forced outage at Astoria Station due to lack of fuel supply on the Northern Border Pipeline, (2) extreme natural gas pricing of \$150/MMBtu, and (3) MISO committing Astoria for reliability purposes under a unit offer utilizing approximately \$120/MMBtu natural gas costs even though locational marginal pricing (LMP) at Astoria Station was relatively low at the time.²⁹ Otter Tail customers were largely spared from negative consequences during this event due to strong regional wind generation that kept Otter Tail LMP pricing low.³⁰ Absent strong wind generation, the economic consequences for Otter Tail's customers could have been much more dire. One immediate consequence from the disruption in pipeline-delivered natural gas during Winter Storm Elliot is MISO's pending derating of Astoria Station's capacity accreditation. As noted at hearing Otter Tail expects MISO to reduce Astoria Station's capacity accreditation by approximately 50 MW for a period of three years.³¹ In the case of Winter Storm Elliot, onsite fuel storage would have provided Astoria Station a stable fuel resource at a known

²⁵ ADP Application (OTP Ex. 1) p. 2, n.3; pp. 19-20.

²⁶ To be clear, natural gas availability at Astoria Station was not an issue during Winter Storm Uri. While the deliverability risk was low, the price risk for delivered gas was high. ADP Application (OTP Ex. 1) pp. 23-24.

²⁷ Tollerson Transcript pp. 22, 30-32. As noted by Mr. Tollerson Winter Storm Uri triggered Otter Tail's internal assessment of how to protect its customers against the economic consequence of similar events, with particular concern on how to mitigate intraday pricing risk.

²⁸ The North American Electric Reliability Corporation's (NERC) 2022-2023 Winter Reliability Assessment issued in November 2022 highlights the increased risk of extreme weather events and seemingly foreshadowed Winter Storm Elliot. The report is available at https://www.nerc.com/pa/RAPA/ra/Reliability%20Assessments%20DL/NERC_WRA_2022.pdf

²⁹ Retzlaff Direct(OTP Ex.5) at pp. 7-8. The divergence of gas markets and LMP markets during Winter Storm Elliot was unusual. Otter Tail customers could have seen very different results if regional LMP pricing would have followed natural gas pricing. *Id.*

³⁰ ADP Application (OTP Ex 1) p. 26; Retzlaff Direct (OTP Ex. 5) p. 8.

³¹ Tollerson Transcript pp. 45-46; Jensen Transcript p.141.

cost, certainty of fuel supply, and avoidance of a multi-day forced outage due to natural gas production freeze offs, allowing the unit to remain on-line and avoiding the reduction in its capacity accreditation.

It is reasonable to expect and plan for winter storms that may be potentially as extreme or more extreme than Winter Storms Uri and Elliot. Mr. Retzlaff addressed this potential in pre-filed testimony, noting that had conditions varied during Winter Storm Uri, MISO could have experienced what was seen in SPP:

Throughout North Dakota and South Dakota there is considerable overlap of the MISO and SPP footprints. During Winter Storm Uri (February 10, 2021, through February 20, 2021) MISO day ahead LMP pricing at Astoria averaged \$136.15/MWh (real time \$114.78/MWh). During the same period, day ahead pricing in SPP at Big Stone Plant (near Astoria Station) averaged \$1,173.33/MWh (real time). If system conditions would have been different, it is plausible that MISO could experience pricing levels like SPP. MISO is also considering redefining its Value of Lost Load (VoLL). VoLL is meant to represent the price customers are willing to pay to avoid an interruption of electric service and is the hard price cap for market pricing within MISO. Currently the MISO VoLL is set at \$3,500/MWh but ongoing discussions have included proposals to raise it as high as \$25,000/MWh. It should also be noted that as dispatchable resources are retired from the grid, the need for natural gas fired generation will grow, increasing demand on existing natural gas supply and pipeline infrastructure. One could reasonably expect increased demand for natural gas supply would amplify the volatility of both the electric and natural gas markets during extreme system events.³²

The North American Electric Reliability Corporation (NERC) has also warned about the risk of extreme weather events in its 2022-2023 Winter Reliability Assessment (Winter Assessment) issued November 2022.³³ Moreover the Commission can give weight to the fact that Winter Storm Elliot came only 22 months after Winter Storm Uri

³² Retzlaff Rebuttal (OTP Ex. 6) pp. 15-16.

³³ ADP Application (OTP Ex.1) p. 24; Tollerson Direct (OTP Ex. 3) p. 6. The report is available at: [https://www.nerc.com/pa/RAFA/ra/Reliability Assessments DL/NERC_WRA_2022.pdf](https://www.nerc.com/pa/RAFA/ra/Reliability%20Assessments%20DL/NERC_WRA_2022.pdf).

in weighing the likelihood of future extreme weather events. While it is inherently difficult to predict the frequency and severity of future events, prudence requires Otter Tail to plan for future events, some of which may be more significant than Winter Storms Uri and Elliot. In sum, there is a documented and demonstrated risk (i.e. need) to address at Astoria Station.

C. LNG Fuel Storage at Astoria Station is the Most Prudent Option to Address Risks Posed By Extreme Events.

The record demonstrates that on-site LNG storage at Astoria Station is the most cost effective and reasonable way to address the risks posed by extreme events. Otter Tail witness Kirk Phinney explained why LNG fuel is more effective than other fuel options: “Compared to fuel oil, LNG has lower initial capital cost, lower O&M costs, and lower fuel cost. In addition to lower overall costs, LNG does not have the emissions, capacity, or operational drawbacks or limitations that have been identified with fuel oil as a secondary fuel source.”³⁴ Mr. Phinney also explained that truck delivered LNG is more economical than producing LNG on-site.³⁵ Advocacy Staff witness Mr. Heidell concurred that LNG is lower cost than a fuel oil back up or connecting to a second pipeline.³⁶

The record also demonstrates the significant potential financial benefits of LNG fuel storage at Astoria Station. Otter Tail witness Ryan Retzlaff provided an analysis of the potential financial benefits of on-site LNG fuel storage based on an analysis of Winter Storm Uri, set forth in the following Table:³⁷

³⁴ Phinney Direct (OTP Ex. 9) pp. 8-9.

³⁵ Mr. Phinney explained that “another activity that will occur in parallel with obtaining the EPC contractor will be securing a LNG supply agreement. As part of the conceptual design development, we evaluated producing LNG onsite versus having LNG delivered to site via truck. We determined that truck deliveries were more economical.” *Id.* at p. 9.

³⁶ Heidell Direct (PSC Ex. 1) p. 7.

³⁷ “The analysis assumes Astoria operations during Winter Storm Uri as an example, and it provides an estimated value of having onsite fuel available at Astoria Station during such an event. It should be noted Astoria was not commercially operational during Winter Storm Uri, and therefore did not operate. This analysis examines the financial implications if Astoria would have been operational and under a must offer commitment requirement, varying timely gas nominations and Locational Marginal Pricing (LMP.)” Retzlaff Direct (OTP Ex. 5) p. 5.

ADP Table 3-12: February 2021 LMP Pricing Scenario

LMP Pricing Scenario	Timely Gas Purchase: % of Daily Capacity	Timely MMBtu Purchase (MMBTu)	Intraday Purchase (MMBTu)	Gas Only		LNG Dual Fuel Integration (5 Day Invt)			Net Benefit Delta	
				Net Benefit: Average Gas Case	Net Benefit: Worst Gas Case	LNG Dispatch (MWh)	Net Benefit: Average Gas Case	Net Benefit: Worst Gas Case	Net Benefit: Average Gas Case	Net Benefit: Worst Gas Case
Historical Astoria LMPs	0%	0	70,950	(\$840,795)	(\$5,346,120)	31,350	\$3,862,028	\$3,826,553	\$4,702,823	\$9,172,673
	10%	74,923	(3,973)	(\$2,313,096)	(\$6,226,902)	31,350	\$3,962,974	\$3,892,932	\$6,276,069	\$10,119,834
	15%	112,385	(41,435)	(\$3,102,458)	(\$7,240,915)	31,350	\$4,013,447	\$3,926,121	\$7,115,905	\$11,167,036
	25%	187,308	(116,358)	(\$4,943,698)	(\$12,246,128)	31,350	\$4,100,203	\$3,953,336	\$9,043,901	\$16,199,464
	50%	374,616	(303,666)	(\$9,678,766)	(\$25,815,180)	31,350	\$4,256,076	\$3,860,743	\$13,934,842	\$29,675,922
Historical Astoria LMPs X2	0%	0	337,722	(\$3,727,217)	(\$28,119,827)	34,200	\$10,403,895	\$10,276,185	\$14,131,112	\$38,396,012
	25%	187,308	150,414	(\$6,957,434)	(\$25,620,066)	34,200	\$11,075,987	\$10,990,847	\$18,033,421	\$36,610,913
MISO LMP Price Cap \$3,500/MWh	0%	0	749,232	\$208,816,344	\$127,252,224	34,200	\$245,272,001	\$245,101,721	\$36,455,656	\$117,849,497
	25%	187,308	561,924	\$207,466,301	\$146,293,211	34,200	\$247,740,255	\$247,612,545	\$40,273,954	\$101,319,334
Historical SPP Big Stone LMPs	0%	0	533,544	\$45,673,869	(\$9,688,416)	34,200	\$71,788,382	\$71,639,387	\$26,114,513	\$81,327,803
	25%	187,308	346,236	\$43,969,076	\$4,875,626	34,200	\$72,460,473	\$72,354,048	\$28,491,398	\$67,478,423

As noted by Mr. Retzlaff, the yellow highlighted column “Net Benefit: Average Gas Case” where February 2021 historical Astoria LMP data was utilized, reflects a net benefit of dual fuel capability ranging from \$4.7 million to \$23.7 million.³⁸ These figures are bookends based on the amount of timely (day ahead) fuel Otter Tail could have purchased ranging from zero to 100 percent. This analysis demonstrates that in the historical Winter Storm Uri extreme event, were Otter Tail to have purchased 25 percent to 50 percent of its natural gas in the day ahead market³⁹, having the flexibility provided by on-site fuel would have produced net financial benefits ranging between \$9 million and \$14 million dollars. This is for a *single* winter event. Under the additional scenarios considering the possibility of LMP prices above what was historically experienced during Winter Storm Uri, the net benefit ranged from \$14.1 million - \$40.3 million.

This analysis reasonably demonstrates that the flexibility⁴⁰ and security provided by on-site fuel storage could produce significant financial benefits for Otter Tail

³⁸ Retzlaff Direct (OTP Ex. 5) p. 6.

³⁹ Mr. Retzlaff testified that Given the conditions of Winter Storm Uri “it is reasonable to assume 25 percent to 50 percent of Astoria’s gas needs would have been purchased utilizing timely nominations.” Retzlaff Rebuttal (OTP Ex. 6) p. 12.

⁴⁰ At hearing Mr. Retzlaff described the flexibility benefits quantified in this analysis as comprised of two factors: “The first benefit is elimination of having to make a timely natural gas decision. Because if we have onsite LNG fuel, my marketing team doesn't have to decide if we have to make a gas purchase in the morning or not. We can just put an offer in, and if it's competitive and -- or if it's not, we can access that LNC -- LNG fuel site immediately. The other part of that is having -- is the benefit of being able to have this now-low-cost fuel, 13-and-a-half-dollars LNG, that can be sold into a natural gas market. You know, as we saw in Uri, it got up to over \$180. It got up over -- to \$150 in Elliott in the intraday market. So there's great benefit on both of those sides, and that's what that analysis tried to quantify.” Retzlaff Transcript pp. 90-91.

customers while also providing substantial reliability benefits. In some scenarios the financial benefits would effectively cover the cost of the project. In other mid-range scenarios, the financial benefits would be less, but over the life of Astoria Station these benefits would offset a significant portion of the project's costs.

In addition to these benefits on-site fuel storage at Astoria Station provides a significant reliability benefit by ensuring the plant can be dispatched when called on by MISO. While reliability benefits are difficult to quantify, on-site fuel storage is consistent with the calls from MISO, FERC, and NERC (and others) for generation owners to take action to ensure reliability during extreme events.⁴¹ On-site fuel reserves is an action item recommended by NERC to promote fuel assured generation.⁴² As a MISO member Otter Tail is responding to these calls for action with its plan to add on-site fuel storage at Astoria Station.

The addition of fuel storage at Astoria Station and the fuel assurance it provides is likely to increase in value as the MISO generation fleet transitions away from dispatchable, fuel assured, baseload units to intermittent resources.⁴³ As noted by Mr. Jensen “[a]lthough currently not required by MISO, we believe investing in fuel assurance at Astoria will not only provide immediate and direct reliability benefits to our customers and MISO as a whole, but it will also hedge ourselves against potential accreditation changes in the future for a unit that is roughly 25 percent of our overall accredited resource fleet.”⁴⁴

On site LNG fuel storage also addresses current capacity accreditation issues. Recent MISO changes incent generation resource owners to maintain availability during

⁴¹ Jensen Rebuttal (OTP Ex. 12) pp. 2-3.

⁴² *NERC Reliability Guideline, Fuel Assurance and Fuel Related Reliability Risk Analysis for the Bulk Power System*, March 2020, p. 1, cited in Jensen Rebuttal(OTP Ex. 12) p. 3.

⁴³ Jensen Rebuttal (OTP Ex. 12) pp. 5-6.

⁴⁴ *Id.* Mr. Jensen also underscored that the added resiliency provided by fuel storage was important given the fact that Astoria Station makes up approximately 25 percent of Otter Tail's generation portfolio: “When you look at Otter Tail specifically, we're one of the smallest utilities, and Astoria makes up about 25 percent of our generation portfolio. So if we were to lose Astoria in an extreme event, it has significant impact. Where a utility like NSP- or Xcel-size, to lose 285 megawatts, there -- there's a lot more customers to spread that risk across.” Jensen Transcript p. 147.

extreme events. Specifically, MISO bases 80 percent of a resource’s accreditation on its availability during “Tier 2” hours - hours where the amount of excess generation across MISO is limited, usually coinciding with extreme weather events. A generation unit that misses a significant number of Tier 2 hours will suffer a reduction in capacity credit for that resource for a period of three successive years.⁴⁵ This is not a speculative concern. As noted above, Astoria Station’s forced outage during Winter Storm Elliot will likely cause MISO to derate Astoria Station’s accredited capacity by approximately 50 MWs for a three-year period.⁴⁶ While this loss in capacity accreditation does not leave Otter Tail short on required capacity levels, it does present an opportunity cost in that it removes 50 MW of capacity that Otter Tail could otherwise offer in the MISO capacity auction.⁴⁷ On-site LNG fuel storage would allow Astoria Station to avoid capacity derates caused by fuel supply interruptions.

D. Options to Onsite LNG Fuel Storage Are Not Adequate to Address the Risk.

Otter Tail considered alternatives to on-site fuel storage, none of which were adequate. Mr. Retzlaff, who is responsible for overseeing all of Otter Tail’s wholesale energy market activities including hedging strategies, evaluated forward natural gas purchases and natural gas call options, both with physical delivery of natural gas, as financial instrument alternatives.⁴⁸ Mr. Retzlaff noted that such instruments may help manage some types of risks, they are unable to adequately mitigate intraday pricing risk, particularly during extreme system events.⁴⁹ Moreover these instruments do not address instances when pipeline delivered gas is not available due to production or pipeline disruptions. On that point Advocacy Staff acknowledges that LNG fuel storage is the most

⁴⁵ Jensen Rebuttal (OTP Ex. 12) p.6.

⁴⁶ Tollerson Transcript at 24-25; Jensen Transcript pp. 140 -143.

⁴⁷ “And so even though we may have length, the fact that we have length means that we would sell the capacity if it were available from the unit. That revenue would be a direct offset to our customers’ rates. So while there may not be a real cost of having to buy purchased capacity, there is an opportunity cost in not being able to sell capacity that we would otherwise have.” Tollerson Transcript at 26.

⁴⁸ Heidell Direct (PSC Ex. 1) p. 11.

⁴⁹ Retzlaff Transcript pp. 78-81.

reasonable option to ensure operational reliability.⁵⁰ As noted above Otter Tail also evaluated battery storage and additional sources of pipeline delivered fuel, neither of which were financially viable.⁵¹

At hearing there was discussion about the prospect of better alignment between electric and natural gas markets, efforts to prevent disruptions of natural gas production and pipeline delivery, and tools MISO may employ to limit intraday pricing risk, all going to the reasonable question whether it may be more prudent to wait for improvements in these areas before investing in on-site fuel storage for Astoria Station.⁵² Otter Tail supports and welcomes all efforts to address these issues, and we will advocate for changes that address the risks underlying this ADP Application. However, many of these hoped-for improvements have been discussed for a long time and are beyond the control of Otter Tail. As explained by Mr. Tollerson:

I think our concern is that time is short, and we need to advance on projects that we know can resolve these issues. Whether it's lack of fuel and the reliability concerns that go along with that; intraday pricing concerns that may or may not be alleviated based on some of the proposals that are out there; the loss of accreditation that we have under the Midcontinent ISO in their current construct. We are in a period of great flux and very, very fast change, and it's difficult for us to get comfortable waiting on things that we know have been in the works for a long time. Again, not dismissing that we're hopeful that real and substantive changes are made, but it's of concern.⁵³

The other option to on-site LNG fuel storage at Astoria Station is to take no action and manage the risks associated with extreme events with the tools at the Company's disposal, which is effectively self-insuring against the risks. This is the recommendation of Advocacy Staff. To be clear, self-insuring means Otter Tail's customers bear the risk of a future Uri-like event through the Company's fuel clause. Self-insuring against the

⁵⁰ Heidell Direct (PSC Ex.1) p. 17.

⁵¹ *Id.* pp. 10-11.

⁵² Tollerson Transcript pp. 50-55.

⁵³ Tollerson Transcript pp. 54-55.

risk is the least cost option ---- until it is not. This is the challenge of questions that weigh the cost effectiveness of insurance. Were another Uri or Elliot like event deemed unlikely, and the magnitude or severity of such an event predictable, then the equation may favor simply managing through the risk. The same may be true if it seemed likely that intraday pricing risks would be eliminated or greatly reduced through policy changes and improved coordination.

The record, however, indicates that extreme events are likely to occur in the future and that these events could be as or more severe than Winter Storms Uri and Elliot. The record is clear on the limited tools available to Otter Tail to manage risk associated with these events. Moreover intra-day pricing risk, a complex and multifaceted issue, will likely remain a risk for years to come. In this environment it is prudent to secure insurance provided by on-site fuel storage.

Otter Tail is acutely aware of the cost impact of the LNG fuel storage on our customers. We are also acutely aware of the potential price and reliability impacts on our customers from another Uri-like event. In balancing these concerns, prudence favors the pro-active approach which carries multiple benefits for our customers, rather than a passive approach that relies on the absence of extreme events, or if extreme events occur, the consequences for Otter Tail customers will not be severe.

IV. THE RECORD DOES NOT SUPPORT DENIAL OF OTTER TAIL'S ADP APPLICATION

Advocacy Staff recommends that the Commission deny Otter Tail's ADP Application. The central theme behind this recommendation is that the potential benefits of having on-site fuel storage are insufficient in relation to the project's costs.⁵⁴ With respect to natural gas price volatility and intra-day pricing risk, Advocacy Staff witness

⁵⁴ Heidell Direct (PSC Ex. 1) p. 36-37. Mr. Heidell questioned the reliability benefits to be derived by on-site fuel noting that such benefits "are hard to quantify given the existing winter reserve margin requirement of over 25 percent and Otter Tail's classification that over 90 percent of its generation is already resilient." He also questioned the hedge value of on-site storage outside of major winter storms. Id.

Mr. Heidell concludes that “[w]hile onsite fuel storage for Astoria will provide insurance against gas price spikes during major winter storms, I have concluded that the cost of that insurance appears high compared to the anticipated savings for customers.”⁵⁵

Mr. Heidell’s recommendation rests on several unsupported and erroneous conclusions, including the following: (1) erroneously concluding that Astoria Station’s forced outage in December 2022 was due to fuel transport issues, rather than lack of fuel supply; (2) dismissing Otter Tail’s financial analysis of the potential benefits of fuel storage at Astoria Station based on an erroneous understanding of daily energy and natural gas logistical scheduling constraints and associated intra-day pricing risks; and (3) supporting an unwarranted view that hedging utilizing forward energy purchases and call options can provide an adequate substitute for stored fuel at Astoria Station. Collectively these issues cause Advocacy Staff to understate the value of having stored fuel at Astoria Station and overstate the usefulness of alternatives to stored fuel.

Misconstruing Astoria Station’s Forced Outage

Mr. Heidell’s pre-filed direct testimony indicates in part, “Tenaska Marketing Ventures, the asset manager for Astoria, holds firm transportation rights on Northern Border, but delivery to Astoria is secondary firm, not primary. Therefore, Astoria was unable to receive gas during this time.”⁵⁶ In making this assertion Mr. Heidell suggests that the reason Astoria Station was unable to receive gas during Winter Storm Elliot was insufficient transport service. This is not the case.

The forced outage at Astoria Station during Winter Storm Elliot was not a result of transport priority or transport curtailment, it was due to lack of fuel supply.⁵⁷ At hearing Mr. Retzlaff explained that Otter Tail procures fuel transport through Tenaska Marketing Ventures through secondary in path transport service, but this had no bearing on the lack of fuel supply available during Winter Storm Elliot:

⁵⁵ Heidell Direct (PSC Ex.1) p. 55.

⁵⁶ Id. p. 21.

⁵⁷ Retzlaff Surrebuttal (OTP Ex. 8) p.3; Retzlaff Transcript p. 74.

However, through all of -- you know, Tenaska moves all that transport, all that gas on firm primary transport. If there is a de-rate or a curtailment, it happens at the point of where that curtailment occurs. So if it happens up-line, we're still on primary firm transport all the way to Astoria Station. At the node, it's secondary transport, which is lower -- a lower service, but there should never be a binding constraint at Astoria. Because the meter is sized larger than the plant, and Otter Tail is the only one taking -- withdrawing gas at that node. So for all practical purposes, we receive natural gas on primary firm transport at Astoria.⁵⁸

The lack of fuel supply during Winter Storm Elliot was in fact due to production facility freeze offs and the inability to inject molecules into the pipeline.⁵⁹ This is not a small point because the lack of fuel supply (as opposed to lack of transport) was beyond Otter Tail's control, which further demonstrates the need for fuel storage at Astoria Station. As noted by Mr. Retzlaff "[o]n-site LNG storage would have enabled Astoria to run through the outage, which was due to lack of fuel supply, with no interruption. MISO would have been able to continue commitment of Astoria for both economic and reliability purposes for the duration of the winter storm event."⁶⁰

Financial Benefits Analysis

In addition to misconstruing the reason for Astoria Station's forced outage during Winter Storm Elliot, Mr. Heidell also errs in his assessment of Otter Tail's financial benefits analysis based on Winter Storm Uri. This analysis, discussed on pages 13-14 above, sought to quantify the possible financial impacts that might have occurred if Astoria Station had been online and operational during Winter Storm Uri.⁶¹ Mr.

⁵⁸ Retzlaff Transcript pp. 111-112.

⁵⁹ "Lack of transport occurs when there is insufficient capability of the pipeline infrastructure to move nominated gas volumes. For example, this may occur during the outage of a pipeline compressor station. Lack of supply occurs when production facilities are unable to inject enough natural gas into the pipeline to meet the desired demand for natural gas fuel supply. Lack of supply occurred during Winter Storm Elliot due to production facility freeze offs and their inability to inject gas molecules into the pipeline infrastructure. To be clear, the forced outage of Astoria Station associated with the Winter Storm Elliot event was not an issue of transport availability or curtailment." Retzlaff Surrebuttal (OTP Ex. 8) p. 3.

⁶⁰ Id. p.4.

⁶¹ "The analysis utilized historical data while varying two different variables: system LMP pricing and timely natural gas purchases. Otter Tail considered four LMP pricing scenarios: historical Astoria LMP

Retzlaff's analysis demonstrated there are many possible scenarios where onsite LNG storage would have provided significant financial benefits and that "the net present value of the financial benefits for many of the studied scenarios offsets a significant portion of the cost of the project while also increasing reliability and reducing rate volatility."⁶²

Mr. Heidell, who has no direct experience in managing the risks managed by Mr. Retzlaff,⁶³ dismissed this analysis, concluding that Otter Tail's estimation of cost savings were over-stated.⁶⁴ According to Mr. Heidell "the high financial loss scenarios the assumptions are not reasonable regarding varying amounts of day ahead purchase that would have been purchased".⁶⁵ Mr Heidell concluded that no timely (day ahead) natural gas purchases should be considered valid,⁶⁶ which directly conflicts with the assessment of Mr. Retzlaff.⁶⁷ Consequently Mr. Heidell dismisses nearly all potential net benefits identified by the Winter Storm Uri analysis.

Mr. Heidell's conclusion, however, rests on the erroneous assumption that Otter Tail can make timely (day ahead) gas purchases *after* MISO posts day ahead commitment and dispatch instructions.⁶⁸ As Mr. Retzlaff explained in pre-filed testimony and at hearing Otter Tail is required to make timely gas purchases by 8:30 AM the day prior to the operating day. Otter Tail is required to supply its generation offers to MISO (utilizing an estimated natural gas pricing quote) by 9:30 AM prior to the operating day. It isn't

pricing, x2 historical Astoria LMP pricing, LMP pricing at VoLL (MISO's maximum allowed LMP price), and historical SPP pricing (utilizing Big Stone Plant as a near proxy). Timely natural gas purchases ranged from 0 percent to 100 percent of Astoria's daily fuel consumption." Retzlaff Rebuttal (OTP Ex. 6) p. 7.

⁶² Id.

⁶³ Heidell Transcript p. 165.

⁶⁴ Heidell Direct (PSC Ex.1) p. 28.

⁶⁵ Id.

⁶⁶ Id. p. 29; Heidell Surrebuttal (PSC 2) p. 6.

⁶⁷ Mr. Retzlaff responded to Mr. Heidell's assessment that no timely purchases would be made noting that Given the conditions of Winter Storm Uri, Otter Tail believes it is reasonable to assume 25 percent to 50 percent of Astoria's gas needs would have been purchased utilizing timely nominations. Under such a scenario, the calculated net benefit of onsite fuel storage would have ranged between approximately \$9M and \$13.9M. Retzlaff Rebuttal (OTP Ex. 6) p. 12.

⁶⁸ This is demonstrated by Mr. Heidell statement that "All but the 0% Timely Purchase scenarios assume that various amounts of gas are bought day ahead on February 11, 2021, thru February 20, 2021. However, given the actual Day Ahead prices Otter Tail's bids into MISO would not have been picked up based upon the expectation of gas prices. **If the bids were not selected, then Otter Tail would not have purchased day ahead gas and then liquidated the gas intra-day at a loss.**" (emphasis added). Heidell Direct (PSC. Ex. 1) p. 28-29. This statement reflects a fundamental misunderstanding of how and when Otter Tail makes fuel procurement decisions, especially in volatile market conditions.

until approximately 12:30 PM, prior to the operating day, that Otter Tail receives generation day ahead clearing results.⁶⁹ As such, it is not possible for Otter Tail to know, at the time of generation offer submission, if MISO will commit and dispatch the unit or how much natural gas fuel supply will be required for such a commitment and dispatch. This is why Otter Tail’s financial benefits analysis based on Winter Storm Uri specifically examined sensitivities associated with timely (day ahead) gas purchases. As a result of Mr. Heidell’s erroneous understanding of natural gas and electric trading day logistics, he dismisses all cases that assume any level of timely (day ahead) gas purchases. Such a conclusion is not accurate and discards numerous scenarios which would provide considerable financial benefits.⁷⁰

The record demonstrates that Advocacy Staff’s dismissal of Otter Tail’s financial analysis is based on erroneous assumptions concerning natural gas and electric trading day logistics and intraday pricing risk. It also assumes perfect, after the fact knowledge that a previous day’s market performance will accurately reflect the next day’s performance, which is at best uncertain during extreme events.⁷¹ Given this faulty foundation the Commission should give significant weight to Mr. Retzlaff’s conclusion the net present value of the financial benefits is likely to offset a significant portion of the cost of the project while also increasing reliability and reducing rate volatility.

Hedging Alternatives

Mr. Heidell has also opined that financial hedging may be a more viable strategy to manage gas market volatility than on-site fuel storage,⁷² and that pure financial hedges are a viable strategy.⁷³ Mr. Heidell’s direct testimony, however, indicates that these instruments are an effective way to manage gas price volatility “outside of extreme events.”⁷⁴ Mr. Retzlaff has noted his general agreement that financial hedges may be a

⁶⁹ Retzlaff Rebuttal (OTP Ex. 6) p. 11; Retzlaff Transcript pp. 99-107.

⁷⁰ Retzlaff Rebuttal (OTP Ex. 6) p. 12.

⁷¹ Retzlaff Surrebuttal (OTP Ex. 8) p. 5.

⁷² Heidell Direct (PSC Ex. 1) p. 12.

⁷³ Id. p. 13.

⁷⁴ Id. p. 14-15.

more cost effective approach to manage changing natural gas prices outside of extreme events.⁷⁵ This does not, however, address how best to manage market volatility *during* extreme events. As explained by Mr. Retzlaff “the primary financial benefits associated with onsite LNG fuel storage occur during extreme and volatile system events. These benefits occur through mitigation of intra-day pricing risk and maintaining a low-cost, stable, fuel supply during volatile market conditions.”⁷⁶

Mr. Retzlaff has described the shortcomings of financial hedging instruments,⁷⁷ including “complexity of sizing, liquidity, expense, and long-term price certainty.”⁷⁸ To be effective, hedging instruments would need to be oversized thus very expensive to carry a generation unit through a significant winter event. In some cases these instruments are not liquid (i.e. not available or difficult to find) which is the case for call options, and these instruments generally lack long term price certainty into forward years, limiting their usefulness.⁷⁹ All of these instruments compare poorly to on-site fuel storage as means to manage intraday pricing risk, and none provide a hedge against physical loss of natural gas supply.⁸⁰ In sum, the record reflects that Otter Tail considered relevant financial hedging tools, and that none are a reasonable substitute for on-site LNG fuel storage.

⁷⁵ Retzlaff Rebuttal (OTP Ex 6) p. 14.

⁷⁶ Id. Mr. Retzlaff further why LNG fuel storage is favored over hedging options: “Onsite LNG fuel storage is the only hedging option that provides increased fuel supply assurance and operational reliability in the event of both pipeline transport disturbances and supply disturbances. From a financial standpoint, onsite LNG fuel storage provides the best protection against intra-day pricing risk during extreme system events. It also provides the most operational flexibility and accessibility. Forward purchases, call options, and storage contracts are subject to scheduling constraints associated with the daily natural gas markets. For example, an Astoria commitment occurring after the last intra-day gas nomination cycle, at would not be able to nominate additional fuel supply from the pipeline until the following morning. Onsite LNG fuel storage would not be subject to any scheduling constraints or production reductions. Onsite LNG storage would have immediate access to its stored fuel resources allowing the plant to operate at full output up to five days.” Retzlaff Rebuttal (OTP Ex. 6) at 14-15.

⁷⁷ Otter Tail examination of hedging instruments included forward natural gas purchases, natural gas call options, and natural gas storage alternatives. Heidell Direct (PSC Ex. 1) p. 11; Retzlaff Rebuttal (OTP Ex. 6) p.12.

⁷⁸ Retzlaff Surrebuttal (OTP Ex. 8) p. 2.

⁷⁹ Id.

⁸⁰ Id. p.3

V. CONCLUSION

Otter Tail acknowledges and appreciates that this ADP Application presents challenging issues, including how one can reasonably weigh cost and benefits associated with hard to predict future events. What the record makes clear, however, is that there are risks associated with extreme weather events, that these events are increasingly likely to occur in the future, and that prudence supports a pro-active approach. Otter Tail submits the prudent response in this environment is to move forward with LNG fuel storage at Astoria Station. Therefore, for the reasons set forth above, Otter Tail Power respectfully requests the Commission grant an ADP for the Company's proposed Astoria Station onsite fuel inventory system.

DATED: February 2, 2024

Respectfully submitted,

OTTER TAIL POWER COMPANY

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**STATE OF NORTH DAKOTA
PUBLIC SERVICE COMMISSION**

**In the Matter of Otter Tail Power Company
Advance Prudence Application –
Astoria Station Onsite Fuel
Inventory System**

Docket No. PU-23-066

OAH File No. 202300080

**APPLICANT OTTER TAIL POWER COMPANY’S PROPOSED
FINDINGS OF FACT, CONCLUSIONS OF LAW, AND ORDER**

February 2, 2024

Appearances

Commissioners Randy Christmann, Sheri Haugen-Hoffart, Julie Fedorchak

Cary Stephenson, Associate General Counsel, Otter Tail Power Company, 215 S. Cascade Street, Fergus Falls, MN, on behalf of Otter Tail Power Company.

Brian L. Johnson, Special Assistant Attorney General, 122 East Broadway Avenue, Bismarck, North Dakota 58501, on behalf of Public Service Commission Advocacy Staff.

John M. Shuh, General Counsel, Public Service Commission, State Capitol, 600 East Boulevard Avenue, Bismarck, North Dakota 58505, on behalf of the Public Service Commission Advisory Staff.

Timothy J. Dawson, Administrative Law Judge, P.O. Box 1695, 316 North 5th Street, Bismarck, ND 58502-1695.

Preliminary Statement

On February 8, 2023, Otter Tail Power Company (Otter Tail) filed an application with the North Dakota Public Service Commission (Commission) seeking an advance determination of prudence (ADP) under North Dakota Century Code Section 49-05-16 for a liquified natural gas storage (LNG) system to be constructed at Astoria Station, Otter Tail’s 250 MW natural gas-fired, frame-style, simple cycle combustion turbine generation facility near Astoria, South Dakota.

On October 11, 2023, the Commission issued a Notice of Public Hearing, scheduling a public hearing for December 12, 2023, at 8:30 a.m. in the Commission Hearing room, 12th Floor, State Capitol, 600 East Boulevard Avenue, Bismarck, North Dakota 58505. The Notice specified that the issue to be considered was whether Otter Tail should be granted an advanced determination that its proposed resource addition is prudent.

On December 12, 2023, the public hearing was held as noticed.

Having allowed all interested persons an opportunity to be heard and having heard and considered all testimony and evidence presented, the Commission makes the following:

Findings of Fact

1. Otter Tail is an investor-owned electric utility headquartered in Fergus Falls, Minnesota, authorized to provide public utility service in North Dakota under the regulatory jurisdiction of the Commission.
2. Astoria Station is Otter Tail's 250 MW natural gas-fired, frame-style, simple cycle combustion turbine generation facility located near Astoria, South Dakota. Otter Tail placed Astoria Station into service in 2021 following the Commission's issuance of an Order finding Astoria Station prudent in Case No. PU-17-140.
3. Astoria Station is fueled by natural gas delivered by the Northern Border Pipeline. Astoria Station currently lacks on-site fuel storage.
4. Recent events have caused the electric utility industry and regulators to evaluate risks posed by extreme weather events on the operation and reliability of natural gas-fired combustion turbines reliant on pipeline delivered fuel. Specifically Winter Storm Uri (February 2021) caused widespread outages and extreme natural gas and electric market volatility in certain parts of the United States. Astoria Station was not in service at the time of Winter Storm Uri.
5. More recently Winter Storm Elliot (December 22-26, 2022) affected Astoria Station. Otter Tail testified that fuel supply interruptions caused by Winter Storm Elliot caused a forced outage at Astoria Station, which is likely to result in MISO derating a portion of the plant's capacity accreditation for a period of three years.
6. Otter Tail testified that adding LNG fuel storage at Astoria Station addresses two primary risk-based needs: (1) the risk to reliability caused by interruptions in pipeline delivered natural gas, and (2) intraday pricing risk, which is significantly amplified by volatile natural gas market conditions during extreme events.
7. Otter Tail testified that intraday pricing risk is driven by the fact that Otter Tail must buy day ahead natural gas for Astoria Station and offer Astoria Station's output to MISO well in advance of MISO clearing Otter Tail's offer. Depending on how MISO clears the Company's offer, the Company, may need to secure additional natural gas at then

prevailing market rates, or sell back unused gas. Otter Tail testified that this risk is compounded when considering MISO only guarantees make whole payments based on offer costs, not actual fuel procurement costs.

8. Fuel procurement costs are a pass-through cost to Otter Tail's customers typically recovered through the Company's fuel clause.
9. Otter Tail testified that on-site LNG fuel storage will provide fuel assurance for Astoria Station, allowing the plant to operate even when the delivery of pipeline fuel is interrupted, and that this has significant reliability and resiliency benefits.
10. Otter Tail also testified that the flexibility of having on-site LNG fuel at Astoria Station will allow Otter Tail to manage intraday pricing risk, and that this flexibility has significant potential financial benefits for Otter Tail's customers that may offset a significant portion of the cost of the proposed LNG fuel storage system.
11. Advocacy Staff questioned the need for on-site fuel storage, challenging Otter Tail's assessment of natural gas market volatility and threats to reliability. Advocacy Staff also disputed the potential financial benefits provided by on-site LNG fuel storage, noting that that the purported benefits of on-site LNG fuel storage do not appear to outweigh the costs of the LNG fuel storage system proposed by Otter Tail.
12. Otter Tail disputed Advocacy Staff's assessment, noting the addition of on-site fuel storage at Astoria Station proposal is consistent with recommendations and warnings issued by the Federal Energy Regulatory Commission (FERC) the North American Energy Reliability Council (NERC) and the Midcontinent Independent System Operator (MISO).
13. Otter Tail testified that on-site fuel storage is the least cost, responsible approach to addressing the risk-based needs at Astoria Station, and that other options are inadequate. Otter Tail views on-site fuel storage as the mitigation measure within the Company's control to mitigate the reliability and intraday pricing risks identified in the proceeding.
14. Winter Storm Uri and Winter Storm Elliot demonstrated risks to natural gas generation reliant on just-in-time pipeline delivered fuel.
15. Fuel assurance, a key MISO reliability attribute, is supported by on-site fuel storage.
16. Intraday pricing risk for Otter Tail 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. Intraday pricing risk can in certain conditions expose Otter Tail customers to extraordinary price risks during periods of high natural gas market volatility, which is most likely to occur during extreme weather events.
17. Alternatives to LNG fuel storage at Astoria Station do not address the full range of risk identified by Otter Tail.
18. Whether the cost of LNG fuel storage is justified in relation to its benefits is a difficult

question due to uncertainty about the location, frequency, and magnitude of future extreme weather events and whether future developments such as better coordination among gas and electric industries will mitigate these risks.

19. In considering the nature of the risks to Astoria Station, the potential for such risks in the future, and the potential magnitude of these risks, a proactive approach of adding LNG fuel storage can be justified over other alternatives.
20. The Commission finds that the proposed Astoria Station LNG Fuel Storage Project is a prudent resource addition to satisfy the risk-based needs identified by Otter Tail.

Conclusions of Law

1. The Commission has jurisdiction in this matter.
2. Otter Tail has complied with the provision of N.D.C.C. section 49-05-16.
3. The LNG fuel storage at Astoria Station as proposed by Otter Tail is a prudent addition to Otter Tail's system.

From the foregoing Findings of Fact and Conclusions of Law, the Commission issues its:

Order

1. Otter Tail's application for an advanced determination of prudence for an LNG fuel storage system at Astoria Station is GRANTED.

PUBLIC SERVICE COMMISSION

Sheri Haugen-Hoffart
Commissioner

Randy Christmann
Chair

Julie Fedorchak
Commissioner

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STATE OF NORTH DAKOTA
PUBLIC SERVICE COMMISSION

In the Matter of Otter Tail Power Company Advance
Determination of Prudence Application - Astoria Station
Onsite Fuel Inventory System

PSC CASE NO. PU-23-66

Met, pursuant to Notice, at 8:30 in the
morning on December 12, 2023.

BEFORE: Administrative Law Judge Timothy Dawson,
Chair Randy Christmann, Commissioner Julie
Fedorchak, Sheri Haugen-Hoffart

1 APPEARANCES:

2 CAREY STEPHENSON, appeared for and on
3 behalf of Otter Tail Power Company.

4 BRIAN JOHNSON, Special Assistant Attorney
5 General, appeared for and on behalf
6 of the Advocacy Staff - Public Service Commission.

7 JOHN SCHUH, Special Assistant Attorney
8 General, General Counsel to the Public Service
9 Commission.

10 PSC STAFF:

11 Chris Hanson
12 Victor Schock

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1 JUDGE DAWSON: Good morning. I'm Timothy
2 Dawson, an Administrative Law Judge designated by
3 the Office of Administrative Hearings upon the
4 request of the Public Service Commission to serve as
5 hearing officer for this hearing. This is North
6 Dakota Public Service Commission Case Number
7 PU-23-66.

8 Before we begin today, please turn off or
9 silence your cell phones. There should be an
10 attendance sheet going around somewhere. I would
11 like everybody to sign it and put their address, or
12 at least the city from which they are from.

13 This is the hearing on the Application of
14 Otter Tail Power Company for an Advanced
15 Determination of Prudence for the Development,
16 Ownership, and Operation of an Onsite Fuel Inventory
17 System at the Astoria Station.

18 Let the record show that it is 8:30 a.m.
19 Central Standard Time on the 12th day of
20 December 2023, and we are at the Commission Hearing
21 Room on the 12th floor of the State Capitol. This
22 is the time, date, and place set by the Notice of
23 Hearing issued by the North Dakota Public Service
24 Commission on October 11th, 2023. The issue to be
25 considered is whether Otter Tail Power should be

1 granted an advanced determination of prudence that
2 its proposed resource addition is prudent.

3 We will now have the parties make their
4 appearances.

5 Mr. Stephenson, please state your
6 appearance for the record and tell me the names of
7 the witnesses you expect to call today.

8 MR. STEPHENSON: Thank you, Judge. Cary
9 Stephenson, on behalf of Otter Tail Power Company.
10 And the witnesses that we will call today are the
11 witnesses that have filed pre -- or made prefiled
12 testimony in the record, and they are Bradley
13 Tollerson, Ryan Retzlaff, Kirk Phinney, and Nathan
14 Jensen.

15 JUDGE DAWSON: Thank you.

16 Mr. Johnson, could you state your
17 appearance for the record and the names of your
18 expected witnesses and any Commission staff that may
19 participate.

20 MR. JOHNSON: Sure. Brian Johnson, I'm
21 assigned advocacy legal for the Commission. I have
22 Chris Hanson with me. I'd ask that he be allowed to
23 ask questions, if necessary. I have one witness
24 today, James Heidell, and that's it.

25 JUDGE DAWSON: As long as there's no

1 objection to Mr. Hanson asking questions, I will
 2 allow it.

3 MR. STEPHENSON: No objection.

4 JUDGE DAWSON: Okay. And Mr. Schuh.

5 MR. SCHUH: Good morning, Your Honor.
 6 John Schuh, I'm with the advisory staff, and along
 7 with me today is Victor Schock.

8 JUDGE DAWSON: Well, is there anybody in
 9 the audience today that plans to provide public
 10 testimony?

11 I don't see anyone here at this time, but
 12 if anyone changes their mind or wants to, they sure
 13 may decide later on in the hearing because we'll
 14 have a particular portion of the hearing set aside
 15 for just that.

16 It's time for opening remarks by the
 17 Commissioners.

18 Commissioner Haugen-Hoffart.

19 COMMISSIONER HAUGEN-HOFFART: Good
 20 morning, everyone. Good to see a large contingency
 21 here. Interesting case. I look forward to hearing
 22 the testimony on it. I think we're all going to
 23 learn some stuff on reliability, resiliency, and
 24 cost-benefit.

25 So with that, I will pass it on to other

1 Commissioners, and I look forward to hearing from
2 each of you that are called as witnesses.

3 JUDGE DAWSON: Commissioner Christmann.

4 CHAIR CHRISTMANN: No opening comments,
5 Your Honor. Ready to get started.

6 JUDGE DAWSON: Commissioner Fedorchak.

7 COMMISSIONER FEDORCHAK: Thank you,
8 Judge.

9 Good morning, everyone. It's good to see
10 everybody else dressed up in your suits. Can get
11 professional when we have to, right?

12 So I'm excited about this case, too. In
13 the other job that I've taken on, the Neighbor
14 Leadership position, one of the initiatives that I
15 launched was called GEAR: Gas-Electric Alignment
16 for Reliability, and I'm in the throes this week,
17 last week of trying to decide industry reps to fill
18 the roles, along with Commissioners, to address
19 these issues. And everything here is just, like,
20 front and center on the gas-electric alignment
21 issues that we face.

22 And so it's great to have a case like
23 this, just, you know, front of mind as we approach
24 kind of a new way of trying to solve some of these
25 issues. And I do think that, you know, this case

1 really brings forward a lot of the weaknesses in our
2 current system and the lack of alignment, the
3 challenges that electric utilities face and the gas
4 industry faces in trying to work together to meet
5 the need.

6 So I look forward to our discussion today
7 and what we can come up with to try to address this
8 in a smart way, so thank you.

9 JUDGE DAWSON: Mr. Stephenson and
10 Mr. Johnson, do you have a stipulation as to your
11 exhibits? The PSC has put before me PSC 1 and PSC
12 2; and Mr. Stephenson has provided Otter Tail Power
13 Company, or OTP, 1 through OTP 17. Do we have a
14 stipulation?

15 MR. STEPHENSON: Yes, Your Honor.

16 MR. JOHNSON: Yes, Your Honor.

17 JUDGE DAWSON: So the exhibits are so
18 marked and admitted.

19 (Exhibits PSC 1-2 and OTP 1-17 received.)

20 JUDGE DAWSON: Are there any preliminary
21 matters or motions that need to be brought before me
22 at this time?

23 MR. STEPHENSON: Yes, Your Honor. We
24 just have a couple of administrative matters. OTP
25 Exhibit 17 is an update or a revision to the project

1 schedule that is in our application and in the
2 testimony of Brad Tollerson and Kirk Phinney. And
3 it's just a revision to reflect a passage of time
4 and some other issues that -- the short story is
5 that in the application and testimony, we projected
6 an inservice date. Initially when we filed our ADP
7 back in February of this year, we projected an
8 inservice date of December of '26. Now, we're
9 projecting an inservice date of September of '27. I
10 just wanted to make sure that got into the record.

11 And the other matter, at least in our
12 exhibits and application, we'll try very hard to be
13 careful with the trade secret issues. Our witnesses
14 will refer -- I think that the main one that may be
15 discussed is the project cost. That appears in our
16 application and throughout some of the testimony.
17 We're simply going to refer to it as "the project
18 cost" or "the estimated project cost," and I'll try
19 to make sure that we adhere to that.

20 JUDGE DAWSON: Well, Mr. Stephenson, do
21 you have any opening remarks, or would you like to
22 call your first witness ?

23 MR. STEPHENSON: I would like to call my
24 first witness, Your Honor.

25 JUDGE DAWSON: Proceed.

1 MR. STEPHENSON: Otter Tail Power calls
2 Brad Tollerson.

3 JUDGE DAWSON: Mr. Tollerson, I'm
4 required by law to tell you the penalties for
5 perjury in this state. Perjury is a class C felony
6 punishable by a fine of up to \$10,000 or a term of
7 imprisonment of up to five years or both. Do you
8 understand what perjury is and the penalties for it?

9 MR. TOLLERSON: I do.

10 JUDGE DAWSON: Understanding so, do you
11 promise or swear that the testimony that you're
12 about to give will be the truth?

13 MR. TOLLERSON: I do.

14 JUDGE DAWSON: With that, you may begin.

15 BRADLEY TOLLERSON,
16 after having been first duly sworn, was
17 examined and testified on their oath as follows:

18 MR. TOLLERSON: Well, good morning. My
19 name is Brad Tollerson, and I serve as Vice
20 President of Energy Supply for the Otter Tail --

21 JUDGE DAWSON: Oh, hold on. He's going
22 to ask you --

23 MR. STEPHENSON: I'll ask you a few
24 questions first.

25 MR. TOLLERSON: I'm sorry. Process, all

1 right.

2 UNIDENTIFIED: I serve no purpose here,
3 so I --

4 UNIDENTIFIED: Can you turn that on?

5 MR. TOLLERSON: Is my mic not on? There
6 we go.

7 DIRECT EXAMINATION

8 BY MR. STEPHENSON:

9 Q Mr. Tollerson, please state your name for the record
10 and your place of employment.

11 A My name is Bradley Tollerson, and I work for Otter
12 Tail Power Company.

13 Q And what do you do for the Otter Tail Power Company,
14 Mr. Tollerson?

15 A I am the Vice President of Energy Supply.

16 Q And how long have you been in that position?

17 A Just about 27 years.

18 Q Mr. Tollerson, have you filed prefiled testimony in
19 this matter?

20 A I have.

21 Q And if you were asked the questions in your prefiled
22 testimony today, would your answers be the same?

23 A Yes.

24 Q And, Mr. Tollerson, have you prepared an opening
25 statement and summary of that prefiled testimony?

1 A Yes, I have.

2 Q Mr. Tollerson, would you please read that into the
3 record?

4 A I will.

5 Good morning. My name is Brad Tollerson.
6 I am Vice President of Energy Supply for Otter Tail
7 Power Company.

8 Thank you for -- thank you, Judge Dawson
9 and Commissioners, for the opportunity to present
10 testimony in support of Otter Tail's application for
11 an advanced determination of prudence for an onsite
12 liquified natural gas fuel storage at Astoria
13 Station.

14 I also want to thank staff for their time
15 and effort in bringing this matter before the
16 Commission.

17 I will provide a brief summary of Otter
18 Tail's application and my prefiled testimony related
19 to the company's proposed fuel storage project.
20 Otter Tail constructed Astoria Station as part of
21 our replacement for the Hoot Lakes Station near
22 Fergus Falls.

23 Astoria Station is a natural fired --
24 natural-gas-fired, simple cycle unit, located in
25 northeastern South Dakota near Brookings. The unit

1 provides 285 megawatts of dispatchable capability in
2 the winter and 245 megawatts of dispatchable
3 capability in the summer.

4 It is a key part of Otter Tail's
5 generating fleet, providing capacity and
6 dispatchable energy on short-term notice. The unit
7 is capable of fast startup, getting the full output
8 in ten minutes. The unit is connected to the
9 Northern Border Pipeline, getting much of its supply
10 from the Bakken in western North Dakota.

11 The company designed the original Astoria
12 site to ensure that onsite fuel could be added if
13 deemed necessary in the future. However, at that
14 time, the unit design and construction, we were only
15 aware of one significant natural gas event: The
16 Polar Vortex of 2014. Since that time, we've seen
17 Winter Storm Uri and Winter Storm Elliott and the
18 impacts they can have on the electric system. They
19 had catastrophic reliability and economic
20 consequences for certain regions of the United
21 States.

22 Furthermore -- furthermore, MISO has
23 begun defining reliability attributes , including
24 fuel assurance, and NERC, FERC, and MISO have
25 stressed the importance of reliable natural gas

1 supply during tight system conditions and
2 emergencies.

3 NERC is now highlighting the increased
4 risk of extreme weather events, leading many to
5 believe that the recent events we've seen may only
6 become more frequent. As new information is
7 received, it is prudent that we modify our plans to
8 meet the needs of the evolving system.

9 The proposed project would have a
10 liquified natural gas storage facility adjacent to
11 Astoria Station. This stored fuel would be used in
12 the event that fuel is not capable of being
13 delivered on the pipeline, like during Winter Storm
14 Elliott, and when misalignment of natural gas and
15 electricity markets create significant negative
16 economic consequences for our customers.

17 These risks and challenges are very real,
18 as demonstrated by recent winter storms. This
19 project reduces the risk of significant event-driven
20 cost that would need to be recovered from Otter
21 Tail's customers.

22 Otter Tail will provide three additional
23 witnesses: Mr. Phinney, Mr. Jensen, and
24 Mr. Retzlaff. These witnesses will provide a more
25 detailed description of the project and associated

1 facilities, the justification for the project
2 relative to generation attributes in relation to
3 Otter Tail's forecasted load, and an assessment of
4 the potential economic consequences associated with
5 the natural gas and electric trading days.

6 Provided that the company receives
7 approvals in both North Dakota and -- through this
8 ADP and in Minnesota through the currently pending
9 integrated resource plan and the necessary permits
10 in South Dakota, the company would plan to commence
11 detailed design, engineering, procuring a long-term
12 LNG supply contract, and construction. We would
13 expect the onsite fuel supply to be available in
14 2027.

15 This concludes my opening statement.

16 JUDGE DAWSON: Any further questions,
17 Mr. Tollerson -- Stephenson?

18 MR. STEPHENSON: No, Your Honor, and we
19 would tender Mr. Tollerson for cross-examination.

20 JUDGE DAWSON: Mr. Johnson.

21 MR. JOHNSON: Thank you, Your Honor.

22 CROSS-EXAMINATION

23 BY MR. JOHNSON:

24 Q So you believe that this is a necessary addition?

25 A We do view this as a necessary addition to mitigate

1 the risk for our customers and the electric system.

2 Q Okay. Now, you stated that there was three events,
3 the '14, which was outside of this --

4 A Um-hmm.

5 Q -- plan existing, and I believe in the testimony
6 that in the two other events, the company stated
7 that the plant would have been able to run if called
8 upon; is that correct?

9 A That is not correct. So during Winter Storm Uri --
10 and I'll give a little bit of background -- the unit
11 was still under testing. It was not a
12 commercially-available unit, and so the unit did not
13 run. We chose not to run it. We were not obligated
14 to run it.

15 Many of the financial consequences that
16 we talked about could have been very, very real had
17 the unit been forced to run under a must-offer
18 requirement that the Midcontinent ISO has, but we
19 were not required to do that because of, just, the
20 status that we were in at that point in the
21 construction.

22 During Winter Storm Elliott, we were
23 directly affected. We were unable to procure
24 natural gas to operate the unit for 48 hours in
25 December of 2022, and that directly impacted the

1 operations of that unit. It did not run, and that
2 has subsequently affected our accreditation, or the
3 amount of accredited capacity that we have on the
4 unit going forward.

5 Q Okay. You stated it didn't run, were you called
6 upon to run and just couldn't?

7 A We were called upon to run for reliability purposes
8 by the Midcontinent ISO. When we went out to
9 procure natural gas, there was no natural gas to be
10 procured. The pipeline did not have adequate
11 suppliers. We work with Tenaska Marketing Ventures
12 as our natural gas agent, and they go out and scour
13 the market, find natural gas to operate the unit
14 with.

15 There were no offers of natural gas.
16 There was inadequate supply -- no supply of natural
17 gas at the time that we needed it, which made the
18 unit unavailable, and we had to put the unit on
19 forced outage for 48 hours for lack of fuel.

20 Q Okay. So what type of contract do you have for gas,
21 is it a firm contract or is it not a firm contract?

22 A You know, the details of that might be better
23 addressed by Mr. Retzlaff, but we do have a contract
24 with -- with Tenaska Marketing Ventures. This is a
25 simple cycle unit. So it runs at -- unexpected. It

1 is not a constant base load unit that runs at a
2 steady level for which we procure long-term gas.
3 The gas, though, is delivered on firm transport when
4 we do purchase the natural gas.

5 Q Okay. So Astoria, there was an ADP in 2017, I
6 believe.

7 A Um-hmm.

8 Q So was dual fuel always an aspect of this project?

9 A So when we filed the original ADP and designed the
10 original Astoria Station, we only had one other
11 natural gas unit on our system. That is Solway up
12 by Bemidji. It is about a 50-megawatt natural gas
13 facility.

14 That -- that plant was built prior to the
15 Midcontinent ISO. It was under MAPP rules, the
16 Mid-Continent Area Power Pool. And at that time
17 they had a requirement that you had onsite fuel
18 storage, and so we have one day of fuel oil storage.
19 And that's a little bit of a misnomer. It has a
20 one-day tank, but recognize that's a small unit.
21 And in the event that we have to run on fuel oil, we
22 can have additional fuel delivered and that unit can
23 continue operating for some period of time.

24 And so we were aware of that requirement
25 that the Mid-Continent Area Power Pool had had back

1 then. MISO did not have a requirement at the time.
2 We were not aware of the extreme gas volatility that
3 we have seen in Winter Storm Uri and Winter Storm
4 Elliott, and so we decided it was not prudent at the
5 time to install dual fuel. But we did design
6 Astoria Station so that if dual fuel needed to be
7 added in the future, it would be capable of being
8 accomplished.

9 Q Okay. So if this project -- if this resource
10 addition was denied, does Astoria still remain a
11 prudent investment for the company?

12 A Astoria will remain a prudent investment, but there
13 are periods of time when our customers may be
14 exposed to the price differentials due to the
15 intraday pricing difficulties of natural gas and the
16 electricity markets that could cause significant
17 costs to flow through to our customers. There's
18 also the risk during extreme events that the unit
19 would not be able to generate.

20 Both of those things are new
21 developments. They are not things that were on our
22 radars. They are things -- Winter Storm Uri was a
23 watershed moment for our industry in making everyone
24 in the industry, including Otter Tail, realize that
25 there were significant shortfalls in the natural gas

1 pipeline network and only exasperated many of these
2 pricing concerns. We were not aware of those at the
3 time of the original ADP, and so we made a prudent
4 decision to add Astoria Station based on the facts
5 at the time.

6 Q Okay. So a lot of -- a lot of things happened in
7 Storm Uri that caused it to be so bad. You're
8 saying that none of those things have been -- have
9 been fixed in the meantime? There's nothing that
10 happened during that that hasn't been remedied to
11 help mitigate that type of shortcomings in the
12 future?

13 A Well, there were 22 months that occurred between
14 Winter Storm Uri and Winter Storm Elliott. Winter
15 Storm Elliott, we saw significant -- I mean, we were
16 unable to procure fuel because the natural gas
17 producers that were feeding the pipeline had not
18 changed, presumably, what they were doing on the
19 system. That limited the amount of natural gas
20 being injected into the pipe to supply that natural
21 gas.

22 And while I can't definitively say all of
23 the things that might have been done in the
24 industry, I have grave concerns that many of the
25 issues that were present in Winter Storm Uri persist

1 today.

2 Q Okay. So let's talk about your capacity
3 accreditation. How does this help resolve that, and
4 are you going to see an increase in capacity if you
5 had this?

6 A So MISO has recently changed the seasonal capacity
7 construct, and as a part of that, there are hours --
8 and -- and Witness Jensen, Mr. Jensen, will be able
9 to better detail this, but MISO looks at the most
10 constrained hours on the system, and your specific
11 unit performance during those most constrained hours
12 will impact your accreditation on the unit.

13 And so in the instance of Winter Storm
14 Elliott, we had 48 hours when we were unable to
15 generate because we were unable to procure fuel. It
16 was not available, and that will significantly
17 impact our accreditation for the next three years.

18 We are waiting for final numbers from the
19 Midcontinent ISO on what that is, but the best
20 estimates that we have at this time are that we will
21 have a 50-megawatt reduction in the winter-season
22 accreditation of Astoria Station for the next three
23 years. So instead of upwards of 285 megawatts,
24 we'll get somewhere in the 235-megawatt range,
25 specifically and directly because of the impact of

1 Winter Storm Elliott and the inability to get fuel
2 for those 48 hours.

3 Q Okay. So your winter capacity, what is that right
4 now, or is that better for another witness?

5 A The -- you mean -- Astoria Station is a
6 285-megawatt-capable unit in the winter season. I
7 think it would be better for Mr. Jensen to address
8 the specifics of that accreditation (indiscernible).

9 Q Okay. Do you know what your percentage of
10 generation is over your -- the bare minimum, like
11 excess for your winter? There's got to be a buffer
12 margin there.

13 A We do have some additional length in the winter
14 season. At present, I can't provide you that
15 number. Mr. Jensen probably can.

16 Q If I said it was about 25 percent above, would that
17 sound correct to you?

18 A No, it doesn't. I mean, we do not have 25 percent
19 generation in excess of our winter demand needs. I
20 think we have excess of 100 to 150 megawatts,
21 thereabouts, out of a peak load of -- with planning
22 reserve margins of 1,200 megawatts, so I believe
23 that if we have a length, it's more in the nature of
24 10 percent or less, not 25.

25 Q Okay. So you say you have 10 percent over, and

1 if -- this upcoming cut to your accreditation is
2 going to reduce that further?

3 A That will reduce that, correct. I think a key
4 distinction to draw, Mr. Johnson, is that even if we
5 are long, any additional capacity that we have, we
6 will sell into the market. And the proceeds of
7 those sales flow directly back through to North
8 Dakota consumers, as well as the consumers in our
9 other states.

10 And so even though we may have length,
11 the fact that we have length means that we would
12 sell the capacity if it were available from the
13 unit. That revenue would be a direct offset to our
14 customers' rates. So while there may not be a real
15 cost of having to buy purchased capacity, there is
16 an opportunity cost in not being able to sell
17 capacity that we would otherwise have.

18 Q So would purchasing the needed capacity to come up
19 for the shortfall in accreditation, purchasing
20 additional capacity is more expensive than building
21 this and operating and maintaining this?

22 A What we have seen in -- Mr. Johnson, in recent years
23 is significant volatility in MISO capacity markets.
24 So it would be speculation to -- to try and
25 anticipate what annual capacity market clearings are

1 going to be in the future.

2 Two years ago we saw clearings near
3 the -- the CONE, very, very expensive capacity.
4 This past year, they were less. We know we have an
5 industry that is continually retiring dispatchable
6 resources, and there are widespread concerns over
7 the amount of capacity on the system. So I don't
8 think there's much dispute or doubt that the system
9 is getting tighter from a capacity perspective going
10 forward.

11 Q So speculation, is that --

12 A I don't care to speculate on whether or not the
13 capacity revenues will exceed the specific costs
14 because it's an unknown.

15 Q Sure. But you're speculating that we're going to
16 have more and more of these winter events, is
17 that -- that's speculation, I --

18 A We are -- we are relying on industry organizations.
19 We are relying on the North American Electric
20 Reliability Council, who is on the record -- along
21 with FERC and other industry organizations -- saying
22 that we are going to have more and more winter
23 events. The frequency of those events is likely to
24 increase. That's not an Otter Tail position, that's
25 a NERC position.

1 Q Sure.

2 MR. JOHNSON: I guess I have nothing
3 further at this time, Your Honor.

4 JUDGE DAWSON: Mr. Hanson.

5 MR. HANSON: No questions at this time.

6 JUDGE DAWSON: Mr. Schuh.

7 MR. SCHUH: Your Honor, I think all my
8 questions have been answered.

9 CROSS-EXAMINATION

10 BY MR. SCHUH:

11 Q But I -- it would be helpful if you would just give
12 a brief update of currently where Otter Tail Power
13 is for this project in Minnesota procedurally.

14 A Sure. Mr. Schuh, I'd be happy to. This project is
15 included in our integrated resource plan filing in
16 the State of Minnesota. There is not a separate
17 advanced determination, a prudence process there.

18 That integrated resource plan is
19 currently going through final briefings. We are
20 anticipating hearings in January. Those have not
21 been formally noticed yet that I'm aware of, but we
22 expect a decision in Minnesota in the next couple of
23 months.

24 MR. SCHUH: Thank you.

25 JUDGE DAWSON: Commissioner

1 Haugen-Hoffart.

2 COMMISSIONER HAUGEN-HOFFART: You've
3 addressed most of the questions, so I think you said
4 Mr. Jensen will be able to address more of the
5 capacity accreditation, so I'll defer to him.

6 MR. TOLLERSON: Okay.

7 COMMISSIONER HAUGEN-HOFFART: Thank you.

8 JUDGE DAWSON: Commissioner Christmann.

9 EXAMINATION

10 BY CHAIR CHRISTMANN:

11 Q Some of the things that you've said, I feel like I
12 have just a fundamental -- fundamentally different
13 perception than you, so I'm going to ask you to help
14 me --

15 A Sure.

16 Q -- bring these two together. If I understood you
17 right, you said at the time of the ADP for Astoria,
18 you were not aware of the natural gas volatility,
19 correct?

20 A We were not aware -- Commissioner, we were not aware
21 of the extreme volatility that we have since seen in
22 Winter Storm Uri and Winter Storm Elliott. There --
23 natural gas prices have been generally volatile for
24 a long time, but the extreme volatility during
25 extreme winter events was a revelation to Otter

1 Tail.

2 And there are a couple of reasons that
3 I'd like to expound on there, in that, prior to
4 Astoria Station, our only natural gas unit was at
5 Solway, Minnesota, and at Solway, that is served off
6 a different natural gas pipeline. It is served off
7 the Great Lakes Pipeline instead of the Northern
8 Border line. And as I mentioned previously, we have
9 onsite fuel supply at Astoria. So we've been
10 protected against that volatility. It was not high
11 on our radar to the extent there might have been
12 previous events.

13 Q So respond to this: I think you should have been
14 aware of it. I've been aware of natural gas
15 volatility since the '70s, and I was a schoolkid and
16 we weren't served by natural gas on the farm. And
17 we have been systematically, one year after another
18 for the last ten or 15 years making it significantly
19 worse by changing our electric grid into --
20 significantly more reliance on this volatile
21 commodity. And so the fact that Otter Tail Power
22 Company was surprised by this concerns me.

23 A I -- I think that the -- Commissioner, I think the
24 entire industry viewed Winter Storm Uri as a
25 watershed moment that has changed our outlook and

1 concerns about natural gas significantly.

2 It's not that natural gas prices haven't
3 been viewed as volatile in the past. Natural gas
4 prices have moved. They have moved up
5 significantly, but we're focused in on this project,
6 our extreme events. Not necessarily that natural
7 gas is, you know, \$3 an MMBtu one year, \$6 an MMBtu
8 the next year, and maybe 12-year -- \$12 an MMB --
9 MMBtu some year down the road. It is what happens.

10 And your point is well-taken. The
11 industry is under great transformation. There are
12 far fewer coal units and other base loads units on
13 the system today, which is increasing the dependance
14 on the natural gas system. It's increasing the
15 demand on those systems as natural gas units take
16 over much of the energy generation that was
17 previously provided by other generation sources.

18 And so that's putting increased demand on
19 the natural gas system, and when we get into
20 critical periods of time, winter storm events where
21 there's high demand on the local distribution
22 companies for natural gas service for homes and
23 businesses, as well as the demand of natural gas for
24 generating facilities, there is increased demand.
25 And it has changed with time, and it has

1 incrementally gotten worse with time.

2 Q You've twice now referred to Uri as a watershed
3 moment.

4 A Um-hmm.

5 Q I'd like to know your definition of a watershed
6 moment. Because I'm not an expert in this field and
7 I was predicting that for years, and we know there
8 are more coming. It was an obvious conclusion to
9 years of additional reliance on a volatile
10 commodity. How do you define a watershed moment?

11 A Well, I think we saw the results. There were a lot
12 of people that -- that anticipated that changes were
13 coming, but I think we saw very clear catastrophic
14 reliability and economic consequences in Winter
15 Storm Uri that we had not seen previously in a
16 single winter event.

17 Q So an obvious conclusion to action is a -- is then a
18 watershed moment?

19 A I think a watershed moment is something that the
20 entire industry took note of, and is taking -- and
21 working towards -- corrective actions in response
22 to.

23 Q Okay.

24 A This project is -- is working to address and
25 mitigate concerns and risks that we identified at a

1 point in time that we had not identified during
2 these extreme -- extreme events previously, and we
3 believe we are taking prudent action to mitigate the
4 risks.

5 I'd much rather be here speaking with you
6 about the risks that we've identified and the best
7 solution we've identified to mitigate those risks
8 than to be back seeking recovery of very, very high
9 costs because we hadn't sought this mitigation.

10 Q Would it not have been more appropriate to have done
11 a better job of forecasting and been more upfront
12 with us in the original ADP for Merricourt and for
13 Astoria and to -- in order to replace your contracts
14 and the shutdown of Hoot Lakes, to be upfront about
15 what it was going to take to actually replace those
16 contracts and that dependable generation?

17 A Commissioner, I guess it's arguable what we knew or
18 didn't know. I will say conclusively that we did
19 not -- the extreme price of volatility in extreme
20 weather events was not on our radar at the time that
21 we were planning for and built the Astoria Station.
22 So we were not withholding information at the time
23 of our ADP in the original proceeding. We were
24 making the most prudent choices that we knew to
25 make, and brought those forward for your

1 consideration and ultimate approval.

2 Q Even this year, in your generation resource cost
3 recovery case, you still said that the application
4 for Astoria in 2017 provided a complete description
5 of the project, and here we are six years later
6 finding out that the project is incomplete, it needs
7 more.

8 A Commissioner, my -- my understanding is that it's
9 our obligation to provide you a complete description
10 of the project as we know it at a point in time. We
11 have new information. We have become privy to new
12 information through Winter Storm Uri, through direct
13 experience in operating the Astoria Station that
14 makes us believe very strongly that the project that
15 we have before you today is a prudent project to
16 mitigate financial risks, mitigate reliability
17 risks, to maintain accreditation.

18 Q I'm not sure if this is a question for you or for
19 someone else, but in docket number one, the original
20 application --

21 A The application, yes.

22 Q -- on page 15 and 16 is a chart that I don't
23 understand fully. Do you have that in front of you?

24 A I do.

25 Q Can you explain it, or is that a different

1 witness's --

2 A You know, Mr. Jensen is probably best qualified to
3 do it, but I can give you just a cursory explanation
4 of what it's intended to do.

5 Q Okay. Let me tell you what I read into it --

6 A Um-hmm.

7 Q -- and you can correct me where I'm wrong. I look
8 at the second and third lines there, and it looks to
9 me like Astoria is designed more to replace Coyote
10 than Hoot Lakes?

11 A Astoria --

12 Q It's really the same for page 16, the second and
13 third lines of (indiscernible).

14 A Commissioner, Astoria was clearly planned as the
15 replacement for Hoot Lakes Station and for expiring
16 purchase power capacity in energy contracts, along
17 with the Merricourt wind energy facility.

18 Q (Indiscernible.)

19 A There was no planning around Coyote Station around
20 the time Astoria was selected, sized, or
21 constructed.

22 Q Then why does the current numbers for Astoria, both
23 summer and winter, start at zero, and the preferred
24 plans range from 245 to 285; and for Coyote, the
25 current starts at 149 and preferred is zero?

1 A I'm sorry, Commissioner. I think I might be looking
2 at the wrong chart. I'm looking at the chart on
3 page 16.

4 Q I'm on 15.

5 A I'm showing Coyote as --

6 Q I was on 15.

7 A 15, okay. Here, I can explain that. What chart --
8 Table 3-9 on page 15, there is a bit of a timing
9 sequence involved here. I think as everyone
10 appreciates, we filed two integrated resource plans.
11 We filed one in September of 2021, and we refiled in
12 March of this year. When we filed in September of
13 2021, our preferred plan was to exit the Coyote
14 Station in 2028. When we filed --

15 Q What was the timing of that one?

16 A In September of 2021.

17 Q Okay.

18 A This IRP -- or this ADP was filed in early February
19 of 2023. We refiled our integrated resource plan in
20 March of 2023, and in the March 2023 filing, we
21 revised our position on Coyote Station and said that
22 we do not intend to exit the station in 2028.
23 Instead, we plan to stay a part of Coyote Station
24 until -- and if -- a major capital investment is
25 required in Coyote Station.

1 And so what happened -- and the reason
2 this table is in this docket in this fashion -- is
3 that this table was filed between the two IRP
4 proceedings. So this was built off of the original
5 IRP proceeding based on when it was filed. If we
6 were to file this again today, it would be slightly
7 different. Those Coyote numbers would not be zero,
8 they would be 149.

9 Q Okay. Thank you for that.

10 And why is the cost of this trade-secret
11 protected?

12 A I don't know if I can answer that question. I might
13 look to counsel on trade secret provisions.

14 Q And, I mean, the reason I'm wondering is, political
15 figures, companies, we're always throwing around out
16 there to the public, you know, words like
17 dependability and affordability and cheap. And, oh,
18 you know, we can do this, and it will be cheap; and
19 we can do that, and it will be lower cost and all
20 this stuff. And then only later do we tell them
21 what the actual price is. What's the big secret
22 here?

23 A I don't know that I'm prepared to answer that
24 question. What I would submit though is that even
25 though it is trade secret, the Commission and the

1 decision-makers have full access to both the costs
2 and the benefits that we have outlined under this
3 project.

4 Q We do, and am I correct that the cost for the
5 Astoria CT is now public, right?

6 A It is.

7 Q I have it down on my note here. I can say that
8 number here, right?

9 A I believe so.

10 Q Yeah, okay. So the original CT is \$149 million.

11 A I believe the project came in at \$142, \$143 million
12 as compared to the \$181.5 million approval that we
13 received from the Commission.

14 Q Okay. So the public gets a perception -- and
15 partially based on that, partially based on their
16 own ideals -- policymakers develop perceptions, but
17 only later after the policies are set and the
18 company carries them out, either reluctantly or
19 gleefully, do we actually get to find out what the
20 real cost was.

21 And we -- this -- I've always been kind
22 of frustrated by that, because it's a
23 we'll-tell-you-later. But then it became so -- it
24 came together for me last week with the Fargo Dome
25 vote. The Fargo Dome was \$140 million. They told

1 the people what it was going to cost, instead of,
2 oh, well, that's trade-secret protected, but believe
3 us, it's a good deal. Why --

4 A So, I --

5 Q -- don't you tell people?

6 A So as I've been talking here, Commissioner, I did
7 realize there is a pretty significant factor, in
8 that, when we do have major construction projects,
9 we want to be cautious in getting regulatory
10 approvals. Because, remember, these projects will
11 be going out to bid.

12 And if we make an approval number public,
13 that will have influence on bidders on the project.
14 And by keeping that project number trade secret, it
15 is quite likely that we will get more favorable bids
16 than if we were to publicly announce that we are
17 approved at a level.

18 Q So all these government projects, you think, get
19 less favorable bids than what they would if they
20 kept the --

21 A I'm --

22 Q (Indiscernible) costs?

23 A -- not privy to those government projects, but I
24 believe that having bidders not know what an
25 approval level is in advance will lead to a more

1 attractive bid package, I do.

2 Q I don't have any other questions. Thank you, Brad.

3 JUDGE DAWSON: Commissioner Fedorchak.

4 EXAMINATION

5 BY COMMISSIONER FEDORCHAK:

6 Q Good morning, Brad. Thank you for being here.

7 So I do share some of Commissioner
8 Christmann's frustrations, but I have a different
9 take on some of this, so I want to walk through some
10 of that. And, also, I want to -- I do want to
11 applaud Otter Tail in coming forward with a solution
12 to a problem that exists, and I do think these are
13 the exact kind of conversations we need to be having
14 right now about the cost of reliability and
15 resilience and the true cost of this transition to
16 renewables.

17 I share Commissioner Christmann's
18 frustration that these kinds of conversations aren't
19 held at the beginning, you know, when you're making
20 the transition, when we're looking at it, and
21 telling people -- and I'm not blaming Otter Tail for
22 this. I'm saying the industry as a whole has all
23 along underestimated costs of this transmission --
24 transition to renewables and oversold the
25 affordability to customers, and we all are going to

1 pay dearly for that. Because this is not going to
2 be cheaper, and it's not going to be better in terms
3 of reliability. It's going to be a heck of a lot
4 more expensive, and we're going to have a lot more
5 outages. Some of them might be by choice, but the
6 system is just going to be so different if we, you
7 know, continue down this transition like this.

8 But I also think that there are a lot of,
9 kind of, operational changes and low-hanging fruit
10 to be made that haven't been made yet, and that will
11 significantly improve the way the system operates.
12 We just haven't adjusted to this new reality yet,
13 and so that's where I feel like my concern with this
14 project is.

15 So I want to talk through some of those
16 issues with you and get your response, and maybe
17 some of these, if you feel like one of your other
18 witnesses should --

19 A Sure.

20 Q -- better address it, feel free to kick it -- kick
21 the can down the road.

22 Okay. So just in terms of planning, when
23 you guys were planning this Astoria facility, how
24 did you take into consideration the availability of
25 gas? Like, how much of a factor was that? The gas

1 availability, the contracting procedures, all of
2 that?

3 A Yeah. Commissioner, that was a very extensive part
4 of our overall evaluation on the Astoria site. We
5 hired an external firm to look at the Northern
6 Border Pipeline, give us an opinion on the
7 reliability and the capability of that pipeline
8 providing us with reliable natural gas service. All
9 of that came back favorable.

10 We fully anticipated that we would have
11 reliable natural gas service provided to Astoria,
12 and I don't want to discount the fact either that
13 the vast majority of time, we do get very reliable
14 natural gas service --

15 Q Um-hmm.

16 A -- from the Northern Border Pipeline, but we now
17 have clear examples of when there have been problems
18 on the natural gas network that we believe that we
19 need to bring forward a solution to address.

20 Q And I'm not going to fault you for not -- not
21 addressing this -- the next question ahead of time,
22 but when you were having those conversations with --
23 was it with Northern Border or was it with the
24 company -- I forget (indiscernible)?

25 A Tenaska --

1 Q Tenaska.

2 A -- Marketing Ventures.

3 Q That's who the conversations were with?

4 A We actually -- we had hired a third-party consultant
5 that's an expert in the natural gas networks, and
6 I'm -- the name of that firm --

7 Q Doesn't matter.

8 A -- is escaping me.

9 Q That doesn't matter.

10 So -- but did -- was there considerations
11 or testing done on terms of -- in terms of -- in
12 times of peak demand where the gas is going to be
13 needed in lots of places, how much can we have? Did
14 we -- did you guys look at that? And if the answer
15 is no, I'm okay with that. I just want to
16 understand. Like, my sense is you and every other
17 utility that did this didn't go that deep.

18 A Yeah, and I honestly can't say that I know the
19 answer to your question in terms of how deep that
20 analysis was at the time.

21 Q Um-hmm.

22 A It's something we could follow up on.

23 I think one of the things that's
24 important to understand is the energy transition has
25 only accelerated since the time that this analysis,

1 this evaluation was done. At the present time, so
2 we are in a very fluid, changing environment.

3 Q Um-hmm.

4 A And so there is limited value to analysis that is
5 done at snapshots in time.

6 Q Okay. So that's enough of the planning questions.

7 If -- let's see here, where do I want to
8 go next? You mentioned earlier, I thought there was
9 a conversation with Commissioner Christmann about
10 you guys being -- needing to purchase capacity. I
11 don't recall reading that, that you're short on
12 capacity?

13 A We, Commissioner --

14 Q And that this addresses that.

15 A We are not short on capacity at the present time.
16 We have adequate capacity. So even though we will
17 see a shortfall or a reduction in the capacity at
18 Astoria Station for the next three winter seasons --

19 Q Right.

20 A -- we will have adequate capacity, but that doesn't
21 mean there isn't an economic impact --

22 Q Right.

23 A -- to that. Because any excess, we would have
24 otherwise sold, we would monetize that. We would
25 pass that back through to North Dakota consumers as

1 a bill credit.

2 Q And that would be only if you were generating at a
3 peak time, and you were able to because you had the
4 onsite --

5 A So, Commissioner --

6 Q -- and others weren't, is that what you're talking
7 about? Or, I mean, that's the case any -- I mean,
8 as it relates to this project, how does that help
9 you sell --

10 A So, Commissioner, the --

11 Q -- (indiscernible) capacity?

12 A Yeah. Commissioner, the new MISO construct, the
13 seasonal accreditation process or construct also
14 includes a provision that you need to be available
15 and generating when called upon in the tightest
16 system hours on the network. If you are not, your
17 accreditation is affected if you are unavailable
18 when the system needs you the most.

19 Q Right.

20 A And it's through that process and the fact that we
21 were unable to procure natural gas during Winter
22 Storm Elliott that resulted in -- again, it's an
23 estimated amount right now for the next three years
24 of a reduction of about 50 megawatts of accredited
25 capacity because we were unable to --

1 Q Right.

2 A -- generate when called upon.

3 Q I get that. It's the piece about the selling excess
4 capacity.

5 A Oh.

6 Q I mean --

7 A Commissioner --

8 Q -- you would still be able to do that. There's
9 nothing preventing you from doing that.

10 A No, there's nothing preventing us from doing it, but
11 if we have 50 megawatts less capacity, we have
12 50 megawatts less capacity to sell. We have less --

13 Q You don't have 50 megawatts less capacity, you just
14 are accredited for 50 megawatts less. The unit is
15 still the same size.

16 A Commissioner, the way --

17 Q You'll still have that.

18 A No, the -- Commissioner, the way the MISO
19 accreditation process works is every unit, based on
20 that process I just described of being available --

21 Q Right.

22 A -- during the most important hours, will receive an
23 accredited value.

24 Q Right.

25 A It's separate --

1 Q I know that.

2 A -- and apart from its nameplate.

3 Q Right.

4 A And if the nameplate on Astoria is 285 megawatts,
5 but because of not being able to generate during
6 those 24 hours, we're -- we only get 235 megawatts
7 of accredited capacity.

8 Q Yeah, but your nameplate is still the same.

9 A But we can't sell nameplate, we can only sell
10 accredited capacity.

11 Q You can sell whatever you can generate.

12 A We can sell --

13 Q And they aren't going to reduce how much you can
14 generate. They're just not going to -- you have to
15 make that up in accreditation --

16 A Commissioner --

17 Q -- in accredited units.

18 A Commissioner, there are distinctions between the
19 energy market and the capacity market. In the --

20 Q Right.

21 A In the --

22 Q I guess I'm looking in the energy --

23 A Energy --

24 Q I'm talking about energy.

25 A -- market.

1 Q Got it. All right.

2 A In the energy market --

3 Q Right.

4 A -- we can sell the full nameplate of the unit if it
5 is available --

6 Q Yeah.

7 A -- even if it is not accredited. We don't have a
8 must-offer requirement.

9 However, my point earlier to Mr. Johnson
10 was that if we don't get that 50 megawatts of
11 accredited capacity, we are unable to sell the
12 50 megawatts of accredited capacity.

13 Q I see.

14 A Which is --

15 Q In the capacity market.

16 A -- also a flow-back --

17 Q Got it.

18 A -- through to North Dakota consumers.

19 Q Got it, okay. We're on the same page.

20 A Good. Good.

21 Q All right. So -- but you don't need to buy
22 additional capacity, even with the 50-megawatt
23 less --

24 A Right --

25 Q -- you know, the penalty, right, you don't need

1 to --

2 A Commissioner --

3 Q -- replace that?

4 A -- at the present time we have adequate length --

5 Q Okay.

6 A -- to cover the 50-megawatt reduction.

7 Q Is that the only penalty you got for not showing up,
8 was there a financial penalty --

9 A To the --

10 Q -- also?

11 A -- best of my knowledge, the reduction in the
12 capacity is the impact to us at this time.

13 Q Okay. And that's for three years?

14 A Correct.

15 Q Another thing I've been curious about in -- if
16 you -- when you bid into the MISO market, can you --
17 how do you use your cost of gas? How does that get
18 reflected in your bid?

19 A That can be an incredibly complicated question,
20 which is at the root of the intraday pricing risks
21 that are involved in this project, and so I will
22 defer that --

23 Q Okay.

24 A -- question to Mr. Retzlaff.

25 Q All right. We'll ask him that.

1 All right. Then, let's see here. Also,
2 in a lot of your guys' materials, you've mentioned
3 that you won't get additional credit from MISO for
4 having this fuel security. Is that a -- is that for
5 sure, or is that something that they're going to be
6 evaluating and you may very well get -- and probably
7 will get -- affixed or accredited on that?

8 A Commissioner, MISO has identified a set of
9 reliability attributes. One of what we view as the
10 most consequential ones is fuel assurance and having
11 the ability. MISO is working on how will they
12 incentivize or compensate or provide additional
13 accreditation to units that have that fuel assurance
14 in the future.

15 Q But you don't have any sense of what that will be
16 yet, so you haven't included a value in this case --

17 A There --

18 Q -- for that?

19 A Commissioner, that is correct. There is no value
20 imputed in here for that.

21 Q Okay. You guys advocating for that in MISO?

22 A Yes. Commissioner, we are very much involved in the
23 fuel assurance process. We have an advocate at all
24 of those meetings.

25 Q Okay. All right. Then, have you looked at these

1 reports from FERC on the last two storms, Elliott
2 and -- the Uri reports?

3 A Commissioner, I have not looked at those recently.

4 Q Okay. Well, they outline -- I mean, they're chalked
5 full of solutions to this problem, and some of them
6 are -- I mean, there's a -- I'd say a dozen that are
7 not complicated solutions that can be implemented,
8 things like weatherizing the production.

9 If you weatherize the production
10 facilities on natural gas, how much does that solve
11 the problem of the availability that we're seeing
12 during the winter storms, and then, therefore,
13 reduce the need for something like that?

14 A There -- Commissioner, there are -- certainly
15 different elements of winterizing production
16 facilities may aid in the availability of gas during
17 Winter Storm Elliott, there may be -- may have been
18 some additional benefit there, but that particular
19 solution would not have fixed our intraday pricing
20 issue.

21 And so this is a project where we have
22 multiple reasons or rationales as to why this is an
23 important and prudent project for us to pursue. We
24 don't dispute that there are changes underway in the
25 industry that may improve elements of this as we go

1 forward.

2 We're just concerned that the time is
3 limited. This transition continues very, very
4 quickly. A lot of the units that we rely on for the
5 attributes that we're talking about are under
6 extreme pressure from certain factions and certain
7 government agencies, and being ahead of this
8 problem, rather than potentially behind it, is in
9 our customers' and the industry's best interest.

10 Q I want to come back to that, but what about, you
11 mentioned the intraday -- another one of the
12 solutions that there's beginning to get a lot more
13 support for and agreement on is the alignment of the
14 two markets. If you align the gas and electric
15 markets, does that get away with -- or do away with
16 this intraday pricing and solve a bunch of those
17 problems as well?

18 A I think Mr. Retzlaff will talk to this in more
19 detail, but even if you align the markets better in
20 time, you still have the concern that RTOs take four
21 hours -- or the Midcontinent ISO, anyway, takes
22 about four hours to solve its day-ahead market.

23 Q Um-hmm.

24 A And when it takes four hours and you get price
25 quotes before that market starts solving and you

1 have to put your offers in and you don't get cleared
2 results until after the four hours, natural gas
3 markets can have moved significantly during that
4 period of time, and that gets into many of the
5 examples or scenarios that Mr. Retzlaff is prepared
6 to speak to.

7 Q Okay. Well, I think that the markets are another
8 thing that there's a lot of solutions coming forward
9 on. And, like, I'm looking at the last page in the
10 recommendations from Elliott, which just came out a
11 month ago or so, but them -- one of them is that
12 balance -- balancing authorities -- MISO -- assessed
13 whether new or modified processes, such as multiday
14 risk assessment or reliability commitments are
15 needed to mitigate the risk of capacity shortages.

16 So, I mean, there are an infinite number
17 of tools that the RTOs can and need to start
18 developing to have resources in place ahead of time
19 to give a signal that you need to go ahead, secure
20 your gas, get it at a decent price, four days ahead
21 of a thing, and we will pay you for it if you don't
22 need it, but we're going to get it there. So we
23 aren't paying -- so we're paying three bucks per MMU
24 versus 1,200.

25 A Yeah.

1 Q I mean, these are sensible recommendations that I
2 think are going to be coming in short-order, and I
3 just -- while I appreciate the need for units like
4 this in the new system, I worry that getting it now
5 before some of these tools are fully developed might
6 be premature, and it might not be the right solution
7 in -- for the long run. So how do we -- how do --
8 what do you say about that?

9 A I think our -- Commissioner, our perspective on that
10 is there are a lot of things in the industry that we
11 are hopeful improve this. Most of those things are
12 outside of our control. They aren't -- I mean,
13 while we can weigh in and we can advocate, these are
14 industry-wide things that have been under discussion
15 for a long time --

16 Q Um-hmm.

17 A -- with limited forward motion. I'm very hopeful
18 that we can make forward progress.

19 I think our concern is that time is
20 short, and we need to advance on projects that we
21 know can resolve these issues. Whether it's lack of
22 fuel and the reliability concerns that go along with
23 that; intraday pricing concerns that may or may not
24 be alleviated based on some of the proposals that
25 are out there; the loss of accreditation that we

1 have under the Midcontinent ISO in their current
2 construct. We are in a period of great flux and
3 very, very fast change, and it's difficult for us to
4 get comfortable waiting on things that we know have
5 been in the works for a long time. Again, not
6 dismissing that we're hopeful that real and
7 substantive changes are made, but it's of concern.

8 Q Yeah. Well -- yeah. I don't disagree that there's,
9 you know, a lot that needs to be done in a short
10 amount of time, and I do appreciate Otter Tail's
11 leadership in this regard in coming forward with,
12 like, an insurance policy, basically, for your
13 ratepayers looking at the system.

14 It just -- the question I think for
15 states like North Dakota is, how much did we -- do
16 our customers pay for an insurance policy that
17 everybody is going to benefit from, you know, until
18 the day comes when MISO does make the changes that
19 reward you for that and reward your ratepayers for
20 the insurance policy that you're investing in?

21 Because currently -- and that's been the
22 case for -- all along, the folks with the fuel
23 security, aka, coal --

24 A Um-hmm.

25 Q -- and nuclear, they have been keeping the system up

1 at it -- at their own expense and everybody else's
2 benefit.

3 A Commissioner, you're very correct on the shared
4 reliability benefit that everyone in MISO has as
5 part of this project. A lot of the intraday pricing
6 risks and the very significant costs that we could
7 incur in another winter storm would be directly
8 attributable to Otter Tail's customers. And any
9 savings through the addition of this project as an
10 insurance product against that intraday pricing risk
11 will accrue directly to Otter Tail's customers and
12 not the system as a whole. So I don't disagree with
13 your premises, but there's a little bit more to it.

14 Q Yeah. All right. Okay. I think I've covered my
15 questions. Thank you, Brad.

16 JUDGE DAWSON: Mr. Stephenson, any
17 redirect of Mr. Tollerson?

18 MR. STEPHENSON: No, Your Honor. No
19 redirect.

20 JUDGE DAWSON: Okay. Any further
21 questions?

22 MR. JOHNSON: Just a few, Your Honor.

23 JUDGE DAWSON: (Indiscernible.)

24 RECROSS EXAMINATION

25 BY MR. JOHNSON:

1 Q So you stated that you have adequate capacity, and
2 even if this is denied, you would still continue to
3 have adequate capacity, correct?

4 A Based on -- Mr. Johnson, based on the current status
5 of our system for the next three years, certainly we
6 would have adequate capacity.

7 Q Okay. So that kind of says that this isn't
8 necessary at this time?

9 A If you are -- Mr. Johnson, if you are looking
10 exclusively at the capacity impacts, you could
11 potentially make that argument. But when you are
12 looking and considering the intraday pricing risks
13 and the large potential exposures that our customers
14 could incur, if the right set of circumstances
15 between natural gas and power prices were to emerge,
16 that is something that we would not want our
17 customers to bear in terms of that cost or potential
18 exposure. So I think it really depends on which
19 part of the project or which set of benefits from
20 the project you're looking at.

21 Q Sure. Well, we can look at it that way, but the
22 ratepayers are going to pay for it either way:
23 Either they're going to pay for this addition or
24 they're going to pay for cost of gas later.

25 Insurance is -- everybody likes to call

1 it insurance. I think you referred to it as a good
2 insurance policy. Insurance is to cover the things
3 that you can't afford to deal with.

4 A Um-hmm.

5 Q Like, it happens, nobody can afford to do it. But
6 as we've seen in this past storm, there's mechanisms
7 to spread that cost out, and that's a known cost at
8 a known time, rather than forcing ratepayers to pay
9 for something that we don't even know when it's
10 going to be used. It could be seven years, it could
11 be three years, we don't know. Maybe we go another
12 20 years, nobody knows that.

13 A Yeah.

14 Q So why are we going to force ratepayers into paying
15 for this now when they're going to pay for it either
16 way? And if it's such a great investment and it's
17 so necessary for the company, why doesn't the
18 company invest in it and not put it on the
19 ratepayers? If it's so lucrative that it's going to
20 save you guys so much money and that you need it for
21 your capacity, you can go the investment side and
22 say, look, this is what we need to do to keep
23 putting out reliable power for our customers. We
24 need to do this.

25 But the only benefit in this -- the

1 ratepayers pay either way. The only benefit to this
2 is the company builds it, gets an ROE on its
3 investment, and the company makes money. You're the
4 only ones that come out ahead. The ratepayers are
5 going to pay for it either way?

6 A Mr. Johnson, it is true that, yes, if we were to
7 build the facility, it would become a part of rate
8 base, but we are building this as a way to do all of
9 the things that we have noted.

10 One, protect reliability because we know
11 there's increasing demands on the natural gas
12 system. Because of the change in the
13 transmission -- or, I'm sorry, the overall mix of
14 generation that's out there, and those risks are
15 becoming much more heavily correlated. And,
16 therefore, there is a growing reliability risk.

17 There is an intraday pricing risk that I
18 think we've demonstrated through our testimony. It
19 could have significant, large, economic consequences
20 for our customers. That -- you're correct, that we
21 would come back to the Commission for, and if the
22 Commission is willing to accept that risk, we would
23 understand and respect that. But everyone would
24 know that in the event of those significant
25 financial events or consequences, we would be

1 seeking recovery for that.

2 And then, third, is certainly the
3 accreditation. When we look at the compilation of
4 those risks and we look at the expected cost of the
5 project, we view that it is -- that it remains a
6 prudent project for Otter Tail to pursue to protect
7 our ratepayers.

8 It's an insurance product for some of
9 these components. The intraday day pricing risk is
10 an example. We understand that different people
11 will have different perspectives on that. We
12 believe that there's a significant consequential
13 risk for our ratepayers, and we want to bring
14 forward a solution that mitigates that risk and
15 protects them.

16 If others have a different perspective or
17 view, or don't view that the insurance is worth the
18 cost, we'll respect that. But I think everyone has
19 to know and understand that we all live with the
20 consequences of not buying -- or not investing in
21 it.

22 Q So -- sure. So you get a snapshot of Astoria when
23 it was built, and you're saying that was a bit off,
24 what makes this snapshot right?

25 A I think -- I think as utility companies, and

1 everyone in business, that we have to work with the
2 situation and the circumstances that we know at a
3 given time, and based on what we know -- what we
4 generally expect to go forward.

5 I think we are using our best utility
6 judgment to say that this industry is on the cusp
7 of -- well, this industry is in the middle of
8 drastic change that is changing a lot of
9 operational -- and risks that we have historically
10 viewed differently than we view today.

11 And it's incumbent on -- upon us as
12 utility companies to monitor, see what's happening
13 in the industry, and react appropriately, bring
14 solutions to Commissioners that we believe may
15 proactively mitigate risks before we bring a large
16 recovery amount because we chose not to recover --
17 try to mitigate that risk.

18 Q Sure. And this will be my last one. So
19 Commissioner Fedorchak mentioned that if you
20 winterize the gas production facilities, there's
21 more gas (indiscernible), and your comment basically
22 made it say, like, oh, if there's more gas on the
23 market, it's still going to cost more. So the
24 unavailability of gas didn't drive the price up
25 during Uri?

1 A Mr. Johnson, I'm not sure if I'm remembering my
2 answer quite the same way. I think my intended
3 point was that what gas producers choose to do,
4 whether it's their choice or they're frozen off,
5 those are things that are outside of the control of
6 Otter Tail Power Company. And so those are other
7 things that are happening in the industry that we
8 can't control. We want to focus on those things
9 that we can, and that is bringing this project.

10 To your basic premise, if natural gas is
11 frozen off or unable to access the pipe, that can
12 and will lead to Winter-Storm-Elliott-type
13 consequences, where gas is not available and/or
14 higher natural gas prices. So your -- your
15 assertion there, I would agree with.

16 Q So you chose gas for a fuel source, but what are --
17 like, that's just out of your hands, you had nothing
18 to do with that? You're not going to try to make
19 that better at all, it's just out of your control?

20 A Mr. Johnson, the natural gas marketplace is a robust
21 natural gas marketplace. We work with Tenaska
22 Marketing Ventures to manage our fuel supply. They
23 go out and they -- they buy and manage -- if your
24 question is, should we be working with individual
25 gas producers that are injecting natural gas into

1 the pipeline at some point, that is something we
 2 would not view as a role that we, as an electric
 3 utility using natural gas, would typically do.

4 MR. JOHNSON: Okay. No further
 5 questions.

6 JUDGE DAWSON: Mr. Schuh.

7 MR. SCHUH: None more for this witness.

8 JUDGE DAWSON: Commissioners.

9 Haugen-Hoffart.

10 COMMISSIONER HAUGEN-HOFFART: No.

11 JUDGE DAWSON: Christmann.

12 CHAIR CHRISTMANN: Thank you, Your Honor.

13 FURTHER EXAMINATION

14 BY CHAIR CHRISTMANN:

15 Q I do want to clarify, because Commissioner Fedorchak
 16 discussed my comments about the capacity agreements,
 17 so I just want to make sure I'm understanding this
 18 right. My recollection is that this Commission
 19 approved the Merricourt wind project and the Astoria
 20 CT project as a two-part plan to replace your coal
 21 plant and your capacity agreements -- or some of
 22 your capacity agreements at least.

23 A Commissioner, that's correct.

24 Q Okay. Thank you.

25 JUDGE DAWSON: Commissioner Fedorchak.

1 COMMISSIONER FEDORCHAK: Okay. I have a
2 curveball.

3 FURTHER EXAMINATION

4 BY COMMISSIONER FEDORCHAK:

5 Q So what if -- what if, rather than doing it -- this,
6 did you look at increasing your ability to secure
7 firm capacity that's coal-fired through, you know, a
8 higher percentage ownership in one of the facilities
9 you already own or use, or any other facility?

10 A Commissioner, we have not done that.

11 Q I'm curious how that would compare price-wise.
12 Because this -- this isn't cheap, and some of those
13 facilities are -- you know, they might have excess
14 that you'd be able to -- and, I mean, we -- one
15 thing we can agree on, I realize Minnesota isn't
16 interested in increasing their usage of coal, but
17 there's probably nothing that's been more stable in
18 terms of a cost of fuel than coal in recent years,
19 in decades.

20 So as we try to mitigate all of these
21 costs fluctuations and uncertainty, it would be
22 brave for a utility to say, we're going to go that
23 route for now, for five years while we figure all
24 this out.

25 A Commissioner, I hear the concept that you're

1 suggesting. I think the challenge that we have is
2 that even if we were to do that, procure some
3 additional coal, we would still be left with all of
4 the risks inherent in intraday pricing at the
5 Astoria Station.

6 Q You could have a different backup. You could use
7 something else for those capacity requirements.

8 A For the capacity requirements, but for the intraday
9 pricing, which is very complex, and because of the
10 timing and potential we're procuring too much -- and
11 I'll leave that to Mr. Retzlaff --

12 Q Um-hmm.

13 A -- to better describe, that risk would be -- or
14 would be left unmitigated if we were to procure
15 additional coal generation.

16 Q So what I hear you saying is it might work for the
17 extreme weather events, but less so if you're using
18 it for peaking?

19 A It would not --

20 Q (Indiscernible.)

21 A It would not help us fix the intraday day pricing
22 risk, for which we've laid out the tables of all the
23 potential large, negative consequences -- financial
24 consequences that the company and the company's
25 customers could incur.

1 Q Okay. All right. Thank you.

2 JUDGE DAWSON: Any further questions?

3 MR. STEPHENSON: No, Your Honor.

4 JUDGE DAWSON: Seeing no further
5 questions, you may step down.

6 And we'll take a morning break until
7 10:00 a.m.

8 (Recess taken.)

9 JUDGE DAWSON: Would you like to call
10 your next witness?

11 MR. STEPHENSON: Yes, Your Honor. Otter
12 Tail calls Ryan Retzlaff.

13 JUDGE DAWSON: Mr. Retzlaff, you were
14 here for my previous admonitions as to perjury, so
15 you understand what perjury is and the penalties for
16 it?

17 MR. RETZLAFF: I do.

18 JUDGE DAWSON: Understanding so, do you
19 promise -- turn on your microphone, please.

20 MR. RETZLAFF: I do.

21 JUDGE DAWSON: Understanding so, do you
22 promise or swear that the testimony that you're
23 about to give will be the truth?

24 MR. RETZLAFF: I do.

25 RYAN RETZLAFF,

1 Q And have you submitted prefiled testimony in this
2 matter?

3 A I have.

4 Q And if you were asked the questions in that prefiled
5 testimony today, would your answers be the same?

6 A They would.

7 Q Have you prepared an opening summary of your
8 prefiled testimony, Mr. Retzlaff?

9 A I have.

10 Q And I'll refer you to that exhibit, Otter Tail
11 Exhibit 14, would you please read that into the
12 record?

13 A Yes.

14 My name is Ryan D. Retzlaff. I am
15 employed by Otter Tail Power Company as its manager
16 of power services. The following is a summary of my
17 prefiled testimony in support of Otter Tail's
18 request for an advanced determination of prudence
19 for its onsite liquified natural gas fuel storage
20 project at Astoria Station.

21 My prefiled testimony addresses the
22 potential economic consequences and risk factors
23 associated with natural gas and electric markets,
24 logistical concerns of the daily natural gas and
25 electric trading schedules, the impacts of Winter

1 Storms Uri and Elliot, the robustness of natural gas
2 transport service utilized to deliver fuel to
3 Astoria Station, and the associated benefits
4 provided by the addition of onsite LNG fuel storage.

5 Astoria Station is a
6 MISO-capacity-accredited resource which maintains a
7 daily must-offer requirement. This means that Otter
8 Tail's obligated to offer Astoria Station's energy
9 into the MISO market every day the unit is not on
10 outage, regardless of market conditions.

11 Throughout many hours of the year,
12 natural-gas-fired generation is the marginal
13 generation resource, meaning it's the generation
14 type acting to determine market pricing. During
15 extreme system events, such as Winter Storm Uri or
16 Winter Storm Elliott, increased demand for natural
17 gas can result in extremely volatile gas and
18 electric markets.

19 Otter Tail's procurement of natural gas
20 fuel is subject to the daily natural gas schedule.
21 In our submission of generation offers, the MISO
22 market is subject to the daily MISO offer schedule.
23 The timeline of these two schedules do not align
24 well, and under extreme system conditions can make
25 fuel procurement for natural-gas-fired generators

1 exceedingly difficult.

2 As an example, the daily Astoria deadline
3 for timely natural gas nominations is 8:30 a.m. In
4 other words, a decision to purchase timely for
5 next-day gas must be made by the 8:30 a.m. deadline.
6 The MISO generation offer submission deadline is
7 9:30 a.m. It isn't until 12:30 p.m. that MISO posts
8 its cleared day-ahead awards, which indicate how
9 MISO intends to dispatch the unit.

10 This means Otter Tail must buy gas in
11 advance of knowing if or how MISO will clear its
12 offer. Otter Tail will not know until 12:30 p.m. if
13 it will need to purchase additional gas or if it
14 will need to sell back unused gas in order to match
15 MISO commitment and dispatch obligations.

16 Furthermore, Otter Tail will not know
17 what the cost of the gas will be upon reaching the
18 12:30 MISO clearing results or if those costs will
19 vary significantly from the cost utilized to craft
20 the 9:30 a.m. offer. Otter Tail refers to this
21 phenomenon as intraday pricing risk.

22 Intraday pricing risk can also occur in
23 the real-time when the MISO calls for commitment of
24 a unit and the actual cost of fuel procurement
25 deviates from the cost utilized to craft the offer.

1 In the most basic terms, intraday pricing
2 risk is the risk of having to make generation offers
3 to MISO without the ability to know what the costs
4 of those offers will ultimately be. This issue is
5 further compounded when considering MISO only
6 guarantees make-whole payments based on offer costs,
7 not actual fuel procurement costs.

8 Intraday pricing risk is especially
9 problematic during extreme system events where
10 pricing can change quickly and drastically. During
11 these events, natural gas market prices can quickly
12 spike to erroneously high levels. The cost of which
13 are collected from customers. In some cases, gas
14 may not be available at any price, with potentially
15 severe consequences for reliability.

16 This phenomenon was seen during Winter
17 Storm Uri in February 2021 and Winter Storm Elliott
18 in December 2022. I believe the Commission is very
19 aware of the catastrophic reliability and cost
20 impacts suffered in some parts of the United States
21 because of Winter Storm Uri. During Uri, Otter Tail
22 avoided these risks because Astoria Station was not
23 yet commercially operational and was undergoing unit
24 start-up and commissioning.

25 Winter Storm Elliott, a very different

1 event than Winter Storm Uri, also highlighted the
2 benefit of onsite fuel storage. Where Uri had
3 little regional wind generation, Elliott had
4 considerable regional wind generation. Where Uri
5 saw Astoria electric LNP pricing following natural
6 gas pricing, Elliott saw Astoria electric LNP
7 pricing diverge from natural gas pricing.

8 During Elliott, MISO committed and
9 dispatched Astoria Station into a low LNP market
10 despite an Astoria offer of over \$1,000 per megawatt
11 hour. As this was not a commitment based on market
12 economics, Otter Tail views this MISO commitment was
13 initiated to main [sic] system reserves and
14 reliability.

15 Most notably, during Winter Storm
16 Elliott, Astoria Station experienced an approximate
17 two-day forced outage due to lack of fuel supply.
18 Onsite LNG storage at Astoria Station would have
19 allowed the unit to avoid the forced outage and
20 remain available for the duration of the winter
21 storm event.

22 In considering onsite LNG storage at
23 Astoria Station, Otter Tail completed a
24 financial-event analysis based on Winter Storm Uri.
25 We examined what might have occurred had Astoria

1 been offered to the market as it would be required
2 today. The analysis examines sensitivities to two
3 variables: Timely natural gas procurement and
4 market pricing scenarios.

5 In many of these scenarios, the addition
6 of onsite LNG fuel storage provided considerable
7 financial benefits. Those benefits would be
8 realized through the elimination of timely natural
9 gas procurement decisions and maintaining a
10 low-cost, onsite fuel supply that could be offered
11 into a very high market.

12 As I noted in my prefiled testimonies, I
13 take issue with portions of testimony of Advocacy
14 Staff Witness Mr. James Heidell. I do not believe
15 Mr. Heidell accurately accounts for natural
16 gas/electric scheduling logistics, transport
17 robustness, or the complexity and uncertainty of
18 making fuel procurement decisions during an extreme
19 system event.

20 Specifically, I noted his criticism of
21 our Uri financial-event analysis erroneously assumed
22 timely gas could be purchased after MISO posts
23 day-ahead commitment and dispatch instructions.
24 This is not accurate. Otter Tail's required to make
25 timely natural gas purchase decisions four-plus

1 hours in advance of knowing MISO commitment
2 instructions.

3 I also note Mr. Heidell's criticism of
4 our Uri financial analysis assumes perfect
5 after-the-fact knowledge, but during an extreme
6 system event, a previous day's performance should be
7 a strong predictor of future day's performance.
8 Such a presumption does not account for the
9 difficulties, uncertainties, and mixed market
10 signals inherent in navigating an extreme winter
11 event.

12 I also noted Mr. Heidell's assertion that
13 Astoria Station experienced a forced outage during
14 Winter Storm Elliott due to lack of sufficient
15 transport service is incorrect. In fact, Astoria
16 Station experienced a forced outage due to lack of
17 fuel supply within the pipeline. If fuel supply
18 would have been available, Astoria Station maintains
19 robust transport service that would have enabled
20 fuel delivery to the plant.

21 Otter Tail actively manages risks
22 associated with misalignment between natural gas and
23 MISO energy markets. We contract with Tenaska
24 Marketing Ventures, an industry leader in natural
25 gas procurement, transport, and consulting. Otter

1 Tail uses Tenaska natural gas price forecasts to
2 craft Astoria generation offers.

3 We also evaluate a wide range of
4 financial hedging instruments. While these steps
5 can help manage some types of risks, we are unable
6 to adequately mitigate intraday pricing risks,
7 particularly during extreme system events, which
8 supports Otter Tail seeking an onsite fuel system at
9 Astoria Station. Adding LNG fuel storage at Astoria
10 Station ensures a known, constant, flexible, and
11 reliable fuel supply regardless of extreme events.

12 This concludes my opening statement.

13 JUDGE DAWSON: Further questions?

14 MR. STEPHENSON: No, Your Honor. We
15 would offer Mr. Retzlaff for cross-examination.

16 JUDGE DAWSON: Mr. Johnson.

17 MR. JOHNSON: Thank you, Your Honor.

18 CROSS-EXAMINATION

19 BY MR. JOHNSON:

20 Q So when gas isn't available at all, I think it's
21 fairly easy to see that having a secondary fuel
22 source is beneficial, but there is a difference in
23 cost between gas and LNG, correct?

24 A Yes, that's correct.

25 Q And it's fairly significant?

1 A Yeah, I would say -- yes, Mr. Johnson, it can be
2 very -- fairly significant. Generally on typical
3 days, you know, the cost of natural gas versus LNG,
4 natural gas will be much cheaper. But during
5 extreme system events, the price of natural gas can
6 be orders-of-magnitude higher than LNG.

7 Q Sure. So how often -- I mean, you really think that
8 it's going to be so problematic to overcome that
9 price difference on a very consistent, regular
10 basis?

11 A Mr. Johnson, I don't think most of the time that
12 natural gas will be more expensive than liquified
13 natural gas. Is that -- am I answering your
14 question?

15 Q Yes. Yes.

16 A Okay.

17 Q So if most of the time it's not going to be more
18 expensive than LNG, why is this necessary?

19 A Because during extreme system events, the magnitude
20 of the difference in the opposite direction is
21 substantial and can have severe economic impacts --
22 market-related impacts.

23 Q And there's no other way than this to combat those
24 price differences, or make the system better or
25 more -- there's nothing else that can be done to

1 mitigate that risk (indiscernible)?

2 A Mr. Johnson, there are other financial instruments,
3 but none of them adequately address or mitigate
4 intraday pricing risk.

5 So for contracts, call options, storage
6 options for some people, that's very limited in our
7 ability at -- ensure a hub storage. But none of
8 those, for various reasons that we -- I think are
9 part of the record that we've submitted through data
10 requests, active-mitigate intraday pricing risk.

11 Q Okay. And you're the only utility that faces
12 intraday pricing risk with natural gas?

13 A I do not believe that is the case, no. In fact,
14 recently a colleague of mine went and participated
15 in Northwestern Law Harmonization of Natural Gas
16 Seminar and Conference, and there were other
17 industry colleagues that were in similar positions
18 as I am that are expressing the exact same concerns.

19 Q Okay. Are you aware, how many -- of all these
20 peaking-type plants, do you know -- an idea or
21 generally -- and maybe this is for somebody else --
22 how many of them are dual fuel?

23 A You know, I think I recall seeing in our notes that
24 it's about half throughout the country, but I would
25 probably refer you to Mr. Phinney on that to --

1 Q Okay.

2 A -- get the specific numbers.

3 Q Okay. And if the intraday pricing is such a problem
4 with this, why aren't we seeing ADPs for dual fuel
5 resource additions to everybody else's peaking
6 plants?

7 A I don't think I can answer that. I don't -- I don't
8 know the answer to that.

9 Q Okay.

10 A And let me clarify, Mr. Johnson. I don't know if
11 there are or are not. I don't. So I can't comment
12 on why they may or may not be filing --

13 Q Sure.

14 A -- ADPs.

15 Q Sure. And there's just nothing that Otter Tail can
16 do to mitigate intraday pricing challenges at all?

17 A Well, we do everything we can within the toolbox
18 that we have. You know, we utilize Tenaska
19 Marketing Ventures and their expertise to help us
20 craft offers, to predict future forecasts, but we
21 found that even their expert opinion is often very
22 off when it comes to the extreme events. Normally
23 they're very close, but it gets very difficult
24 during those times.

25 And the other hedging and financial

1 instruments have a number of limitations on them,
2 much of it due to, you know, the logistics of the
3 natural gas and when you have to schedule and call
4 for those.

5 Q Sure. Let's exclude extreme weather events and look
6 at just the regular intraday market. How many times
7 have you had to operate Astoria at a loss because of
8 poor bidding and gas prices?

9 A How many times have we had to operate Astoria at a
10 loss? I don't know if I have that number readily
11 available to me.

12 Q Has it happened?

13 A Yeah, there are times when we have to operate at a
14 loss.

15 Q Okay.

16 A Where the price of gas -- it gets to be a very
17 complicated calculation in the sense that when we
18 are offering our unit into the market, we offer it
19 in at the actual going rate for natural gas. We may
20 have procured that gas a day earlier, and it's in
21 our park-and-loan. We have a small amount of
22 contractual storage that allows us to balance. So
23 if we have to run it at a -- at a loss based on the
24 newly updated pricing for the day, that does occur.

25 Q Okay.

1 A But generally it's pretty small marks -- amounts.
2 We're offering it at our cost.

3 Q And how many of those times would it have been a
4 small enough -- or a large enough pricing margin to
5 get over the difference in price between what you're
6 purchasing the gas at, at a higher rate, versus what
7 you've already purchased LNG at?

8 A Can you say that for me one more time?

9 Q So earlier we talked about establishing that LNG is
10 higher-price than natural gas.

11 A Yes.

12 Q And now we're talking about there's times that
13 you're operating where you've had to either purchase
14 additional gas at a higher price than what you were
15 expecting, so you're going to be operating a loss.
16 How many of those times would have the difference in
17 price been greater than the price in the LNG where
18 you would have actually used this asset?

19 A I can't say a definite number right now, but I can
20 say that during normal operating days, it would not
21 happen frequently.

22 Q If at all?

23 A If at all, yeah.

24 Q Okay. So then, again, this is only necessary to
25 mitigate the severe weather events?

1 A Yes. It's conceivable that natural gas could go
2 above the cost of what we procure, LNG fuel costs.
3 Yeah. I don't believe it has since we've had
4 Astoria, but it's possible. But by far the largest
5 concern is during the extreme events.

6 Q So I guess that answer says that this isn't
7 necessary, and as far as it being used and useful,
8 it's not?

9 A I don't -- Mr. Johnson, I don't think I said that.
10 I said that during typical operating days, LNG fuel
11 would not often be utilized, but for extreme events
12 when it would be incredibly useful given the right
13 circumstances.

14 Q Sure. So for day-ahead market problems and
15 everything, this doesn't solve that problem. It
16 only helps in an extreme weather event when things
17 get really out of control?

18 A I think I'm understanding your question, but when
19 you say, "day-ahead market problems," day-ahead
20 market problems also occur during extreme events.

21 Q Correct.

22 A Yes.

23 Q Right. But, generally, so we're talking about in
24 the past ten years you guys mentioned three events.
25 So that's three times that this investment could

1 have been used, and we don't even know that it would
2 have been cost effective even in those instances.

3 A We think that it would have provided considerable
4 value to the company in those instances, but, yes,
5 there have been three major events. The last two
6 occurred in -- within 22 months of each other in the
7 last three years.

8 Q Sure. But before that there was a gap of, what,
9 eight years?

10 A That sounds about right.

11 Q Seven, eight years, okay.

12 Do you know what the differential between
13 natural gas and LNG is at the moment? If I was
14 going to say it's about \$7.50, does that sound about
15 right?

16 A Well, it depends on what forward-pricing you're
17 looking at. If you were to compare it to timely gas
18 today, it's larger than that.

19 Q Okay.

20 A So -- yes. So I think gas today is trading just --
21 in between \$2 and \$3, and if we assume natural gas,
22 as we get in some of the analysis we've done, was at
23 \$13.

24 Q Sure.

25 A \$13.50.

1 Q And you said that there is -- you do have some
2 capacity on the line that -- to buffer some
3 generation; is that correct?

4 A That's correct. It's -- Mr. Johnson, it's called
5 our park-and-loan, and what that is is it allows
6 us -- because the nature of a simple cycle CT is
7 very unpredictable --

8 Q Sure.

9 A -- to know if MISO is going to commit the unit or
10 not, and the tolerances on Northern Border are
11 fairly tight. So you have to use the gas that you
12 procure, or if you're long, you have to liquidate
13 that gas.

14 Q Sure.

15 A And so that gives us a little bit of wiggle room
16 because we can't perfectly predict on a -- even on a
17 daily basis during -- during normal system
18 conditions what we're going to use. The benefit
19 though during the daily -- or the standard operating
20 procedures is that the price volatility is greatly
21 reduced, and so it is somewhat negligible.

22 Q There's no -- there's no way to increase that -- the
23 park and -- what is it called?

24 A Park-and-loan.

25 Q Park-and-loan. There's no way to increase that to

1 help you mitigate some of this -- the issues?

2 A Well, that's contracted with the pipeline
3 through Tenaska Marketing Ventures for Otter Tail.
4 So we could go out and seek additional and expanded
5 park-and-loan service, but that would be completely
6 subject to the willingness of the pipeline to grant
7 that service.

8 They're trained to control the line-pack
9 from a physical, operational standpoint, so they
10 only have so much to sell, and so that would need to
11 be negotiated. And -- yeah. We'd have to look into
12 it further, but --

13 Q And you haven't at this point looked into that
14 option?

15 A Well, we're very aware of -- we're very aware of
16 what the costs are, and I would say there was
17 also -- took quite a process for us, for Tenaska --
18 or for Northern Border to agree to a recent
19 extension in that at the same levels we've had for
20 the past few years.

21 In my -- my understanding through that is
22 that we were fortunate to receive an extension on
23 that. So I think the likelihood of us expanding
24 that to any significant length -- right now our
25 park-and-loan cover is about six hours of output.

1 So to expand that to five days, you know, a
2 comparable amount to, you know, a storage would be
3 highly unlikely.

4 Q Okay. And in any of these extreme weather events,
5 five days of storage would have not even been
6 required, correct?

7 A Pardon me?

8 Q In any of these extreme weather -- extreme weather
9 events that you guys have noted -- the three -- none
10 of them would have required five days worth of
11 storage?

12 A Well, Uri lasted quite a while. I think Uri lasted
13 about a week, and there were varying conditions
14 through Uri. But Elliott was shorter, yes. The
15 five days would have completely carried us through
16 all of Winter Storm Elliott at full output.

17 Q And there's no other storage options, underground
18 storage available on this pipeline for you guys to
19 set aside just natural gas that can be called upon
20 through the existing pipeline?

21 A That's correct, Mr. Johnson. In conferring with
22 Tenaska, they've informed us that there is no
23 storage available on Northern Border Pipeline.
24 There is storage available on some other pipelines,
25 but the cost of transport would be prohibitively

1 expensive to use.

2 And unlike LNG storage, all the
 3 nominations and scheduling and the requirements to
 4 get the gas there are subject to the natural gas
 5 logistics. So, for example, if we needed to be
 6 called upon at 10:00 p.m. in the evening, we
 7 couldn't call on that storage. But LNG onsite, we
 8 could flip the switch on right away, and we could
 9 run as directed by MISO.

10 Q Sure. But, again, that price difference is fairly
 11 substantial, and there's going to be very limited
 12 times where that's even going to be the option that
 13 you guys would take?

14 A Right. We're talking about if we're in a system --
 15 in an event where MISO calls on us --

16 Q Sure.

17 A -- like Uri or Elliott, yeah.

18 Q Okay.

19 MR. JOHNSON: No further questions at
 20 this time.

21 JUDGE DAWSON: Mr. Schuh.

22 CROSS-EXAMINATION

23 BY MR. SCHUH:

24 Q I do just have a general question. Maybe you can
 25 help round out some of the discussion for me. So

1 there was discussion about supply constraints
2 during, obviously, the extreme events, and Astoria
3 was unable to actually procure gas during that
4 period of time; is that right?

5 A Are we talking about Winter Storm Elliott,
6 Mr. Schuh?

7 Q Why don't we go with Winter Storm Elliott --

8 A Okay.

9 Q -- since that has the known variables.

10 A Okay. So would it be helpful if I gave just a short
11 overview of what happened at Elliott, would that be
12 helpful?

13 Q Sure.

14 A Sure. So what happened at Elliott is the winter
15 storm came, pricing and -- natural gas pricing and
16 LNG pricing at Astoria diverged. So we were --
17 Astoria was in a low pocket, despite the very high
18 natural gas pricing.

19 The afternoon of the 23rd, MISO called
20 in -- in a real -- a real-time commitment, requested
21 that Astoria be committed, and so Otter Tail did
22 commit the unit. It turned on. We reached out to
23 Tenaska, and after a number of conversations and
24 iterations, we realized that there was no fuel
25 supply to be had.

1 And we were able to operate the plant
2 until we ran out of the gas that we had stored in
3 our park-and-loan service. Once we hit that
4 point -- and even though MISO was committing us
5 during a very low LNP market -- we had to take a
6 forced outage due to lack of fuel supply.

7 Q All right. So, obviously, there's -- there were
8 multiple -- not just for this facility, but, I
9 guess, have -- were other utilities seeing similar
10 things for their gas units as well?

11 A Mr. Schuh, I'm not sure that I can comment
12 specifically on what other utilities were seeing for
13 their gas -- for their gas units, but I do know that
14 MISO talked fairly extensively about a lack of
15 supply on the pipelines. So I'm assuming that if
16 people were -- or other utilities were in a
17 situation where they were called upon in the
18 real-time and had not procured natural gas supply
19 well in advance, they probably didn't have access to
20 it.

21 Q Gotcha.

22 So the -- as we've been hearing some of
23 the testimony today, I keep hearing how this will
24 benefit, and largely, of course, you've been saying
25 that it will benefit "us." And I'm sure maybe you

1 were speaking on -- as the benefits to the company,
2 but as -- if you're extending that to the customers
3 as well as part of your response, but obviously
4 we've been discussing on the capacity, the change in
5 accreditation, which you guys have enough capacity
6 to (indiscernible) for the next three years, maybe
7 even longer.

8 Then, you talked about pricing, which
9 obviously there's complexity in pricing that you are
10 looking at trying to address by bringing this LNG
11 storage option, but maybe you can quantify the
12 benefits that we will see -- that the customers will
13 see. Because at the end of the day, as, you know,
14 regulators, we're about reliable service and just
15 and reasonable rates. So it would be good if you
16 could put it into the context of that, I think
17 (indiscernible) a response.

18 A Sure. Let me -- thank you for the question,
19 Mr. Schuh. Let me see if I can package that for
20 you. So when we say "us" -- and specifically from
21 my department -- we are trying to optimize the
22 wholesale market interactions on behalf of our
23 customers. Almost all of the market charge types,
24 they flow through the fuel clause, and so it's a
25 direct -- direct passthrough to the customers one

1 way or the other.

2 Q Right.

3 A We did do a financial-event analysis of Winter Storm
4 Uri, and there were really two primary variables
5 that we looked at: Timely natural gas nominations,
6 and we also looked at varying LNP scenarios. We
7 looked at historical LNP prices at Astoria, we
8 looked at doubling those, what might have happened.

9 We looked at if MISO would have sat at
10 their value of lost load, and we also looked at SVP
11 pricing. And I don't know if -- in that particular
12 part of our service territory, MISO and SVP are
13 right on top of each other. And, in fact, at Big
14 Stone plant we have -- we have pricing at both those
15 points because it's a co-owned unit with an SVP
16 counterparty.

17 In that financial analysis, we looked
18 at -- there's really kind of two benefits. The
19 first benefit is elimination of having to make a
20 timely natural gas decision. Because if we have
21 onsite LNG fuel, my marketing team doesn't have to
22 decide if we have to make a gas purchase in the
23 morning or not. We can just put an offer in, and if
24 it's competitive and -- or if it's not, we can
25 access that LNG -- LNG fuel site immediately.

1 The other part of that is having -- is
2 the benefit of being able to have this now-low-cost
3 fuel, 13-and-a-half-dollars LNG, that can be sold
4 into a natural gas market. You know, as we saw in
5 Uri, it got up to over \$180. It got up over -- to
6 \$150 in Elliott in the intraday market. So there's
7 great benefit on both of those sides, and that's
8 what that analysis tried to quantify.

9 Q Sure.

10 MR. SCHUH: Those are all the questions I
11 have for now. Thank you.

12 JUDGE DAWSON: Commissioner
13 Haugen-Hoffart.

14 COMMISSIONER HAUGEN-HOFFART: Thank you.

15 EXAMINATION

16 BY COMMISSIONER HAUGEN-HOFFART:

17 Q Mr. Retzlaff, thank you for your overview on what
18 happened during Elliott, and I just have -- one of
19 the questions that, when there was no longer fuel
20 supply, you indicated that you were on a forced
21 outage. So based on that, tell me what steps you
22 worked with your fuel supplier on trying to mitigate
23 that in the future?

24 A Well, thank you for the question, Commissioner.
25 What steps did we -- have we worked on? Well, I

1 would say that primarily we're working through
2 our consultant or our gas management supplier,
3 Tenaska. If gas supply would have been available,
4 we could have accessed it on our transport.

5 The problem was -- is producers were not
6 injecting the gas into the pipeline, to my
7 understanding, and it really was further up the line
8 than what Otter Tail could have done in that
9 particular situation.

10 I'm not sure if I answered your question.

11 Q That's correct. So I would take it a step further.
12 If you worked with them and it was further up the
13 line, because you have a responsibility -- I guess I
14 would, as a company, go further up the line and say,
15 we have a problem. What can we do to mitigate this?

16 And I think what we're seeing is a theme
17 here, is people are evaluating these storms and all
18 the consequences, and they're coming up with
19 solutions. And I think Commissioner Fedorchak
20 referred to two FERC reports from Storm Elliott and
21 Storm Uri, and we're asking, what are people doing
22 to mitigate those risks?

23 And I think what we're looking at -- or
24 what I'm looking at is, what are you doing when we
25 have lessons learned, the steps? So did you go a

1 little bit further on trying to mitigate that risk?

2 A Well, I -- Commissioner, I think we did evaluate all
3 the different financial tools that were available to
4 Otter Tail. And as we reviewed those, this is one
5 of the solutions that we arrived at, that onsite
6 fuel storage would be able to solve the intraday day
7 pricing risk and the financial consequences. It
8 would solve the reliability -- or it would add
9 reliability, and it would also help with our MISO
10 capacity accreditation.

11 I don't know if there are other solutions
12 that Otter Tail can actively push. We can be part
13 of conversations and advocacy groups, but right now
14 this is the best solution that we have to cover --
15 in our opinion, of those risks.

16 Q Okay. When evaluating cost-benefit, it's been
17 touched on and all that. You indicated in the
18 testimony that you read is that Otter Tail completed
19 a financial-event analysis based on Winter Storm
20 Uri. Did you do other analysis? I know you
21 compared it to, like, different costs of different
22 things, but did you look at the cost-benefit on a
23 day-to-day?

24 So when I look at the cost of the trade
25 secret that -- and when called upon in extreme

1 weather events, there's a lot of cost riding on the
2 customer. When does it become a cost-benefit? I
3 mean, I can't get my head wrapped around it as far
4 as only in extreme events are you going to need
5 this, and there's a lot of cost associated with it.
6 So tell me where in your analysis there's a
7 cost-benefit gap?

8 A So, Commissioner, thank you. I would agree with you
9 that during most -- that during most regular
10 operating days, the onsite fuel storage will not be
11 utilized for any cost-benefit savings. However,
12 during -- you know, we need to look at the magnitude
13 of potential impacts that can happen during extreme
14 events. And so if the -- if the magnitude is large
15 enough, even if it's a limited amount of events,
16 then it would seem to be -- to be worthwhile for the
17 customer.

18 And as we look at what the industry is
19 saying in terms of likelihood of these events
20 happening in the future, indications are that they
21 may be increasing, and as we look at the continued
22 transition away from fossil fuel, that also adds to
23 the volatility of natural gas, as Commissioner
24 Christmann was talking about earlier.

25 So I think I agree with you, but I would

1 just say that the magnitude during those extreme
2 events can also be extreme, and the value
3 proposition in the analysis that we did looked at
4 just what happened during the extreme events. And
5 we think based on those, that analysis, that it
6 would be a prudent project.

7 Q Okay. Thank you for your time.

8 JUDGE DAWSON: Commissioner Christmann.

9 EXAMINATION

10 BY CHAIR CHRISTMANN:

11 Q The answer you gave there, I want to address first.
12 You said the implications are that extreme events
13 may become more frequent in the future. What are
14 the indications?

15 A Well, just what the other industry publications have
16 been saying. I think it was NERC warning about
17 future winter events, that's what I was referring
18 to, Commissioner.

19 Q And did they explain why they are likely to become
20 more frequent in the future?

21 A I don't know if I know the answer to that,
22 Commissioner.

23 Q The five days of storage, is that five days of
24 running max generation 24 hours a day?

25 A Yes, Commissioner, that's correct.

1 Q So in most events, there's times during the day or
2 night when things taper off a little bit usually, so
3 actually it might run a little more than five days
4 in an extreme event?

5 A Yeah. During an extreme event, Commissioner, I
6 think if you were to have something that lasts, it
7 would probably -- at \$13-and-a-half gas -- run
8 continuously during a winter storm event.

9 Q Okay.

10 A But that would be -- that is speculation and trying
11 to predict a future market event on my part, so --

12 Q So why not -- this is a two-parter. Why not four or
13 six days; why not one or ten days?

14 A I think that's a good question, Commissioner, and I
15 would also defer that to Mr. Phinney a bit. He
16 would have additional insight on that. But as we
17 looked at Winter Storm Uri, that would have
18 basically covered us during the Winter Storm Uri
19 event, five days.

20 One day would not have covered us; ten
21 days is probably too much because we have the
22 capability to limit how much of that gas goes in or
23 out based on our offer. So five days seemed to be a
24 reasonable number.

25 Q I'm more familiar with the SPP side of it, but I

1 would say two days during Uri would have really made
2 a huge difference.

3 A I cannot -- I would -- I would concur with that. If
4 you were to take two days during Uri, it would have
5 had a substantial impact of financial markets, yes.

6 Q Then, I was kind of fascinated. I liked your review
7 of the -- Elliott. You know, how that all carried
8 out. But one thing you didn't mention that I heard
9 talked about, although not really specific examples
10 of it have ever been given to me, but on the SPP
11 side of things that I heard talked about multiple
12 times, are you familiar with issues where the
13 natural gas problem was actually the result of
14 suppliers declaring an act of God and not delivering
15 what was contracted when, in fact, they had the gas
16 and the act of God was that they could probably get
17 50 or 100 times more a decatherm on the market than
18 they could with their contract?

19 A Commissioner, I am familiar certainly that there
20 were force majeure events that were called during
21 Elliott. I don't know what the producers had or
22 what they didn't have though, but we did not have
23 access to that gas, whether they were holding it for
24 one reason or the other.

25 Q Okay. Thank you.

1 CHAIR CHRISTMANN: No other questions.

2 JUDGE DAWSON: Commissioner Fedorchak.

3 COMMISSIONER FEDORCHAK: Thank you,
4 Judge.

5 EXAMINATION

6 BY COMMISSIONER FEDORCHAK:

7 Q Thank you, Ryan. I appreciate your insights into
8 some of this stuff.

9 Could we go to page 11 in your rebuttal
10 testimony? So starting on line 4 where you walk
11 through a timeline of the timely natural gas and
12 energy trading day. You've kind of touched on this,
13 but there's terms in here that aren't intuitive.

14 So I'd kind of like you to walk through
15 this for -- for my benefit, I'm assuming my
16 colleagues might be able to better really solidify
17 their understanding of this, too. We're talking the
18 day before the real-time day. Okay. So walk
19 through this, and I might interrupt you if you use
20 different terms.

21 A Certainly. Certainly. And I'm happy to do that,
22 and I'll just preface this that it is not a -- it's
23 not an easy schedule to understand with all the
24 moving parts, so I'll do my best to try and explain
25 it.

1 Q Um-hmm.

2 A So on a typical day, we have -- we have contracted
3 with Tenaska that we will make timely gas
4 nominations. That means gas purchases for the next
5 day.

6 Q Um-hmm.

7 A The next operating day. We have to have those
8 nominations in by 8:30 a.m.

9 Q Do you have any committed amount to Tenaska at all
10 that's just the baseline?

11 A We do not.

12 Q So you're all just day-ahead purchases?

13 A We are. And I think the natural -- excuse me, the
14 utility combustion turbine generators are very
15 different than a lot of other industry. They know
16 their baseline at a high level of certainty going
17 into the bidding of processing plants --

18 Q Right.

19 A -- or whatever they might be. A simple cycle CT, we
20 do not know if MISO will commit the unit. It
21 complicates the matter even further that it's the
22 marginal unit oftentimes --

23 Q Right.

24 A -- making it even more difficult.

25 Q Okay. So you're the -- 8:30 a.m., you have to tell

1 Tenaska how much you want?

2 A We do.

3 Q Do they give you a price at that time?

4 A They estimate what the -- what the timely price will
5 be, and then, also, they will give us what they
6 think the price will be at 1:00, an intraday price,
7 when we might have to purchase gas at that point if
8 MISO clears us differently than what we're
9 expecting.

10 Q So if you don't -- so you -- you determine how much
11 you think you're going to need on the -- what is
12 that price called, the timely --

13 A The timely.

14 Q The timely price, and that's for the day ahead. And
15 then you -- if you don't get enough and MISO calls
16 you and you're using more, then you'd have to buy
17 more at that intraday pricing?

18 A That is correct.

19 Q Okay. All right. So -- but we're still back at
20 8:30.

21 A Okay. So 8:30, we make the -- or we declare to
22 Tenaska how much we want to purchase.

23 Q And what do you base that on?

24 A We base it -- during a typical day -- actually
25 during all days, we look at previous -- you know,

1 what's the wind forecast going to be?

2 Q Um-hmm.

3 A What have -- what have prices been? What have --
4 any market conditions that we can look at that might
5 give us insight. During a normal operating day,
6 it's relatively straightforward to predict what we
7 may or may not need.

8 Q Um-hmm.

9 A And if we're wrong, the consequences are not severe.

10 Q Right.

11 A So -- but during an extreme event, it becomes very,
12 very difficult to predict --

13 Q Right.

14 A -- what MISO will do and what the pricing will be.

15 Q Sure.

16 A And that's the real big kicker, is what the pricing
17 will be at 1:00.

18 Q Yeah.

19 A And so --

20 Q Okay. But let's go back to this.

21 A -- at 8:30 --

22 Q Yeah.

23 A 8:30, we determine the volume that we need, and they
24 give us what they think the price will be.

25 Q Are they at risk at all? Do they have to guarantee

1 in any way that price, or is it just their best
2 estimate?

3 A For the --

4 Q (Indiscernible.)

5 A For the timely -- for the timely price, the timely
6 price that we actually pay is settled later in the
7 operating day. So around 4:00 or so, we get to see
8 what that is, and that's beneficial because we are a
9 sole contract for timely natural gas purchases with
10 Tenaska. So we included that provision in the
11 contract so that they cannot put an unfair adder on
12 to it. So we've agreed to whatever the market
13 settles for for that day, we will receive market as
14 a whole.

15 Q (Indiscernible.)

16 A And so that kind of keeps everybody honest and fair.

17 Q Okay. And usually that price is not higher than
18 what you think it is in the morning?

19 A On a regular day, it can vary a little bit.

20 Q Okay.

21 A And timely gas is almost always cheaper than
22 intraday gas.

23 Q Right.

24 A So after 8:30, Tenaska will then go out and procure
25 the fuel supply, usually between 8:30 and 9:30.

1 After 9:30, the timely market for Tenaska generally
2 dries up, and it's not available. It maybe goes a
3 little further than that.

4 At 9:30, Otter Tail has to submit our
5 offers to MISO. And so we have to give MISO a
6 price, the cost of our gas, and that translates into
7 megawatt-hour-cost for energy, and we also have to
8 offer in the full range of our capacity accredited
9 resource to MISO for Astoria. So we tell them --

10 Q Meaning, your nameplate or whatever you think you
11 can?

12 A Whatever our must-offer requirement is. In some
13 situations for a generator it will be a nameplate;
14 in some situations if we haven't fully sold that
15 into the market, it would be a little bit less.
16 But, yes, we have to offer in that full amount, and
17 we don't know what MISO is going to do with that
18 amount. They just have the price, and they know
19 that they can have access to all the generation that
20 they want.

21 Q So basically your -- you can't withhold any capacity
22 or any energy from -- from your unit. You can't
23 say, we bought enough gas to offer this much, that's
24 what we're going to offer?

25 A That is correct, yes.

1 Q Okay. All right. But MISO can use as much as they
2 want?

3 A They can -- at the price that we're hoping that gas
4 will be that day, because we have now made an offer
5 and we are --

6 Q Yeah.

7 A -- fixed. MISO will make Otter Tail whole to our
8 offer cost, but not the actual cost of fuel
9 procurement. So if they vary, Otter Tail does not
10 recover those costs.

11 Q Got it. Okay.

12 A And by "Otter Tail," again, I'm referring to our
13 customers. It's not Otter Tail Power Company
14 shareholders, it would be our customers.

15 Q Okay. Do you have to show them what the price of
16 gas is? Like, is that some sort of a transparent
17 thing, like you have to prove to them what you're
18 paying for the gas --

19 A To --

20 Q -- (indiscernible)?

21 A To MISO?

22 Q Yeah.

23 A Well, yes, they see our offers.

24 Q Yeah.

25 A And they could back-calculate what the gas would be,

1 but there is also the Independent Market Monitor,
2 and they are overseeing all of our offers. They see
3 everything and are making sure that those offers are
4 appropriate.

5 Q And so if you thought, like, you were concerned
6 about the price going up, you couldn't just
7 unilaterally increase your price, you have to have
8 some justification for it?

9 A There is range that the IMM gives us, but if we were
10 to raise it too high, there would be questions,
11 potentially audits --

12 Q Yeah.

13 A -- on those types of things. But on the -- in terms
14 of being made whole, no, we can -- we can increase
15 our offer later in the day, but MISO is going to
16 hold us to the offer that we made earlier -- and
17 that's what the make-whole payments would be on, and
18 that's the revenues they would ensure us to receive.

19 Q Okay. Okay. So that's 9:30.

20 A And then at 9:30, we make that offer, and then we
21 are sitting on that offer until the market clears at
22 12:30 -- approximately 12:30 every day. It's at
23 that point that MISO will tell us how many megawatts
24 they want on which hours, and they're going to tell
25 us -- they're going to pay us what we offered in at

1 the beginning of the day, or more if the LNP happens
2 to be higher, but we're assuming that it's a
3 (indiscernible).

4 But if -- they may come back and we may
5 have bought, you know, 16 hours worth of gas, and
6 they're like, Otter Tail, we don't need you. We
7 don't have enough -- our park-and-learn is just for
8 balancing. We now have to turn around and liquidate
9 the gas at whatever the cost of the intraday price
10 would be.

11 Q Um-hmm.

12 A Or we have to go out and buy additional gas, and
13 then that could be at a completely different price.
14 If we thought we were going to clear for four hours
15 and they clear us for 16, then we would need to buy
16 more gas to cover those additional 12 hours. Again,
17 this is not problematic, generally, in a
18 regular-operating-day scenario.

19 Q Um-hmm.

20 A It becomes very problematic in a -- in an extreme
21 event.

22 And the one other piece that I might just
23 add to that is, MISO always has the option to commit
24 us in the real-time market at a whim's notice.

25 Q Right. Because of your capacity --

1 A Yes.

2 Q -- (indiscernible).

3 A If they need us and they realize, boy, we had
4 another unit trip off or we need additional reserves
5 or for whatever reason might happen -- it might be,
6 they could tell us to turn it on. And we would
7 already have a real-time offer in there, and we can
8 continue in volatile situations to check with our
9 gas supplier what the price is and we update that
10 offer.

11 Sometimes that offer jumps very quickly.
12 They could commit us, we go out and we get an
13 updated offer because we don't have the gas because
14 we weren't running yet, and now the gas has maybe
15 doubled in price. And MISO is only going to pay us
16 what that offer was, and, again, only made whole to
17 the offer, not the actual fuel procurement cost.

18 So that's what we're talking about here,
19 is really the heart of this intraday pricing risk
20 and the timing that's associated with offering the
21 unit and having to wait for MISO directions and then
22 volatile gas market rate changes.

23 Q Um-hmm. It seems like there's quite a lot of
24 that -- I mean, these times are adjustable, don't
25 you think? Like, this is how they are, but is there

1 any reason why they have to be: The gas market is
2 at 8:30 and the MISO clears at 12:30?

3 A I think, Commissioner, that's a very good point.
4 However, even if we were to adjust and get them to
5 align completely, we would still have intraday
6 pricing risks.

7 Now, it would be a step in the right
8 direction, because when the day-ahead market
9 cleared, we would know the total volumes that we
10 would need, which would be beneficial. But it
11 doesn't change the fact that we still had to go out
12 and put an offer price in three, four hours in
13 advance of when MISO clears the market, and gas
14 prices can change drastically. So it doesn't solve
15 the pricing fluctuations that can happen
16 between when MISO requires their offer and when MISO
17 clears it. Now, if we could eliminate that time
18 period down to zero, that would completely solve the
19 problem.

20 Q Is there any talk about doing that?

21 A I don't know if MISO has the capability to collapse
22 their clearing day-ahead market mechanisms and
23 calculators and algorithms --

24 Q Sure.

25 A -- to run that complex problem and get that time

1 that low. But any increase or any -- or decrease in
2 the time would be beneficial.

3 Q So the day -- the intraday risk would always be for
4 you guys to -- the difference between what you
5 purchase in the timely market and what MISO actually
6 clears, right?

7 A That's a part of it, yes.

8 Q And then if they actually use more, there's always
9 going to be that risk, too?

10 A Correct, Commissioner, or less. If they choose --

11 Q Or less.

12 A -- not to use it.

13 Q Um-hmm. Okay. Could you walk through, you had
14 mentioned in your opening statement and had listed
15 off the criticism that Mr. Heidell had of this
16 (indiscernible) -- or this plan. It was in your
17 opening statement.

18 A Sure.

19 Q And I just didn't -- wasn't able to -- it was like a
20 nice list. There was like three or four things that
21 you had run through.

22 A Sure. I guess there would be three pieces to it.

23 Q Okay.

24 A The first piece is in Mr. Heidell's initial
25 testimony. The assumption was made that we could

1 purchase timely gas after knowing the MISO day-ahead
2 clearing results.

3 Q Okay.

4 A And that -- that is not a part of that timeline.

5 Q Right. We just walked through that.

6 A Yeah. The second piece was associated with looking
7 historically at Uri and making assumptions based on
8 previous day's performance during the winter storm
9 event and saying we would not look to procure
10 additional gas if the previous day was -- resulted
11 in poor financial consequences.

12 So, for example, we might one day procure
13 25 percent of our needs. Going into a winter storm
14 event, procure six hours for our Astoria unit to run
15 25 percent output. From Otter Tail's standpoint,
16 that seems fairly reasonable, but it might be a
17 market event where it would have made sense, as it
18 did in -- particularly in Uri. In this one
19 particular storm, that for that day, it made sense
20 that it -- it would have -- we would have turned out
21 better to not have purchased the gas and not had to
22 sell it back at a loss.

23 Going into the next day, just because we
24 lost on the first day doesn't mean there is an
25 extreme volatility in that event that we would stop

1 purchasing a subset of gas in the event that market
2 conditions change completely. And so when you just
3 look at the previous days and you don't look at
4 what's happening in the heart of an event when
5 you're seeing multiple market indications going
6 different ways, to counteract that during Uri and
7 Elliott, we were also seeing very high pricing in
8 SPP market, for example. We were seeing high
9 five-minute ticks in MISO.

10 We were having conversations with our gas
11 providers, telling us we don't know where the
12 market's going to go. And it makes it very, very
13 difficult to try to figure out, well, what should we
14 do for the next day? And so that's why our analysis
15 looked specifically at varying different amounts of
16 timely purchases and different amounts of LNPs. So
17 that would be number two.

18 And then the third would be the
19 discrepancy related to transport to Astoria Station.
20 And Otter Tail procures our transport
21 through Tenaska Marketing Ventures, and as
22 Mr. Heidell's testimony correctly notes, that at
23 Astoria Station, we have secondary in-path transport
24 service.

25 Q Um-hmm.

1 A However, through all of -- you know, Tenaska moves
2 all that transport, all that gas on firm primary
3 transport. If there is a de-rate or a curtailment,
4 it happens at the point of where that curtailment
5 occurs.

6 So if it happens up-line, we're still on
7 primary firm transport all the way to Astoria
8 Station. At the node, it's secondary transport,
9 which is lower -- a lower service, but there should
10 never be a binding constraint at Astoria. Because
11 the meter is sized larger than the plant, and Otter
12 Tail is the only one taking -- withdrawing gas at
13 that node. So for all practical purposes, we
14 receive natural gas on primary firm transport at
15 Astoria.

16 So those would be the three points.

17 Q Can you -- in your -- can you -- you summed them up
18 in there. I was -- can you find that and reread it
19 to me? You summed Heidell's criticisms, I think.

20 A Sure. Would you like me, Commissioner, to reread
21 that paragraph?

22 Q Yeah. That would be great.

23 A Sure.

24 As noted in my prefiled testimony, I take
25 issue with portions of testimony of Advocacy Staff

1 Witness Mr. James Heidell. I do not believe
2 Mr. Heidell accurately accounts for natural
3 gas/electric scheduling logistics, transport
4 robustness, or the complexity and uncertainty of
5 making fuel procurement decisions during an extreme
6 system event.

7 Specifically, I noted his criticism of
8 our Uri financial-event analysis erroneously assumed
9 timely gas could be purchased after MISO posts
10 day-ahead commitment and dispatch instructions.
11 This is not accurate. Otter Tail's required to make
12 timely natural gas purchase decisions four-plus
13 hours in advance of knowing MISO commitment
14 instructions.

15 Q Okay. Yeah, and we went through all that. Okay.
16 The three things, natural gas -- say it one more
17 time.

18 A Natural gas --

19 Q The list that you just read.

20 A Logistics -- let's see, accounts for natural
21 gas/electric scheduling logistics.

22 Q Okay. Hold on.

23 Okay.

24 A Transport robustness.

25 Q Okay.

1 A The complexity and uncertainty of making fuel
2 procurement decisions during an extreme system
3 event.

4 Q Okay. All right. So the transport robustness, I
5 feel like those issues, whether it is weatherization
6 of production facilities -- well, that would
7 probably be the biggest one that's caused problems
8 with transport, right?

9 A Commissioner, I think during Winter Storm Uri, if
10 they would have weatherized production, we -- there
11 was maybe a good chance that we wouldn't have seen
12 that, but that's not my area of expertise --

13 Q Right.

14 A -- so I can't say for sure.

15 Q Other issues with transport robustness, it's mostly
16 not having enough gas on the line to
17 (indiscernible)?

18 A Yes. During -- did I say Uri or Elliott?
19 It's Elliott that there was the lack of supply.

20 Q Yeah.

21 A But, yes, from Otter Tail's standpoint, we have the
22 highest available transport service.

23 Q Okay. And then the complexity of securing the fuel.
24 I mean, the first piece of having it available is
25 going to take care of a bunch of that complexity?

1 A I'm not quite --

2 Q Just having --

3 A -- following.

4 Q -- enough available.

5 A Oh, yes. I mean, it would -- if it's available,
6 then you just have your pricing concerns.

7 Q Right.

8 A You don't have your reliability concerns in this
9 case. I mean, there are other things that could
10 happen to a pipeline, I suppose, but we've seen
11 production freeze-offs as being significant in both
12 Elliott and Uri.

13 Q Yeah. And then the last one, the natural
14 gas/electric scheduling logistics, which we talked
15 about. So, I mean, my concern here is that -- like
16 I expressed to Brad, you know, this facility with
17 onsite fuel is probably the way to go, you know, in
18 a world without coal, because how else do you have
19 onsite fuel? Especially if none of these things
20 that you just identified get taken care of, but I
21 feel like a lot of those things are going to be
22 taken care of.

23 So help me understand, you know, the --
24 how this is -- could end up being unnecessary or
25 sort of a waste of money if some of these other

1 issues take care of it, like on a day-to-day --
2 every day is more of a normal day?

3 A Sure, Commissioner, you know, I guess I would be
4 speculating a little bit, but I would say that if --
5 if you could condense the -- you know, even if we
6 were to rely on the natural gas markets, as long as
7 there is timing delays between when we have to make
8 an offer to MISO and when they can clear it, or if
9 MISO can just -- like they can currently, just
10 immediately call on a unit and now we have to go
11 procure gas that's change from our offer price,
12 we're still going to have issues like -- I think
13 we'll still have issues.

14 We could also solve it, though, by
15 somehow fixing the natural gas market during that
16 three-hour time delay. I think both of those
17 solutions are fairly unlikely, but I remain
18 confident that we can improve the system going
19 forward.

20 Q Okay. Thank you. I appreciate your professorial
21 nature.

22 JUDGE DAWSON: Mr. Stephenson.

23 MR. STEPHENSON: No questions, Your
24 Honor.

25 JUDGE DAWSON: Further questions?

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RECROSS EXAMINATION

BY MR. JOHNSON:

Q So if this resource addition was denied, Astoria's still a prudent investment for Otter Tail?

A Mr. Johnson, in my role at Otter Tail, I'm more of an operational person. I don't feel equipped to answer that question.

Q Okay.

MR. JOHNSON: I don't have anything further.

JUDGE DAWSON: Mr. Schuh.

RECROSS-EXAMINATION

BY MR. SCHUH:

Q So you've spoken a lot about the benefits of having this in place, but I'm curious of the cost, I mean, of not doing this. Would you be able to -- would you be able to provide a range, like a quantitative range of what we may be looking -- our customers may be looking at? Could you walk us through that?

A Mr. Schuh, I'm not sure, other than pointing to our Winter Storm Uri analysis --

Q Sure.

A -- that we have -- and maybe I should defer to others on this, but I'm not sure that we have any -- other than the Winter Storm Uri analysis, I'm not

1 sure I've got anything to point you to quantify,
2 so --

3 Q That's the whole event then, that --

4 A The only thing --

5 Q (Indiscernible.)

6 A -- that I would add to that, though, is Winter Storm
7 Uri was one event.

8 Q Sure.

9 A And I would also add that there are future events
10 that will come, and they will act differently, just
11 like Uri and Elliott were very different. And as an
12 operational person who sat with my teams through
13 both of these events and know -- and realized how
14 extreme and uncertain they can be, I can say that
15 onsite fuel at Astoria would give us a tremendous
16 fuel to navigate anything -- any of these events
17 going forward. Whether they're more extreme -- if
18 they're less extreme, from my standpoint, that's
19 great, because, you know, then we're not dealing
20 with, you know, these consequences. So --

21 Q Sure.

22 MR. SCHUH: I have no other questions,
23 Your Honor. Thank you.

24 JUDGE DAWSON: Commissioners.

25 Haugen-Hoffart.

1 FURTHER EXAMINATION

2 BY COMMISSIONER HAUGEN-HOFFART:

3 Q So we have lessons learned, you know, from Uri and
4 Elliott, and last week we saw -- I mean, not an --
5 extreme weather, but a change. So tell me of
6 anything you guys did different with that storm that
7 happened last week from lessons learned to mitigate
8 some risk?

9 A Sure. Thank you, Commissioner. Yes, the storm that
10 we -- or the cold weather snap that we recently had
11 was really a nonevent for us.

12 Q Okay.

13 A Market pricing was relatively low, natural gas
14 storage is at five-year highs, and there's not a
15 fear in the market.

16 And one thing I've learned from being in
17 the markets is a lot of the pricing is moved based
18 on fear, and right now there's not a lot of fear at
19 the present moment. And so we didn't -- we really
20 didn't see any harsh impacts due to the recent cold
21 weather snap.

22 Q So fear has been eliminated, you know, somewhat. I
23 mean, nationally there was a lot of forecasts for
24 inclement weather, do you foresee this going forward
25 so this will impact this -- extreme weather events?

1 I mean, there's been a lot of lessons learned in
2 that -- and as you said, again, I'm going to
3 emphasize that fear has been eliminated, so --

4 A I think, Commissioner, what I was trying to say --
5 and I'm not sure if you're repeating what I said or
6 if you're making a statement, but I think in the
7 most recent event, there was not much fear of
8 markets going crazy. And so as a result, prices
9 were stable, and we were able to walk through it.
10 We had plenty of natural gas storage capabilities.
11 So the -- this last event was not a -- not an event.

12 Q Okay. I suppose that was correct. I was trying to
13 restate, and seeing as -- moving forward, has there
14 been any movement, do you think, in the natural gas
15 being a -- having supply ready or they've
16 winterized, have you seen a change there? Do you --
17 for --

18 A Commissioner, in visiting with Tenaska and reading,
19 you know, they said recent weeks, there's no --
20 there's not fear, but I have a -- I have not also
21 heard about great efforts to winterize the system.
22 But, again, that might be a little bit outside --
23 I'm more dealing with day-to-day --

24 Q Right.

25 A -- operations, so --

1 Q Okay. Thank you.

2 COMMISSIONER HAUGEN-HOFFART: Thank you.

3 JUDGE DAWSON: Christmann.

4 CHAIR CHRISTMANN: No other questions,
5 Your Honor.

6 JUDGE DAWSON: Fedorchak.

7 COMMISSIONER FEDORCHAK: No.

8 JUDGE DAWSON: If there are no further
9 questions --

10 UNIDENTIFIED: None from me, Your Honor.

11 JUDGE DAWSON: -- then you may step down.

12 MR. RETZLAFF: Thank you.

13 (Witness excused.)

14 JUDGE DAWSON: And you may call your next
15 witness.

16 MR. STEPHENSON: Thank you, Your Honor.
17 Otter Tail Power calls Kirk Phinney.

18 JUDGE DAWSON: Mr. Phinney, you were here
19 for my previous admonitions as to perjury, so you
20 understand what perjury is and the penalties for it?

21 MR. PHINNEY: I do.

22 JUDGE DAWSON: Understanding so, do you
23 promise or swear that the testimony that you're
24 about to give will be the truth?

25 MR. PHINNEY: I do.

1 KIRK PHINNEY,
2 after having been first duly sworn, was
3 examined and testified on their oath as follows:

4 JUDGE DAWSON: With that, you may begin,
5 Mr. Stephenson.

6 DIRECT EXAMINATION

7 BY MR. STEPHENSON:

8 Q Mr. Phinney, please state your name and your
9 employer for the record.

10 A My name is Kirk Phinney. I am employed by Otter
11 Tail Power Company.

12 Q And what do you do for Otter Tail Power Company,
13 Mr. Phinney?

14 A My current title is manager of project execution and
15 strategy.

16 Q And what does that position entail?

17 A I support large projects, over the last 14 years at
18 Otter Tail, through the execution phase and also in
19 the development of large projects, such as the
20 onsite fuel project we're discussing today.

21 Q And, Mr. Phinney, have you filed -- or prepared
22 prefiled testimony in this proceeding?

23 A I have.

24 Q And if you were asked the questions in your prefiled
25 today, would your responses be the same today?

1 A Correct, with the clarification on the schedule.

2 Q Yes. And, Mr. Phinney, have you prepared an opening
3 statement summarizing that prefiled testimony?

4 A I have.

5 Q And I would refer you then to Otter Tail Exhibit 15,
6 would you please read that into the record?

7 A Okay. Good morning. My name is Kirk Phinney. My
8 current title is manager of project execution and
9 strategy. I will provide a brief summary of my
10 prefiled testimony in support of Otter Tail Power
11 Company's application for a determinacy --
12 determination of advanced prudency for the Astoria
13 Station onsite fuel inventory system project and
14 provide an update to the current project schedule.
15 Astoria Station is a 250-megawatt
16 natural-gas-fired simple cycle combustion turbine
17 generation facility that was placed into service in
18 2021. The proposed onsite fuel inventory system
19 project consists of a liquified natural gas truck
20 unloading station, a liquified natural gas storage
21 tank, and then 40 pumps and vaporizers necessary to
22 convert the liquified natural gas to a vapor that is
23 suitable for combustion in the existing combustion
24 turbine. The key assumption for the project design
25 is to store five days of onsite fuel based on the

1 maximum wintertime rating of 286 megawatts.

2 Through the preliminary design process,
3 Otter Tail evaluated two potential types of fuel for
4 the project: Fuel oil and liquified natural gas.
5 Through that evaluation, Otter Tail found that
6 liquified natural gas had the lower initial capital
7 cost, lower O&M cost, and lower fuel cost.
8 Liquified natural gas also does not have the
9 emissions, capacity, or operational drawbacks or
10 limitation as compared to fuel oil.

11 Otter Tail intends the -- to manage the
12 project with two key procurements. The first
13 procurement will be for all of the equipment and
14 that installation under an engineering procurement
15 and construction, EPC-type of an agreement. It will
16 be competitively bid. The second procurement will
17 be for a long-time liquified natural gas supply
18 agreement that will also be competitively bid.

19 Regarding the project schedule, the
20 estimated schedule in my original testimony
21 projected an inservice date of December 2026 for the
22 onsite fuel storage project. Since filing our ADP
23 application in February 2023, Otter Tail has
24 reassessed the project schedule in lieu of ongoing
25 anticipated regulatory approval proceedings and

1 determined that it's necessary to address the
2 project schedule -- to adjust the project schedule.
3 Based on these updates, we project the project being
4 in service in September 2027, assuming all
5 regulatory (indiscernible) are secured.

6 The project cost estimate within my
7 original testimony remains unchanged, and Otter Tail
8 provides further clarification of assessment as
9 recognized within Mr. Heidell's surrebuttal
10 testimony.

11 This concludes my summary.

12 JUDGE DAWSON: Any further questions,
13 Mr. Stephenson?

14 MR. STEPHENSON: No, Your Honor. We
15 would offer Mr. Phinney for cross-examination.

16 JUDGE DAWSON: Mr. Johnson.

17 CROSS-EXAMINATION

18 BY MR. JOHNSON:

19 Q Supply chain and, just, general cost increases are
20 not an issue at this point, the price has not
21 changed at all?

22 A We haven't felt the need to revise the cost estimate
23 provided given the current supply chain estimates.
24 That obviously is something that's continuously
25 discussed --

1 Q Sure.

2 A -- and reviewed, and no large project is immune to
3 that -- those things today.

4 Q Sure. With the type of components and materials
5 needed, you don't expect there to be any supply
6 chain delays or other things that are not -- and
7 some things are available readily, other things are
8 not. The components to build this project wouldn't
9 be, probably, delayed by supply chain issues at all
10 in your estimates?

11 A Not at this time. There's -- there can be
12 speculation.

13 Q Sure.

14 A You know, as this is -- is there a big LNG export
15 boom that might impact the supply that we're looking
16 at? As we've looked into those details, not a
17 current concern.

18 Q And rising costs of those components and materials
19 isn't a concern at this time either?

20 A No.

21 Q Okay. So the cost range update was minus 10 percent
22 to 30 percent, can you explain that range to me a
23 bit?

24 A So as we put together the cost estimate for Astoria,
25 we follow the same practice that we do on large

1 projects such as the Big Stone AQCS in the original
2 project, and that is, we put together an engineering
3 cost estimate. So the effort that you put in there
4 to refine that range really is what can that
5 engineer -- how much engineer -- engineering do you
6 complete to refine that?

7 And what an engineer can do is size
8 things appropriately. How far do you go? Do you go
9 to the actual piping length? Do you spend \$40,000,
10 \$50,000 to do geotechnical investigation to make
11 sure you have a grasp of what your foundation should
12 be? And so that's what that engineer -- the
13 engineer, the consultant, that we used did as we
14 worked through that estimate.

15 And that's -- we're at the level of the
16 estimate today where we will have a very good
17 package for people to bid, and I think our work
18 scope -- that's the definition of what the project
19 is -- is pretty known through that process. And so
20 we're really at that point where we need to go out
21 and see what that market has to offer for us.

22 And so when there's a percentage range,
23 you know, those are the things that that engineer
24 can't -- can't quantify, such as supply chain issues
25 and things like that, inflation.

1 Q So you stated that the only two fuel sources
2 considered were fuel oil and the liquid natural gas,
3 right?

4 A Correct.

5 Q Are there any others -- fuel types out there that
6 are commonly available and used in generation?

7 A I think you see propane used, for example, on
8 smaller generation units. I think as you start
9 talking about storing the volumes of fuel that we're
10 talking about, that starts not being applicable to
11 Astoria.

12 Q Sure. And there was -- like, I know there's three
13 different things going on, and they're talking about
14 like coal-fire and hydrogen and things like that.
15 Hydrogen is not an option that you could coal-fire
16 with lower amounts of natural gas to get the same
17 generation?

18 A It's not proven at an industry level today.

19 Q So there's no --

20 A It's --

21 Q Basically no market for it and no supply for it?

22 A Correct.

23 Q Okay.

24 A Correct.

25 MR. JOHNSON: I don't have any further

1 questions at this time.

2 JUDGE DAWSON: Mr. Schuh.

3 MR. SCHUH: Not at this moment. Thank
4 you.

5 JUDGE DAWSON: Commissioner
6 Haugen-Hoffart.

7 COMMISSIONER HAUGEN-HOFFART: No
8 questions.

9 JUDGE DAWSON: Commissioner Christmann.

10 EXAMINATION

11 BY CHAIR CHRISTMANN:

12 Q This would be one tank, right?

13 A Correct.

14 Q Describe the tank to me.

15 A So it's not like looking at a fuel oil tank out
16 there. LNG is stored at atmospheric pressure as a
17 liquid, and in order to maintain it being a liquid,
18 it's -- it's at minus 260 degrees Fahrenheit. And
19 so this tank is designed and -- to have basically an
20 inner shell that is rated for those temperatures.
21 We're talking about cryogenics, a high nickel
22 content, and then that takes care of the cold
23 temperature aspect of storing that cold liquid.

24 And then there's roughly six feet of
25 insulation between that and an outer shell, and that

1 outer shell is what contains the pressure and
2 contains the liquid. Because you're storing it at
3 atmospheric pressure, that liquid wants to boil, and
4 so it is constantly boiling. So you want to keep it
5 cold so it doesn't boil off more -- boil off gas is
6 what they call it in the industry. And so that
7 outside shell of the tank contains that, and is
8 designed to a pressure.

9 And so one of the other pieces of
10 equipment with LNG is boil-off gas management
11 equipment, which is -- what we are doing in this
12 project is re-liquifying it and putting it back in
13 the tank.

14 Q So it's aboveground?

15 A It is aboveground, yeah.

16 Q And is it, like, rectangular like a box, or is it a
17 cylinder?

18 A It's a cylinder. So I believe 120-foot in diameter,
19 anywhere up to 100-feet tall. These tanks --

20 Q (Indiscernible.)

21 A Sorry. Excuse me.

22 Q So you said "anywhere," is that the size of this?
23 Is this something that you buy or that you build to
24 suit your specific volume --

25 A It will be --

1 Q -- desired?

2 A -- designed for our sizing requirements. It will
3 follow what the industry standards are out there for
4 natural gas peak shaving units.

5 In our case, because of the quantity that
6 we're storing, we will have a field-fabricated tank.
7 It will be built onsite. We had evaluated
8 shop-fabricated tanks through our evaluation, but I
9 believe we needed 25 of them, and there's a certain
10 amount of storage where that tips the other way for
11 a field-fabricated tank.

12 Q Good segue to my next question. I wasn't thinking
13 of 25, but why not two? Because I just could
14 imagine at some point there must be some kind of
15 maintenance that has to be done. Maybe it's on the
16 tank, maybe it's on the vaporizer, or maybe it's on
17 the truck-unloading facility. Now you have to do
18 maintenance, and now you're back down to nothing.
19 Wouldn't it be better to have two or three smaller
20 ones? It may be a little more money, but you always
21 have something there.

22 A Certainly that may be a more robust approach. There
23 would be an added cost. When we look at the
24 application of LNG, we visited quite a few peak
25 shaving units that are located on natural gas

1 pipelines, and you don't see that practice in that
2 industry of having two tanks.

3 The tanks are designed such that the
4 pumps for the LNG are inside the tank, and
5 everything comes out through the top of the tank,
6 and you can isolate that and pull that equipment
7 out.

8 Q So would it be unfair of me to say that when you say
9 multiple tanks would be a more robust approach, but
10 it would be an added cost, that's pretty similar to
11 what happened in 2017 when coming with the full cost
12 of replacing the coal plant, and the contracts would
13 have been the actual cost of Merricourt, Astoria,
14 and the fuel storage. You just went with the less
15 robust but lower cost, and now are back for the
16 rest?

17 A No, I think we're following the industry practice
18 that's out there for how you design your tanks.

19 Q I've just got to tell you, it worries me that the
20 industry practice is leading this right to the
21 problems that we're talking about today.

22 But, so if I understood you right,
23 there's that inner shell and then six feet of
24 insulation and then the outer shell?

25 A (No verbal response on digital recording.)

1 Q So we have -- and it's usually in siting cases more
2 than ADPs, but we've sited some big things. You
3 know, hundreds of millions of dollars, and many
4 times they are constructed in, like, a summer season
5 and a winter season. Or sometimes, you know, start
6 in the spring and then get done a year and a half
7 later following the second summer season.

8 Okay. This sounds really big and this --
9 your explanation of it certainly enhances the
10 complexity of it compared to what I was imagining,
11 but, still, it's a tank and vaporizer and unloading
12 equipment. You have expressed a desire to start in,
13 like, April, or something in the spring, and now the
14 implementation date is pushed back to autumn of
15 2027, was it? How does this take three full summer
16 construction seasons? It seems like a lot to me.

17 A So, Commissioner, we've revised that in the
18 schedule, starting construction in 2025 and having
19 it in service September of 2027.

20 Q Oh, I caught the inservice change, I didn't catch --
21 so if you're -- you're planning to start
22 construction when?

23 A January of 2025.

24 Q So I thought I heard earlier that you're expecting a
25 decision from Minnesota regulators in weeks or a

1 couple months or something, and we're here. What
2 are you going to do all through 2024?

3 A So, Commissioner, the procurement process, we do
4 have additional engineering to complete to support
5 the siting permit process in South Dakota. That
6 hasn't begun, so there's that part of it.

7 There's the period of getting that EPC
8 procurement package out and ready for bid, and then
9 giving them time to create a competitive bid that's
10 accurate. And we don't want to rush that, and so
11 that process is included within this change in
12 schedule.

13 Q Have you filed for siting in South Dakota, or are
14 you waiting for the ADPs?

15 A We --

16 Q The ADP (indiscernible) --

17 A -- have not started the siting permit in South
18 Dakota. We've been in discussions with staff in
19 South Dakota, and they're aware of our project.

20 Q Okay. Thank you.

21 CHAIR CHRISTMANN: No other questions,
22 Your Honor.

23 JUDGE DAWSON: Commissioner Fedorchak.

24 EXAMINATION

25 BY COMMISSIONER FEDORCHAK:

1 Q Okay. Thank you, Kirk. Just a couple quick
2 questions, and I think Randy just covered the
3 timeline. And -- just one question, and that is,
4 are there any IIJA funds available for something
5 like this? Or IRA, any federal money supporting LNG
6 facilities like this?

7 A I am not aware of that, and I may not be the best
8 person to answer that.

9 Q Okay. All right. Well, there seems to be lots of
10 money for lots of things, so I'd be curious if
11 anyone at Otter Tail could provide an answer to
12 that.

13 Otherwise, I don't have any more
14 questions for you. Thanks.

15 JUDGE DAWSON: Mr. Stephenson.

16 MR. STEPHENSON: No questions, Your
17 Honor.

18 JUDGE DAWSON: Any further questions?

19 MR. JOHNSON: Just one quick one.

20 RECROSS EXAMINATION

21 BY MR. JOHNSON:

22 Q What's the annual operating cost to store the LNG?

23 A We've answered an IR with respect to that. I know
24 it was protected data. I believe we indicated --
25 I --

1 Q If we've got it, we've got it. I was just trying to
 2 understand how much addition -- I mean, it sounds
 3 pretty expensive to cool this through the entire
 4 year. So I was just -- I'll find that myself.
 5 Thanks.

6 JUDGE DAWSON: Mr. Schuh.

7 MR. SCHUH: Nothing more, Your Honor.

8 JUDGE DAWSON: Any further questions?

9 Seeing none, you may step down.

10 (Witness excused.)

11 JUDGE DAWSON: Do you have one further
 12 witness?

13 MR. STEPHENSON: We do, Your Honor.

14 JUDGE DAWSON: Okay. And we can take
 15 them before lunch, do you think? They should be
 16 about that length, correct?

17 MR. STEPHENSON: Yes, I think that is
 18 about right, Your Honor.

19 JUDGE DAWSON: Okay. You may call your
 20 next witness.

21 MR. STEPHENSON: Otter Tail Power calls
 22 Nathan Jensen.

23 JUDGE DAWSON: Mr. Jensen, you were here
 24 for my previous admonitions as to perjury, so you
 25 understand what perjury is and the penalties for it?

1 MR. JENSEN: I do.

2 JUDGE DAWSON: Understanding so, do you
3 promise or swear that the testimony that you're
4 about to give will be the truth?

5 MR. JENSEN: I do, yeah.

6 NATHAN JENSEN,
7 after having been first duly sworn, was
8 examined and testified on their oath as follows:

9 JUDGE DAWSON: You may begin,
10 Mr. Stephenson -- I mean -- yeah.

11 COMMISSIONER FEDORCHAK: Jensen. Too
12 many Norweigan names. Which is -- there's never --
13 there's no such thing as too many Norweigan names.

14 JUDGE DAWSON: I'm combining them.

15 COMMISSIONER FEDORCHAK: But there's a
16 lot of them with Otter Tail.

17 DIRECT EXAMINATION

18 BY MR. STEPHENSON:

19 Q Mr. Jensen, please state your name for the record
20 and your employer.

21 A My name is Nathan Jensen, and I work for Otter Tail
22 Power Company.

23 Q And what do you do for Otter Tail Power Company,
24 Mr. Jensen?

25 A I manage the resource planning department.

1 Q Can you tell us what that involves?

2 A Our department handles all of the generation
3 planning, both near-term and long-term. We ensure
4 adequate energy and capacity resources for both of
5 those time frames.

6 Q And, Mr. Jensen, is it correct you filed prefiled
7 testimony in this matter?

8 A I have, yes.

9 Q And if asked the questions in your prefiled
10 testimony, would they be the same today?

11 A That is correct.

12 Q Mr. Jensen, have you prepared a summary of that
13 prefiled testimony?

14 A I have.

15 Q Would you please read that into the record?

16 A My name is Nathan R. Jensen. I'm the manager of
17 resource planning at Otter Tail Power Company. I'll
18 provide a brief summary of my testimony supporting
19 the company's application for an advanced
20 determination of prudence for the Astoria Station
21 LNG fuel storage project.

22 My prefiled testimony notes the benefits
23 of resilient generation and that the addition of
24 Astoria Station fuel storage significantly increases
25 the amount of resilient generation in Otter Tail's

1 generation portfolio to the benefit of our
2 customers.

3 I've also noted that resilient generation
4 is synonymous with fuel assurance, or the six core
5 reliability attributes identified by MISO. In fact,
6 fuel assurance may be the key reliability attribute
7 because it is foundation to the other attributes
8 identified by MISO.

9 I have noted that the Northern Border
10 Pipeline has a history of reliability, but all
11 natural gas pipelines are subject to disruptions, as
12 was seen during Winter Storm Uri, and more recently
13 during Winter Storm Elliott. Preparing for these
14 inevitable disruptions is an important step to
15 ensuring reliability.

16 I have also noted that recent MISO
17 accreditation changes incent generation resources to
18 be available during the most important hours, onsite
19 fuel storage at Astoria Station will increase the
20 likelihood of Astoria being available during extreme
21 weather events, which will have a direct impact to
22 the amount of capacity credit Astoria will receive
23 to the benefit of our customer. Specifically, a
24 generation plant may see a reduction in capacity
25 credit if it is forced to go on outage during

1 extreme system events.

2 Finally, I have also addressed the
 3 growing concern in our industry about reliability
 4 risks caused by the pace of the transition from
 5 dispatchable resources to intermittent resources,
 6 and specifically the risks posed by extreme weather
 7 events, which can limit energy supply at the same
 8 time demand increases. I've explained that these
 9 factors support the addition of onsite LNG storage
 10 at Astoria Station.

11 This concludes my summary.

12 JUDGE DAWSON: Any further questions?

13 MR. STEPHENSON: No, Your Honor, and we'd
 14 offer Mr. Jensen for cross-examination.

15 JUDGE DAWSON: Mr. Johnson.

16 CROSS-EXAMINATION

17 BY MR. JOHNSON:

18 Q So what is your winter capacity currently?

19 A To clarify, Mr. Johnson, are you referring to our
 20 accredited capacity or our capacity requirement?

21 Q Your accredited capacity.

22 A We have just over 1,200 megawatts of capacity credit
 23 for the (indiscernible).

24 Q Okay. What's the other side of that, the -- the
 25 other side that it -- you mentioned?

1 A Roughly 1,100 megawatts.

2 Q Okay. So is your -- your winter margins are
3 25.5 percent; is that correct?

4 A That is correct, yeah.

5 Q Okay. So if -- so this de-rating that might happen,
6 is that going to happen, or is that just theoretical
7 at this point?

8 A That will happen. The exact impact is still
9 unknown.

10 Q Okay.

11 A But (indiscernible).

12 Q And what's that going to reduce your reserve margin
13 to?

14 A You know, again, the exact numbers are still
15 unknown, but if we assume that this event will
16 reduce by 50 megawatts, that will cut our excess in
17 half.

18 Q So you would be down to, like, 12-and-a-half-point
19 of reserve margin?

20 A No. I think there's a -- the PRMR requirement of
21 roughly 1,100 megawatts, that's based on our
22 coincident peak load, and then MISO adds in
23 transmission losses, as well as that -- that PRM,
24 planning reserve margin, of 25 percent.

25 Q So that would take it below 12 or keep it above 12?

1 A It will stay at 25.5 when you're comparing it to our
2 PRMR, but when you look at our excess of just under
3 10 percent, it will -- above and beyond our PRMR, it
4 will bring that back down to, you know, half that,
5 around 5 percent.

6 Q So what's the -- what's the need for this then?

7 A I believe, you know, Mr. Tollerson, Mr. Retzlaff,
8 Mr. Phinney have gone in great detail to explain the
9 need from a -- you know, an intraday pricing and
10 from a reliability standpoint.

11 From a capacity standpoint, you know,
12 this will -- you know, nothing guarantees it, but
13 this will, you know, help Astoria be available
14 during these, what MISO calls, Tier 2 hours. So we
15 don't have a situation like what happened with
16 Elliott, where we missed a significant amount, and
17 are going to take a, you know, roughly
18 50-megawatt-capacity hit.

19 It's important to point out, too, that
20 the MISO accredits resources on a three-year rolling
21 average. So this happened last year, so this one
22 bad year is in -- if this were to happen again next
23 year, we would have two of these, you know, in the
24 three-year calculation. So that 50-megawatt de-rate
25 could turn into a 100-megawatt de-rate, and we could

1 find ourselves flush.

2 Q Okay. If this was approved and you added it in, how
3 fast does that come back?

4 A It's a three-year rolling average. So Winter Storm
5 Elliott will affect us for the next three planning
6 years.

7 Q And even if this was approved and other things
8 happen where -- this doesn't cover that, we still
9 end up in the same -- could end up in the same
10 place? If you guys are unable to generate for other
11 reasons, you may end up getting deregulated for that
12 as well?

13 A That is correct. All outages -- unless there is
14 approved, non-forced outages. All forced outages
15 are treated equal.

16 Q Do you have any estimates of how often you think you
17 would get -- would actually use this additional
18 resource?

19 A Above and beyond what Mr. Retzlaff has already
20 mentioned, I don't have any further details.

21 Q Is there any other ways that you can, I guess, hedge
22 against a capacity de-rating?

23 A For Astoria-specific, there -- there is -- from a
24 fuel availability standpoint, there is not.

25 Q Okay. And the only way to fix that is to fix

1 Astoria?

2 A When we're looking at an Astoria-specific solution,
3 yes.

4 Q But is there other ways to hedge against capacity
5 loss because of this by implementing less-cost
6 options other -- where in this -- other ways in the
7 system to maintain that reserve margin?

8 A We could certainly go purchase capacity
9 (indiscernible), and that's specifically to help us
10 meet our PRMR. There's no reliability benefits that
11 come with those or intraday pricing risk mitigation.

12 Q Is reliability separate from your capacity issues
13 that you face from this, are those two separate
14 things, or are they cause-and-effect?

15 A The capacity credits and reliability are two
16 separate things. They are related, in that, if you
17 miss those crucial MISO hours, which could have a
18 detriment to reliability, you will then have a
19 de-rate in your future capacity credit.

20 Q Okay. And this LNG storage fixes both of those
21 issues or just one of those issues?

22 A It fixes the -- yeah, both of those issues from a
23 fuel availability standpoint. As we've discussed,
24 there are other types of outages as well.

25 Q Okay.

1 MR. JOHNSON: Nothing further at this
2 point.

3 JUDGE DAWSON: Mr. Schuh.

4 MR. SCHUH: Nothing, Your Honor.

5 JUDGE DAWSON: Commissioner
6 Haugen-Hoffart.

7 COMMISSIONER HAUGEN-HOFFART: Thank you.

8 EXAMINATION

9 BY COMMISSIONER HAUGEN-HOFFART:

10 Q You noted that resilient generation is defined by
11 MISO, correct?

12 A Commissioner, MISO has not given a firm definition
13 of resilient generation, but they have identified
14 six key attributes that contribute to resilience.

15 Q Okay. Do you know if they are also recognized by
16 the other -- like SPP, or is there consistency out
17 there between the RTOs on the attributes?

18 A I can't speak directly to that without it being
19 speculation.

20 Q Okay.

21 A But, yeah, I think the concept of fuel assurance,
22 that -- the importance of that has been discussed
23 pretty broadly across our industry.

24 Q Okay.

25 COMMISSIONER HAUGEN-HOFFART: No further

1 questions.

2 JUDGE DAWSON: Commissioner Christmann.

3 CHAIR CHRISTMANN: Well, I wasn't going
4 to have any until just now.

5 EXAMINATION

6 BY CHAIR CHRISTMANN:

7 Q So do you disagree with -- and I hope I have this
8 right because it was a scratch note, not a specific
9 quote, I don't think. Do you disagree with
10 Mr. Heidell that NSP also is in MISO, considers
11 natural gas combustion turbines as firm
12 dispatchable, and, thus, resilient even without
13 onsite fuel storage?

14 A Could you -- are you asking if I disagree with NSP
15 or Mr. Heidell?

16 Q Well, do you disagree with Mr. Heidell --

17 A I --

18 Q -- that NSP does that?

19 A I -- Commissioner, I am unfamiliar with what he's
20 citing.

21 Q Okay.

22 A So I can't confirm or -- or I can't agree or
23 disagree with that. I would -- oh, I'll let you ask
24 a follow-up question.

25 Q So if another utility considers natural gas

1 combustion turbines as firm dispatchable and, thus,
 2 resilient, even without onsite fuel storage, would
 3 you consider them to be wrong in that assumption?

4 A I would -- from Otter Tail's perspective, I would
 5 say -- you know, for us, yes, that would be wrong.
 6 Every utility is different. When you look at Otter
 7 Tail specifically, we're one of the smallest
 8 utilities, and Astoria makes up about 25 percent of
 9 our generation portfolio. So if we were to lose
 10 Astoria in an extreme event, it has significant
 11 impact. Where a utility like NSP- or Xcel-size, to
 12 lose 285 megawatts, there -- there's a lot more
 13 customers to spread that risk across.

14 Q Okay. Thank you.

15 JUDGE DAWSON: Commissioner Fedorchak.

16 EXAMINATION

17 BY COMMISSIONER FEDORCHAK:

18 Q All right. Nate, a couple of questions for you.
 19 All of my notes are scratch notes, unlike Randy's
 20 neat -- we are so opposite when it comes to that.

21 Okay. So, first of all, do you know --
 22 I'm not sure if you're the right one to ask. I
 23 maybe should have asked one of your colleagues this,
 24 but where is Minnesota on this project? And on the
 25 IRP, they're coming out with a decision soon, what

1 have they said about this?

2 A Commissioner, we have a hearing tentatively
3 scheduled for January.

4 Q Oh, okay.

5 A So we have --

6 Q You haven't (indiscernible) --

7 A -- no idea yet where the Commission in Minnesota
8 stands.

9 Q I see. Okay.

10 Earlier in your conversation with Brian,
11 you guys were talking about capacity overages, and I
12 just want to clarify the understanding. So your
13 winter reserve margin for -- from MISO is, what,
14 25.2 percent?

15 A That is correct.

16 Q Okay. And you guys meet that?

17 A Correct.

18 Q And you exceed that?

19 A We currently do, yeah.

20 Q That's the 100-or-so megawatts extra?

21 A Correct.

22 Q So you have 1,200 megawatts in the winter. MISO
23 requires you to have 1,100 megawatts --

24 A Yes.

25 Q -- right?

1 A Correct.

2 Q After they de-rate Astoria, say it's 50, you'll have
3 1,150, and that lasts for two -- three years?

4 A Correct. And, again, that assumes --

5 Q Nothing else.

6 A Nothing else.

7 Q Yeah. Yeah. If you had something else go wrong at
8 a critical time, you could get de-rated by that and
9 your capacity -- your capacity that they accredit
10 could shrink some more?

11 A Correct.

12 Q Just getting this doesn't do anything to your
13 capacity ratings?

14 A That is correct. When it goes into service, at that
15 moment it will have zero impact to our accredited
16 capacity.

17 Q Yeah.

18 A It is moving forward from that point where we are
19 available during these extreme events where we
20 potentially wouldn't be, that's where the capacity
21 impact occurs.

22 Q So, really, it's the performance that changes?

23 A Yes.

24 Q You hope, as a result of this --

25 A Yes.

1 Q -- right?

2 A This will increase our ability to be available
3 during those Tier 2 hours.

4 Q And -- yeah. And so it all comes down to your
5 performance on those days. So if a line goes out or
6 there's no gas or, you know, something happens here
7 or anywhere else, it's the performance on those days
8 that matters, not what you have in place that could
9 have helped you perform better?

10 A That is correct. There are some stipulations on,
11 you know, if you have a planned outage that's
12 been --

13 Q Sure.

14 A -- requested far enough in advance, you have
15 exemptions. There's some outside-of-management
16 control exemptions, but --

17 Q Okay. Oh, let's see, shoot. I lost that train of
18 thought.

19 I might have -- I maybe should have asked
20 this to Ryan, but I'm pretty sure you probably know
21 this, too. Can you guys go back -- so when you, in
22 Elliott, weren't able to get gas, can you -- do you
23 have any ability to go back to the supplier for the
24 expenses caused by not having that gas? Because
25 they -- purchased it from them, or maybe you weren't

1 even able to purchase it from them?

2 A It -- Commissioner, it's my understanding that we
3 weren't able to purchase it from them.

4 Q I see. Okay. If you did and they didn't supply it,
5 could you have gotten (indiscernible) back from
6 them?

7 A Commissioner, I don't know the answer to that.

8 Q All right.

9 A That would be for Mr. Retzlaff.

10 Q All right. Oh, I know what I was going to ask you.
11 So as it relates to the fuel -- onsite fuel ability
12 and attributes, I have not been following as closely
13 this whole attributes issue, because it's taking
14 them forever. Ten times longer than it should.
15 Where are they on the -- in terms of -- where do you
16 think MISO is going to land in terms of giving you
17 more value for onsite storage?

18 A Commissioner, I don't have a good answer to that
19 right now. I do know that is the goal, working
20 on -- you know, they identified these attributes,
21 there's now stakeholder discussions around which --
22 you know, why are they important and how could they
23 be valued. I imagine it's some -- it's some type of
24 market mechanism, but I don't have a concrete answer
25 to that question today.

1 Q Yeah. The other thing that MISO, it seems, needs to
2 do on all of the RTOs is get more active in the
3 space of providing -- creating some products that
4 allow for more advanced notice and availability for
5 units so you can get the gas, be available, and then
6 pay you in those -- especially in the extreme
7 weather.

8 Like, there should be a whole set of
9 protocols for extreme weather that create
10 products -- or that products get brought into the
11 market that allow these kind of units to get the gas
12 they need, be available, and get paid. It would be
13 better for the market, it would -- it would be
14 better for the reliability, it would be better for
15 the gas people so they know how much their demand is
16 going to be. It would just be better all around.
17 Are you guys pushing for that in MISO?

18 A Commissioner, as Mr. Tollerson mentioned, we are
19 very active participants in the various MISO groups,
20 specifically the Resource Adequacy group. And, you
21 know, we offer comments and voice our opinion on
22 those issues whenever it's appropriate, and we will
23 continue to do so.

24 Q Okay. I think we need to get a lot more vocal on
25 that issue, and consider me a friend to that end.

1 A Commissioner, we will take that back, and certainly
2 we would love to participate in any of those future
3 conversations.

4 Q All right.

5 COMMISSIONER FEDORCHAK: I don't have any
6 more questions. Thank you.

7 JUDGE DAWSON: Mr. Stephenson.

8 MR. STEPHENSON: No questions, Your
9 Honor.

10 JUDGE DAWSON: Any further questions,
11 Mr. Johnson?

12 MR. JOHNSON: Just one quick one.

13 RECROSS EXAMINATION

14 BY MR. JOHNSON:

15 Q So you're going to get de-rated because of Elliott
16 and your inability to run. When does that start and
17 when does that end? You said three years, but has
18 it started already?

19 A It has not started yet. That will start planning
20 year '24-'25, so -- and it's in the winter season.
21 So each season now, you know, our resource will have
22 a -- you know, four different capacity ratings
23 throughout the year. So because we missed winter
24 '22-'23 Tier 2 hours, that was not available yet to
25 affect the accreditation for planning year '23-'24,

1 which we are currently in. So that de-rate will be
 2 starting next winter.

3 Q Okay.

4 MR. JOHNSON: Thank you.

5 JUDGE DAWSON: Mr. Schuh.

6 MR. SCHUH: No, Your Honor.

7 JUDGE DAWSON: Commissioners.

8 Seeing no further questions, you may step
 9 down.

10 (Witness excused.)

11 JUDGE DAWSON: Mr. Stephenson, any
 12 further witnesses?

13 MR. STEPHENSON: No, Your Honor.

14 JUDGE DAWSON: Mr. Johnson, you have two
 15 witnesses?

16 MR. JOHNSON: I have one witness, Your
 17 Honor.

18 JUDGE DAWSON: One witness. Is there a
 19 scheduling reason that we should take a short break
 20 and then continue through, or do you want to take a
 21 lunch and recess?

22 (Indiscernible.)

23 JUDGE DAWSON: Okay. I am prone to -- my
 24 default is always lunch, so we're going to go to
 25 lunch, and we'll take an hour break and be back here

1 at -- well, 55 minutes. We'll be here at 12:45,
2 seated, ready to go.

3 (Recess taken.)

4 JUDGE DAWSON: We're back on the record.

5 Mr. Johnson, do you have a witness?

6 MR. JOHNSON: I do. I'd call James
7 Heidell.

8 JUDGE DAWSON: Mr. Heidell.

9 Mr. Heidell, you were here for my
10 previous admonitions as to perjury, so you
11 understand what perjury is and the penalties for it?

12 MR. HEIDELL: Yes, I do.

13 JUDGE DAWSON: Understanding so, do you
14 promise or swear that the testimony that you're
15 about to give will be the truth?

16 MR. HEIDELL: Yes, I do.

17 JAMES HEIDELL,

18 after having been first duly sworn, was
19 examined and testified on their oath as follows:

20 JUDGE DAWSON: You may begin,
21 Mr. Johnson.

22 DIRECT EXAMINATION

23 BY MR. JOHNSON:

24 Q Can you state your full name for the record, please?

25 A James Heidell.

1 Q Spell your last name, please.

2 A H-E-I-D-E-L-L.

3 Q And can you give me your employer and an address for
4 where you work out of?

5 A My employer is PA Consulting Group. I work out of
6 Denver. 1700 Lincoln Street, Denver, Colorado.

7 Q Okay. And did you file your CV in this case?

8 A Yes, I did.

9 MR. JOHNSON: I guess, I'd just ask you
10 if they would stipulate to his credentials and not
11 have to go through all of that.

12 MR. STEPHENSON: So stipulated.

13 MR. JOHNSON: Okay.

14 BY MR. JOHNSON:

15 Q So, Mr. Heidell, you were retained to work on this
16 ADP; is that correct?

17 A That is correct.

18 Q Okay. And I guess I always look at an ADP as kind
19 of a single-issue rate case. So I guess the first
20 question I'd have for you is, do you believe that
21 this resource addition is necessary for Otter Tail
22 Power?

23 A My conclusion is that it's not necessary because
24 it's not cost effective.

25 Q Okay. And why do you believe it's not cost

1 effective?

2 A Well, I looked at the cost of lost capacity, I
3 looked at, you know, historically how often it would
4 be used outside of the storm events. I looked at
5 it -- the -- you know, what the loss -- you know,
6 the benefits of LNG during the -- Elliott, which we
7 have some -- fair amount of good information on, and
8 then I reviewed the model provided by the company
9 about, you know, what might have happened during
10 Storm Uri.

11 Q Sure. And you mentioned something in there about
12 how often the resource would be used. Do you
13 believe that this would be a used-and-useful
14 resource addition for Otter Tail?

15 A No, I do not. I think outside of extreme events, it
16 does not have value.

17 Q Sure. I'm going to guess that you have some
18 comments or some testimony that would be relevant to
19 Mr. Retzlaff's criticism of your testimony. Do you
20 happen to have Exhibit 14 in front of you, OTP 14?

21 A I have his testimony. I have not crosslinked that
22 to the formal exhibit numbers.

23 Q Okay. So you have -- you have the opening statement
24 that he read into the record?

25 A That's correct.

1 Q Okay. In his criticism of your work in his
2 testimony that he read in, do you have any issues
3 with his opinion?

4 A Yes, I do.

5 Q Okay. What issues do you have?

6 A Well, hopefully I'm capturing this correctly. I
7 think there were three primary criticisms. One was
8 about the firmness of transportation and the
9 availability of gas. I do appreciate the
10 explanation this morning, and I will, you know, take
11 the company's representation that they had -- you
12 know, if they could have found gas, they could have
13 transported it to the plant. So I accept that.

14 I think the second thing was about, you
15 know, I assumed perfect -- perfect information, and
16 I would just point out that in my testimony, I have
17 a table which shows different scenarios. And so,
18 you know, while the model started -- the assessment
19 started with perfect information, then, you know, I
20 present different scenarios, knowing that we don't
21 have perfect information.

22 What's probably the most complicated, you
23 know, response this morning about the -- assuming
24 that the company does not -- you know, couldn't buy
25 their gas after knowing the MISO bid. I guess my

1 point is that, you know, that whole -- the wording
2 that they took out was -- you know, which was -- my
3 wording was not poorly -- was not very good, but
4 they took that all out of context of the whole point
5 of that testimony.

6 The whole section of testimony was
7 criticism of their model of Storm Uri and why I
8 think that whole model has serious problems. And
9 that seems to be the fundamental basis for why the
10 company believes -- or why the company has concluded
11 that the fuel facility is a good investment.

12 Q Okay. So they -- you criticized their modeling of
13 Uri. What is problematic with their modeling?

14 A Well, I think -- you know, hopefully the company
15 will accept this characterization. They may not,
16 but the model we have to start with is hypothetical.
17 I mean, it's like, what -- you know, what would
18 someone have bid given the circumstances in Uri?
19 Because as the company said, the plant was in -- was
20 not in commercial operation, so, you know, no one
21 knows what would have happened.

22 Why -- you know, the company models,
23 let's say for -- you know, I'm making sure I don't
24 say anything confidential, but, you know, take the
25 hypothetical, which I say is a reasonable

1 hypothetical, that gas cost \$150 an MMBtu, people
2 are saying that gas is a not -- you know, is hard to
3 get by. The prior days, you know, the market didn't
4 clear anything near that. There's a huge separation
5 to (indiscernible) the market was clearing and the
6 price of gas.

7 And my point is then to assume that the
8 company -- well, A, if gas is \$150, as, you know, on
9 the hypothetical, if you don't know what gas is
10 going to cost, the company is not obligated -- you
11 know, let's round off the heat rate 10,000 so we
12 don't have to do complicated math. The company is
13 not obligated to bid \$1,500 into the market
14 day-ahead. They can -- you know, say, here's the
15 risk, here's the volatility, and they can -- you
16 know, they can pick a price, and, you know, who
17 knows what price they pick. But, presumably, given
18 those -- the risk, they would select a price higher
19 than \$1,500.

20 They -- you know, good practice would be
21 to document it so that if -- you know, I said if
22 MISO calls up and says, well, you know, why do you
23 bid \$3,000, you have some documentation. I don't
24 think they have market power with their, you know,
25 two gas plants. That's the other side of the Market

1 Monitor's test. So my point was, if prices were
2 really low in the MISO market, gas prices are really
3 high, would you really buy 12 or 24 hours of gas
4 and, you know, then have to liquidate?

5 The other part of the model that, you
6 know, no one's really talking about is, you know,
7 the company in their notes is very clear that, you
8 know, we're -- we assume we're going to buy it at
9 the -- you know, at the assumption that Tenaska
10 gives us, but then they assume that they're going
11 to -- if they have to liquidate it, they're going to
12 also liquidate it at the intraday price, that quote.
13 But if you look at the range of prices, the high and
14 low of the day, there's a huge disconnect.

15 So, you know, not only do we not know
16 what the company would bid in and how much they'd
17 bid in firm, the whole model, we don't even know
18 what they would sell the gas for and what the losses
19 are. It's a very hypothetical model. I think it's
20 a -- you know, I realize the company had to make a
21 model. I just don't think it was an adequate model
22 for this type of investment.

23 Q Is there anything that could have been included or
24 should have been included to more accurately reflect
25 the reality in -- of what a model should be?

1 A Well, you know, I appreciate that the company has,
2 you know, limited, you know, experience with gas,
3 but, you know -- you know, companies that have a
4 large gas exposure or have, you know -- you know,
5 either inhouse or through consultants, use Monte
6 Carlo, use a range of situations.

7 And I believe that, you know, I was also
8 criticized, not this -- you know, not on the stand
9 but in the rebuttal testimony -- or surrebuttal
10 testimony that I had implied that, well, knowing
11 what you know and knowing your analysis, you know,
12 would you do -- you know, would you come up with
13 better models and not just assume I'm going to buy
14 50 percent of my gas or 100 percent of my gas
15 day-ahead when gas costs \$150, and there's a huge
16 separation between MISO prices -- MISO prices and
17 gas prices.

18 So I have a lot of respect for the
19 company. I assume that they will, you know -- you
20 know, in their gas supply and their fuel supply, and
21 I hope they'll figure this out.

22 Q Sure. So even if we took the model at -- as the
23 company states it, does that still get us to where
24 this is financially beneficial, it's a necessary
25 investment, and it's used and useful?

1 A Well, the -- the company did present scenarios
2 where, you know, you could have an event where, you
3 know, you lost, you know, \$50 million or
4 something in -- something like Storm Uri. I mean, I
5 don't think anyone in this room can say that, you
6 know, there's a zero probability that that is going
7 to -- that -- that that could ever happen in the
8 future.

9 But the whole point is, you know, we're
10 making -- you know, we're here all trying to do the
11 right thing, make a good decision about, is the
12 investment -- you know, which has a significant
13 annual cost. And, I mean, we talk about the capital
14 cost, but I assume the Commissioners have, you know,
15 read my testimony and know that the annual cost to
16 customers is very high.

17 And the question is, you know, what is --
18 you know, based upon history, based upon what's
19 reasonable, do we think this is cost effective? And
20 what I tried to do was to, you know, take a base
21 scenario, say, here's a base scenario. You know,
22 what if it was twice that, what if the storm
23 happened every year, and I just didn't come up with
24 it -- a scenario where it makes sense.

25 I think, you know, this morning

1 Commissioner Fedorchak, you know, came up with
2 the -- you know, the word "insurance," and that's
3 really the way I view this in my testimony. That,
4 you know, this is -- this seems like very expensive
5 insurance.

6 Q Based on the testimony of the other witnesses this
7 morning, is there anything you want to add at this
8 point to your testimony?

9 A I think this pretty well covers it, but I suspect
10 I'll have some questions.

11 Q Sure. Do you believe that the Commission should
12 approve this ADP?

13 A No. My conclusion from reading the company's
14 testimony, their, you know, rebuttal, surrebuttal,
15 and hearing the testimony today, I still do not
16 believe it's a good investment.

17 Q Okay.

18 MR. JOHNSON: No further questions at
19 this time, and I'd offer this witness for
20 cross-examination.

21 JUDGE DAWSON: Is there any
22 cross-examination?

23 MR. STEPHENSON: Yes, Your Honor.

24 CROSS-EXAMINATION

25 BY MR. STEPHENSON:

1 Q Mr. Heidell, I take it you do not have any direct
2 experience, at least in managing the purchase of
3 natural gas for a generation unit being offered into
4 MISO?

5 A I am not an operations person. I do consulting
6 assignments, you know, looking at risk policies, you
7 know, but from a modeling perspective, not from a
8 day-to-day purchase, that's correct.

9 Q You had mentioned something in your direct
10 testimony, and it relates to the Uri analysis. And
11 that was presented in Mr. Retzlaff's -- I believe
12 his direct testimony is ADP Table 3.12, and I assume
13 you're familiar with that. I believe that's just
14 what you were referencing as inadequate?

15 A Yeah. Just to make sure we're talking about the
16 same thing, let me just get back to the table.

17 Yes, that's correct.

18 Q Okay.

19 UNIDENTIFIED: Which table is this?

20 MR. STEPHENSON: This is in Ryan
21 Retzlaff's direct testimony, which is -- somebody
22 help me here, which exhibit?

23 MR. HEIDELL: And I'm on page 23, is that
24 the correct page?

25 MR. STEPHENSON: Yes.

1 Exhibit 6 -- I'm just trying to tie the
2 record out. Actually, it's on page 5.

3 UNIDENTIFIED: 5?

4 UNIDENTIFIED: 5.

5 BY MR. STEPHENSON:

6 Q Now, you had criticized that --

7 A I'm sorry, can --

8 Q I'm --

9 A I'm seeing Table 3.12 on page 23, so I want to make
10 sure we're looking at the same thing, so if you can
11 just --

12 UNIDENTIFIED: (Indiscernible.)

13 BY MR. STEPHENSON:

14 Q Otter Tail Exhibit 5.

15 A Yeah, so what I don't have is the exhibit numbers.

16 So I'm --

17 Q Oh, I'm sorry.

18 A Can we just confirm that we're looking at the --
19 okay. I'm on a different page. I don't know why.

20 Q Fair enough.

21 And then you -- your analysis of that
22 table that Mr. Retzlaff had prepared is in your
23 direct testimony, I believe, at -- starting on
24 page 27, it runs through page 29.

25 A Yes, I'm with you.

1 Q Okay. And then, again, I'm just trying to tie out
2 the record, and you had concluded that the benefits
3 of that model were overstated and that the
4 high-financial-loss scenarios of assumptions were
5 not reasonable, correct?

6 A That is correct.

7 Q And then when asked to explain why that was the
8 case, you indicated that all but zero timely
9 purchase scenarios assume that various amounts of
10 gas are bought the day ahead on February 11th
11 through February 20th; however, given the actual
12 day-ahead prices, Otter Tail bids into MISO would
13 not have been picked up based upon the expectation
14 of gas prices. And, then, if the bids were not
15 selected, then Otter Tail would not have purchased
16 the day-ahead gas and then liquidated the gas
17 intraday at a loss.

18 Now, you've heard Mr. Retzlaff testify.
19 Does -- that's not consistent with the intraday
20 price risk sequence of events, is it not?

21 A Yes, I -- I heard that, and I think that's what I
22 was trying to clear up in my opening remarks. I,
23 you know, do understand that the contract with
24 Tenaska requires, you know, sending in bids at 8:30,
25 and also I understand that their nominations -- that

1 Northern Border Pipeline requires bids at 1:30.

2 So that there's a -- you know, there's a
3 long gap between when they give something to
4 Tenaska, when they put a bid into MISO, and MISO,
5 you know, comes back with a price. And, also,
6 between when the pipeline directly has to, you know,
7 put it -- when they had to put a bid -- Tenaska has
8 to put a bid into a pipeline.

9 So the other question is, you know, why?
10 You know, what was going through my mind is, why do
11 the contracts have to -- with Tenaska have to say
12 8:30?

13 Q The -- and just, again, to tie out the record, later
14 in your surrebuttal testimony you acknowledge that
15 the next-day gas nominations and the MISO bid awards
16 do not line up in the industry?

17 A That's correct.

18 Q All right. So there's nothing unusual with Otter
19 Tail's situation as it relates to the rest of the
20 industry?

21 A The rules that apply to Otter Tail also apply to
22 other market participants of MISO.

23 Q And there's no disagreement, is there, correct, that
24 Otter Tail's obligated to offer Astoria Station into
25 the MISO market every day, regardless of what's

1 going on in the market?

2 A It is --

3 Q Except in cases of an outage.

4 A -- well, as long as it's operational, they have an
5 obligation to put it in. They do not have an
6 obligation to put it in at the price that Tenaska
7 gives them as the -- you know, for the next day,
8 their estimate.

9 Q Okay. Now, can you -- what are the Independent
10 Market Monitor bounds or boundaries on what a
11 company can offer?

12 A The Market Monitor, you know, looks at two things.
13 One is, you know -- you know, what prices they're
14 putting in, and as the MISO rules state, as the
15 Market Monitor states, that in, you know, periods,
16 you know -- that most times, for example, that, you
17 know, the data response provided by the company when
18 gas prices are not too volatile, the company
19 basically puts in bids based upon, you know, their
20 expected cost, or the gas price that they're given
21 from Tenaska.

22 But the market -- the MISO rules
23 specifically identify that the company -- you know,
24 that there's more latitude when the prices are
25 volatile. The MISO Market Monitor also emphasizes

1 that it's -- there's a second test, which is market
2 power.

3 So, you know, not only does the -- you
4 know, is my reading of what the Market Monitor puts
5 together is that it's not only a question of looking
6 at the bids, it's also a question of whether the
7 bidder is trying to exercise market power.

8 Q You had quoted -- I think you just quoted an offer
9 price of \$1,500, if I heard you correctly, as an
10 example; is that right?

11 A That's correct.

12 Q So -- in the analysis, so you acknowledge that
13 market pricing in SPP exceeded 4,000 in the
14 day-ahead and 15,000 in the real-time?

15 A I did not check those numbers, but I would accept
16 the company's representation. But I would also
17 point out -- and I think that the company well -- is
18 well aware that SPP is a different market. SPP has
19 hundreds of generators that do not have adequate
20 capacity.

21 And, you know, the number I was given
22 was about, on average, they have -- their firm
23 capacity is about 40 percent of their need. So
24 they're very different markets. I assume that the
25 company is -- you know, factors that into their

1 analysis as how they -- how they bid and how the two
2 different markets behave.

3 Q And, again, just to tie out the record, you, I
4 believe, would agree that -- with Mr. Retzlaff's
5 statement that MISO compensates based on the offer,
6 not on the actual cost of fuel procurement later on?

7 A That's correct.

8 Q Okay. There's no disagreement there.

9 And, again, to tie out the record, if I
10 understood your prefiled testimony, basically if we
11 were to build a fuel storage project, setting aside
12 these other issues, this would not be a bad project.
13 This is actually the right project to do that,
14 setting aside your conclusion or statement that it's
15 not cost effective. If we were to build --
16 versus -- let me rephrase that.

17 You concur that it makes more sense to do
18 liquified natural gas versus fuel oil?

19 A So if the decision in front of the Commission is
20 should I -- you know, I'm going to build a facility
21 and should I power -- you know, should I use a
22 second fuel as LNG or fuel oil, I did not review the
23 company's analysis, but I accept their analysis that
24 of the two options, the better option would be to
25 build the LNG, leaving aside permitting or safety or

1 things that I have not looked at.

2 Q Yeah. I -- in reviewing your testimony, it struck
3 me that you don't take issue with the project, per
4 se, it's just the cost effectiveness of the project?

5 A Well, I -- I think --

6 Q (Indiscernible.)

7 A -- since I take issue with the cost effectiveness of
8 the project, I take issue with the project.

9 Q Right. The plan for the project itself, the nature
10 of the project -- I'll move on.

11 Now, as far as -- you would agree that
12 Otter Tail cannot know what -- the commitment and
13 dispatch when OTP makes timely gas purchase
14 decisions; is that fair?

15 A I don't --

16 Q (Indiscernible.)

17 A (Indiscernible) -- as with any other participant,
18 you know, it goes by the same rules that we just
19 discussed.

20 Q Okay. And you take issue with the testimony that we
21 heard today that we have -- there are industry
22 concerns about the frequency and magnitude of future
23 storms?

24 A I understand that it is a risk that the industry is
25 looking at, and I understand that the -- you know,

1 it's an unknown, and I understand that there are a
2 range of measures that people are looking at to
3 address that risk.

4 But I think I also point out in my
5 testimony that while people are concerned -- you
6 know, and I think the company testimony echoes it,
7 that the two storms were very unique. I think
8 every -- you know, every situation is unique, and I
9 just think we have to be, you know, very careful
10 about what we assume for the future.

11 I mean, you know, we could -- you know,
12 who knows what the next storm will be. You know,
13 with -- it won't really matter how many generators
14 are online if all the transmission lines are on the
15 ground. So all I'm saying is, yes, you know,
16 there's a concern with, you know, weather events,
17 there's a concern with reliability, and I think
18 that's an appropriate concern.

19 MR. STEPHENSON: No further questions at
20 this time.

21 JUDGE DAWSON: Mr. Schuh.

22 MR. SCHUH: I'll defer to the Commission.

23 JUDGE DAWSON: Commissioner
24 Hoffart-Haugen -- Haugen-Hoffart.

25 COMMISSIONER HAUGEN-HOFFART: That is

1 correct.

2 EXAMINATION

3 BY COMMISSIONER HAUGEN-HOFFART:

4 Q I feel like I'm with Julie right now with my notes.

5 Brian -- Attorney Johnson kind of alluded
6 to the modeling. What would you use -- I guess I'm
7 looking at your expertise out there on consulting
8 and the issues that are, like, before us, that we
9 had two winter storms, and not saying that -- you
10 know, we can't predict. If we would, we'd all be in
11 Vegas right now. But what advice in your consulting
12 realm are you giving the industry out there,
13 electrical companies, on preparation from lessons
14 learned and to look at?

15 A Well, you know, to -- just to, you know, be clear
16 that the consulting that we've been doing is not
17 on -- you know, is not to NERC or -- you know, or
18 MISO or anyone as to how to address the next storm.
19 The consulting that we've been doing is to
20 utilities. We tell electric suppliers and all
21 those, how do you manage risk, and, you know, what
22 should you do to manage risk? Because, you know, a
23 lot of utilities and retail electric suppliers have
24 open positions.

25 So that's the nature of how we do it.

1 And so, you know, essentially, you know, there's
2 Monte Carlo, and there's just a range of tools that
3 are used to determine, you know, how much to buy --
4 how much gas to buy in advance, you know, what
5 electric contract, you know, what financial
6 instruments to use.

7 So it's a slightly different -- you know,
8 we're answering a slightly different question to our
9 clients than you're asking. You've asked the
10 question; that's not the question we're answering.

11 Q Okay. Okay.

12 COMMISSIONER HAUGEN-HOFFART: I have no
13 further questions.

14 JUDGE DAWSON: Commissioner Christmann.

15 EXAMINATION

16 BY CHAIR CHRISTMANN:

17 Q I fear this gets to the same point, but I'm going to
18 take a stab at it anyway. As you've probably
19 noticed, I am extraordinarily frustrated by the fact
20 that I got into this situation of approving a
21 plan -- a project -- a two-part plan with Merricourt
22 and Astoria, and being sold on the idea that those
23 two parts would reliably replace the coal plant and
24 the capacity contracts, but here we are.

25 And you said this seems like a

1 high-priced insurance plan. Well, we know now that
2 it's not reliably replacing those previous plans.
3 And other than the insurance plan, what -- do you
4 have a recommendation for how to manage the risk
5 that's here, because it's very real?

6 A Well, first of all, I was in front of you for
7 Merricourt and Astoria, so -- bringing back
8 memories. And, of course, you know, the -- dual
9 fuel was not an -- backup fuel was not an issue
10 then.

11 There -- you know, certainly I think, as
12 I say in my testimony, I mean, you know, one
13 strategy that mitigates risk -- and whether it's
14 least cost or not -- is that MISO has a -- you know,
15 a -- has a -- if you have a 25 percent reserve
16 margin, you're building in risk aversion right
17 there, right?

18 We're not -- we're not saying, gee, the
19 peak load is, you know, 10 gigawatts, we're only
20 going to have 10 gigawatts of capacity. We're going
21 to say -- you know, we're putting a 25 percent
22 premium on that. So risk is already being
23 mitigated. I mean, the company -- as they said,
24 there's a slightly -- you know, is in a long
25 position that provides a little bit more -- more

1 risk -- I mean, a little more comfort.

2 And so, you know, in terms of, you
3 know -- so, I mean, I think -- you know, I think the
4 issue is relatively clear (indiscernible), in that,
5 we have two different issues, right? We have system
6 reliability and we have cost. You know, cost of
7 gas, and as the company puts it, intraday risk.

8 You know, I think in terms of, you know,
9 system reliability, I mean, I think, you know, no
10 one has said that the lights went out on MISO
11 because -- you know, because Astoria couldn't
12 provide -- you know, was out of gas for 48 hours
13 during Elliott. So, I mean, you know, something was
14 working, right? And we have a reserve margin, you
15 know, the system worked, and we did not have a
16 reliability event.

17 So we have a reserve margin in there. I
18 mean, you know, MISO can, you know, change -- you
19 know, can change the reserve margin or do different
20 things to mitigate the risk. I mean, I think we all
21 know that, ultimately, you know, there's a price to
22 pay, right? So we always have that loss-of-load
23 probability, and, you know, how much we pay, and
24 we -- you know, we collectively make a decision.
25 And we say, okay, you know, we're going to pay this

1 much to have this extra capacity.

2 And based upon the value of an outage and
3 a bunch of assumptions, this is what we come to, and
4 we can always raise -- you know, we can always make
5 the system more reliable. We can underground all
6 the transmission. So there's always sorts of things
7 we can do, but we -- as a -- you know, as a -- as a
8 society or as the U.S., I mean, in different ISOs,
9 we -- you know, we say this is how much we're going
10 to pay for reliability, and we'll accept the risk.
11 So that's the reliability side.

12 You know, the price side, you know, how
13 do you protect against, you know, intraday -- you
14 know, the intraday price risks that the company has?
15 Or, you know, there are a lot of things, you know,
16 that could be done, you know, as was talked about
17 this morning. And, you know, the -- you know, the
18 NERC report, and I think, you know, the comments of
19 the -- you know, the Commission was, you know, this
20 present -- you know, from Chairman Willie Phillips,
21 this presentation also underscores the need for
22 improved gas/electric coordination. You know,
23 that's the whole discussion we've been having this
24 morning.

25 You know, they talk about the storm. You

1 know, they say -- you know, yes, fuel, you know --
2 you know, fuel is important. They also say, you
3 know, the need for, you know, cold weather, you
4 know, preparation, you know. So there are a lot of
5 things that can be done to mitigate the risk. And
6 then, you know -- you know -- you know, FERC can
7 impose upon the -- you know, the gas company some
8 level of regulation about pricing.

9 I think, as was brought up this morning,
10 you know, MISO is still subject to FERC approval,
11 can make rules about, you know, we'll -- you know,
12 buy gas three days in advance, we'll pay you for it.
13 So there are lots of things that can be done. This
14 is just one -- you know, this is -- the company has
15 put forth one strategy, which does not seem
16 appropriate at this point in time.

17 Q Thank you.

18 CHAIR CHRISTMANN: I have no other
19 questions.

20 JUDGE DAWSON: Commissioner Fedorchak.

21 COMMISSIONER FEDORCHAK: Thank you.

22 EXAMINATION

23 BY COMMISSIONER FEDORCHAK:

24 Q So, Mr. Heidell, how -- what's a reasonable way to
25 try to predict how many more of these severe weather

1 events are going to happen?

2 A I'd be in Vegas. Yeah. I think, you know,
3 predicting -- I don't know that anyone has, you
4 know, a model to say how many storms would come, but
5 I think the other point I made (indiscernible), even
6 if you knew that a storm was going to come every
7 other year or every -- whenever it was, you still
8 don't know the consequences.

9 I mean, I said it, you know, Elliott and
10 Uri were very -- had very different implications on
11 the gas market and on the power market. And why are
12 we assuming -- and, you know, we're taking
13 corrective actions. Are we doing enough fast enough
14 to harden the system? You know, we can debate that,
15 but that doesn't mean that the third -- the next
16 storm is going to look like either of the last two.

17 Q Um-hmm.

18 A So we have unknown events and unknown consequences,
19 and, you know, it's probably not a popular opinion,
20 but there are risks out there. You know, in black
21 swan events, the world is filled with them.

22 Q Are you -- do you see a scenario where onsite fuel
23 storage, an investment like this, might make sense?

24 A Well, it gets very complicated, right? Because
25 the -- you know, the need for onsite storage, a lot

1 depends on, you know, what the gas -- the rules on
2 the gas market, you know.

3 But there could be a set of rules on the
4 gas market, there could be, you know, compensation
5 from MISO to say that, you know, I'm going to put
6 the burden -- you know, I'm going to ask the
7 utilities with gas-fired generation to have, you
8 know, a second fuel source, and I'm going to pay for
9 it.

10 Or I think, you know, the -- you know,
11 what's going on in ERCOT where people are wondering,
12 well, you know, are we putting a burden on the
13 intermittent power resources to, you know, provide
14 the reliability?

15 So, yes, I mean, there could be a set of
16 conditions where people come to the conclusion that
17 the best way to handle this is -- you know, is to
18 put the burden on the gas-fired generators and to
19 compensate them. That, you know -- (indiscernible).

20 Q Um-hmm. So a lot of the solutions you talked about
21 with Commissioner Christmann are not things that
22 Otter Tail can implement; would you agree with that?

23 A Right, I agree that --

24 Q I mean --

25 A Yeah. Yeah.

1 Q -- I don't think any of them were things they could
2 do --

3 A No.

4 Q -- themselves?

5 A No.

6 Q So really it's -- the only tool that they could use,
7 maybe, is better contracting, is there more ground
8 to be sown with the contracting tools --

9 A Well --

10 Q -- perhaps?

11 A -- it's not clear exactly. You know -- you know,
12 have they talked to other -- one -- anybody else
13 besides Tenaska? Have they talked about the full
14 range of possibilities?

15 I mean, there's probably always more that
16 can be done, but, you know, one thing is, you know,
17 has the company -- you know, could the company do
18 more? You know, maybe they could, maybe they
19 couldn't. I'm not privy to, you know -- you know,
20 what contract negotiations they've had.

21 But even if they -- you know, even if
22 they're doing all that they can -- I mean, I'm a
23 numbers person. I look at the numbers and look at
24 the analysis, and I still say, you know, the
25 customers of Otter Tail are better off, you know,

1 taking the risk of another event than, you know,
2 paying what is the revenue requirement that's been
3 put forth by the company.

4 Q The risk for being -- so you don't object to the
5 fact that they don't have any sort of a secure
6 contract for fuel for this facility, like, even at a
7 small amount per day, that they buy everything in
8 the day-ahead?

9 A We had, you know, discussions within the power team,
10 and, you know, I think the conclusion is that there
11 are things that can be done, but it's -- there's no
12 easy -- you know, there's no easy solution.

13 Q (Indiscernible.)

14 A I mean, they're not missing something obvious.

15 Q Okay.

16 A I mean, there are financial instruments out there,
17 there are weather derivatives. I mean, there are
18 lots of things that could be done, but there's
19 not -- you know, the fact is, as they say, it's a
20 peaking facility and it, you know --

21 Q And it doesn't have a very high capacity?

22 A It doesn't -- it has --

23 Q (Indiscernible.)

24 A It doesn't have very high capacity factors.

25 Q Yeah. So securing fuel for 15 percent, you know, or

1 however -- I forget what -- the summer was
2 22 percent.

3 A Right. But, I mean, again, there's -- there's two
4 different issues, right? There's, you know, fuel
5 availability, can I get it at any price? And, you
6 know, what if I had a weather derivative, and, you
7 know, what would it -- you know, what would it pay
8 for -- you know, what insurance could the company
9 buy to protect against an extreme event?

10 And that's what I'm just saying that, I'm
11 not sure that there aren't things the company could
12 do, but there is a cost to them.

13 Q Um-hmm. So you, in some of your testimony,
14 mentioned that from the reliability standpoint, you
15 didn't see a huge risk because Zone 1 has -- in MISO
16 has considerable excess reliability?

17 A And they have --

18 Q Or excess capacity.

19 A Yeah. They have excess capacity, and they have a
20 high-reserve margin. That doesn't mean there's no
21 risk, but I think that the risk has been mitigated
22 to the standards that everyone's agreed to.

23 Q So then it comes down to the financial risk?

24 A I think that's the big issue here.

25 Q All right. I don't think I have any other questions

1 for you.

2 JUDGE DAWSON: Mr. Johnson.

3 MR. JOHNSON: Just a couple.

4 REDIRECT EXAMINATION

5 BY MR. JOHNSON:

6 Q And I should have done this earlier, but you did
7 submit testimony that was filed as PSC Exhibit 1 and
8 2, it's the testimony and then surrebuttal?

9 A That's correct.

10 Q And if asked the same questions today, would your
11 answers still be the same as in that testimony?

12 A Yes, they would.

13 Q Okay. Just something real quick on the modeling, so
14 does -- would it be a fair characterization to say
15 that Otter Tail's modeling assumes that there was no
16 changes and no lessons learned from both of those
17 extreme weather events?

18 A (No audible response on digital recording.)

19 Q Does the model --

20 A Well, I'm not really sure what -- you know, what the
21 Elliott -- what the Uri model was supposed to -- you
22 know, the Uri model had a -- in my mind, a view of
23 very simple assumptions. I don't know that they --
24 you know, there didn't seem to be any logic as to
25 what would be real bidding behavior.

1 Q Okay. And earlier I had asked some of their
 2 witnesses, so there's a -- there's a cost gap with
 3 LNG, do you agree that that cost gap further -- or
 4 it makes the use of LNG less because of the price
 5 difference in an event?

6 A Yeah. I mean, the analysis I put in my testimony,
 7 going back 14 years and then excluding the two
 8 storms, it's like, you know, the amount of hours
 9 that it would have been beneficial to use LNG is --
 10 you know, you're essentially -- you know, it's worth
 11 \$50,000 a year, you know, spread out over the
 12 14 years. So that's a drop in the bucket compared
 13 to the cost being proposed, so it's not a good
 14 investment --

15 Q Sure.

16 A -- from that perspective.

17 MR. JOHNSON: Nothing further.

18 JUDGE DAWSON: We're going to take a step
 19 back.

20 Commissioner Fedorchak.

21 COMMISSIONER FEDORCHAK: Sorry.

22 FURTHER EXAMINATION

23 BY COMMISSIONER FEDORCHAK:

24 Q I should have asked this earlier, too, but
 25 there's -- have you looked at the FERC -- at the

1 storm reports after -- post reports done by FERC on
2 those storms, Elliott and Uri?

3 A Well, there's a lot of reports, but, yes, I've
4 looked at some of them.

5 Q Okay. And do you feel like there's a decent amount
6 of work being done to address some of these issues
7 that might take care of some of the problems that
8 are -- or some of the system gaps that Otter Tail is
9 pointing to as a need for this?

10 A So I've read the reports. I think there are a
11 number of options there. I actually can't comment
12 on, you know, whether it's -- a good amount of work
13 has actually been done to implement them or not.

14 Q So you're comfortable not -- even if nothing changes
15 on the system as it is today, like there's no
16 improvements made, there's no advancements in -- or
17 implementation of lessons learned from past reports,
18 like weatherization and everything else, your
19 position is, even without any changes, you still
20 think this is a bad idea?

21 A I think the customers are better off taking a risk
22 and not buying the insurance.

23 Q Okay. Thank you.

24 JUDGE DAWSON: Mr. Stephenson.

25 MR. STEPHENSON: Thank you, Your Honor.

1 RECCROSS EXAMINATION

2 BY MR. STEPHENSON:

3 Q Again, Mr. Heidell, your analysis of Uri on ADP
4 Table 3.12 that we have previously referred to, if I
5 understand your testimony, on that chart you would
6 essentially say that everything below the
7 zero percent timely purchase, that would be the
8 first line, you essentially discount, correct?

9 A So only -- I would say that's not really correct in
10 the sense that in my testimony -- let's see, I'm
11 going to give you the table. I -- you know, what I
12 do is -- you know, understanding that it is a set of
13 assumptions, I created a table and essentially say
14 that -- you know, it's on page 32 of my direct
15 testimony.

16 So, I mean, I -- you know, I have an
17 assumption of what the savings would be if it cost
18 twice as much, so you start to get close to 10
19 percent, and then if it's two years -- so I accept
20 that that was, you know, a scenario, and then I do
21 some sensitivities around it.

22 Q Your testimony, at least as I'm reading it, that
23 you're indicating that all but zero of timely
24 purchase scenarios assume various amounts of gas are
25 bought day-ahead on February 11th through

1 February 20th, and that is based, as you indicated
2 previously, on an assumption that we would have
3 known what the MISO clearing would be prior to those
4 purchases?

5 A I think you're ignoring all the testimony I've made
6 so far today.

7 Q Okay. Then, as far as you had indicated, if I
8 understood your testimony, that we'd have more
9 flexibility, or we could fashion offers to factor in
10 risks, and it was within parameters that -- you
11 reference some things about the IMM, it would permit
12 that. It's that -- did I hear that correctly?

13 A Sorry. I was with you, and then I sort of lost
14 the -- lost --

15 Q What I heard, you had referenced -- you had
16 acknowledged that, and you had indicated it's not
17 the full story because we could do things with our
18 offers. You acknowledge that the sequence that you
19 laid out there was not correct, but that was not the
20 point from -- I'm taking.

21 The question I have then, if we build
22 excessive risk parameters into our offers, isn't
23 there a downside to that?

24 A Well, so if you put in very high prices, and
25 your bid is not picked up, you didn't buy gas, then,

1 you know, the downside is that, you know, the market
2 cleared -- obviously cleared lower than what you
3 bid. Otherwise, your bid would have been accepted.
4 And so there's a range in there where you could have
5 made some margin for the customers to offset your
6 purchases of load on MISO.

7 Q An opportunity cost that we'd be forgoing -- or
8 incurring, I guess?

9 A Yeah, I mean -- you know, I think the -- you know --
10 you know, everything -- you know, the way to think
11 about a combustion turbine is it's an option, right?
12 It's an option to, you know, generate, and you have
13 to -- and, you know, you have to decide. So, yeah,
14 there's always an up- or downside to exercising an
15 option.

16 Q And you had indicated that we should have confidence
17 that MISO has a 25 percent winter planning reserve
18 margin. What's the wind accredited at when arriving
19 at that planning reserve margin?

20 A Oh, boy. Yeah. We were here in front of -- here,
21 I'm talking about solar and wind a few months ago.
22 I don't remember the number, but, you know, that's
23 a -- that's a MISO decision. And, you know, MISO
24 can -- you know, is trying to figure out as a whole
25 industry is -- is what the, you know, effective

1 load-carrying capability is. And the more wind that
2 gets put on the system, the lower that ELCC will
3 become. It's a complex system. There are a lot
4 of -- there's a lot of moving parts here.

5 MR. STEPHENSON: Nothing further, Your
6 Honor.

7 JUDGE DAWSON: Mr. Schuh.

8 MR. SCHUH: No, Your Honor. Thank you.

9 JUDGE DAWSON: Commissioners, any further
10 questions?

11 COMMISSIONER FEDORCHAK: I have one more.

12 JUDGE DAWSON: Commissioner Fedorchak.

13 FURTHER EXAMINATION

14 BY COMMISSIONER FEDORCHAK:

15 Q So, Mr. Heidell, on your prefiled testimony, you've
16 got this -- it's on page 22, this, like, graph on --
17 regarding this -- the firm service that the company
18 has, the Northern Border tariff. You seem to object
19 to their -- let's see, do they have secondary
20 in-path service or secondary out-of-path? You seem
21 to think that they should be securing more firm, but
22 they explained today that they believe that they
23 have firm. Did you hear their explanation and
24 change your opinion on how their kind of -- firm
25 contract they have with Northern Border?

1 A So I heard it, I -- you know -- you know, have
2 not -- I have not evaluated it. I mean, based on
3 what I heard, I take their characterization.

4 Q Okay.

5 A But, you know, hopefully there's not an instance in
6 the next storm where they come back and say, we
7 could find gas, but we couldn't deliver it to the
8 plant. Because the company's now said they -- as
9 long as they can find gas, they can deliver it, you
10 know, outside of force majeure provisions in the
11 tariff.

12 Q Okay. So you accept their explanation of that,
13 okay.

14 COMMISSIONER FEDORCHAK: I'm done.

15 JUDGE DAWSON: If there are no further
16 questions --

17 MR. JOHNSON: No further questions and no
18 further witnesses, Your Honor.

19 JUDGE DAWSON: Okay. With that, you may
20 step down.

21 (Witness excused.)

22 JUDGE DAWSON: Now we're at the public
23 testimony portion of our hearing. Are -- is there
24 anybody from the public that wishes to testify?

25 (No response.)

1 JUDGE DAWSON: I'm not seeing an
2 indication that any additional person from the
3 public wishes to testify.

4 We'll have -- we'll talk about closing
5 matters here real quick then.

6 Mr. Stephenson, you had a suggestion for
7 briefs and --

8 MR. STEPHENSON: Yes, Your Honor.

9 JUDGE DAWSON: -- post findings of fact,
10 conclusions of law, and order.

11 MR. STEPHENSON: With permission, of
12 course, Mr. Johnson and I have discussed this, and I
13 think it would be useful to have post-hearing
14 briefing with proposed findings, proposed
15 conclusions, and an order. I have -- or had --
16 somewhere a schedule that would suggest for that --
17 I think I can do it by memory. We'll order a
18 transcript, and what we would propose doing is Otter
19 Tail filing its proposed findings, conclusions, and
20 post-hearing advocacy on January 26th.

21 With staff's response, their proposed
22 findings, conclusions, proposed order, and briefing
23 30 days thereafter. And then, if necessary, we
24 would have a rebuttal to that within two weeks
25 thereafter. So I think that's January 26th,

1 February 26th, and whatever 14 plus January 26th is.

2 MR. JOHNSON: I guess, as far as
3 additional briefing goes, I don't have a problem
4 with the submission of the findings of fact,
5 conclusions of law. I don't believe that the
6 briefing is necessary.

7 If the Commission wants additional
8 briefing on it, I guess I will defer to them, but I
9 think between all the testimony filed at the hearing
10 today, I don't think there's a need for additional
11 briefing in my mind. But, again, I will defer to
12 the Commission on that, and if they want it, I would
13 be happy to provide it.

14 JUDGE DAWSON: Does the Commission want
15 briefing?

16 COMMISSIONER FEDORCHAK: I don't object
17 to it. If they want to do it -- the company wants
18 to provide it.

19 CHAIR CHRISTMANN: I don't object. I'm
20 not asking for it. I feel like we have adequate
21 information, but if -- I am open to someone --

22 UNIDENTIFIED: Yeah.

23 CHAIR CHRISTMANN: -- filing something
24 that they feel was missed.

25 JUDGE DAWSON: With that, you can provide

1 your briefing.

2 MR. SCHUH: Your Honor, I would say that
3 if the company is going to provide briefing that
4 there should be a rebuttal briefing as well from the
5 advocacy staff as well be provided. If the company
6 is going to be providing briefing, the advocacy
7 staff should be providing a rebuttal -- a brief
8 rebuttal as well.

9 UNIDENTIFIED: (Indiscernible.)

10 JUDGE DAWSON: Okay. Are there any other
11 closing matters besides closing remarks?

12 Mr. Schuh.

13 MR. SCHUH: Your Honor, there was one
14 item that was brought up, and I didn't know if this
15 is something that Commissioner Fedorchak would like
16 as a late-filed exhibit. She brought up the IRA and
17 IIJA, possible funding sources for -- that may be --
18 possibly to be used. I didn't know if that was
19 something that she would like to have additional
20 information on, or if you're comfortable where we're
21 at.

22 COMMISSIONER FEDORCHAK: I think it would
23 be worth exploring more, at least hearing from the
24 company in an affirmative way that there aren't any
25 or that they know that there is no such funds

1 available.

2 JUDGE DAWSON: Are you clear as to what's
3 being asked?

4 MR. STEPHENSON: Your Honor, yes, I
5 believe so. Basically, was there any federal
6 funding available to support the project?

7 COMMISSIONER FEDORCHAK: Yeah.

8 MR. STEPHENSON: And we can put that in a
9 briefing or a late-filed exhibit? I'm not sure what
10 the proper way to get that (indiscernible).

11 JUDGE DAWSON: I'll put it down as a
12 late-filed exhibit, and you can provide me any kind
13 of correspondence that would provide that. And that
14 will be a late-filed Exhibit Number OTP 18, and if
15 there's no objection, it will be entered into
16 evidence.

17 MR. JOHNSON: No objection.

18 (Exhibit OTP 18 offered and received.)

19 JUDGE DAWSON: Okay. Well, we're, I
20 think, to the point of closing remarks.

21 Commissioner Haugen-Hoffart.

22 COMMISSIONER HAUGEN-HOFFART: Thank you.

23 Well, first of all, I want to thank you
24 for attending and those who were witnesses providing
25 some good testimony. We know these winter storms

1 have caused issues with reliability and also cost,
2 and we're here. We're looking at it to try and
3 mitigate risk in these extreme circumstances, and
4 what does that mean? What does mitigating risk mean
5 regarding liability and the cost?

6 And as a Commissioner, you weed through a
7 lot, but we've got to keep the consumers in mind,
8 what impact is on them. Because I know every day --
9 you guys, in your realm of work, work with it every
10 single day, and what are we doing to help protect
11 the customer? And it's a slippery slope, and if we
12 knew the answers, like I said, we'd all be in Vegas
13 and not here.

14 So I applaud you for the work that you're
15 doing. We've got to dig deep. I think there's a
16 lot of resources out there on avenues. Sometimes
17 we -- I don't know if we take the easy route. I'm
18 going to assume we don't. We spend a lot of time
19 researching and trying to mitigate that risk, but I
20 think we're at a time where we're going to have to
21 think outside the box, we have to invite people to
22 the table, and maybe have some of the talks that
23 we've never had before.

24 So it's a challenge for all of us, and I
25 know you guys are up to it. And, again, I want to

1 thank you for your time and your expertise here.
2 And if I don't have a chance to say it, wishing you
3 a merry Christmas and a happy new year.

4 JUDGE DAWSON: Commissioner Christmann.

5 CHAIR CHRISTMANN: I don't have much for
6 closing comments. I just will reemphasize one of
7 the first things I said this morning, that,
8 essentially, we, as a society -- not this
9 Commission, not Otter Tail specifically, but we, as
10 a society, are getting precisely what we've asked
11 for for the last ten or 15 years. And these
12 reliability issues and skyrocketing costs are just
13 the result of irresponsible policymaking.

14 And I don't know exactly -- once you have
15 bet more than you can afford to lose, I don't know
16 exactly at what point you quit betting more in order
17 to try and save your day, but we're in a tough spot
18 here. It's going to take a lot of serious
19 deliberation.

20 Thank you.

21 JUDGE DAWSON: Commissioner Fedorchak.

22 COMMISSIONER FEDORCHAK: All right. I
23 don't have any comments about this case, but I do
24 want to thank everyone for the hard work that was
25 done, the analysis, and then the extra education

1 that was provided today on how some of these things
2 work and the challenges of operating the systems --
3 and two systems that weren't designed to work
4 together. That's just where we're at. Whether it's
5 right or wrong or how it got there is not as
6 important as how we get out of it. So we've got to
7 figure -- got to, you know, figure this out, and do
8 it quickly.

9 And I do look forward to working with
10 Otter Tail on the MISO processes, because I do
11 think, regardless of what happens here, there are
12 solutions that we can be advocating for in MISO to
13 help us all, and we need to -- we need to do that.
14 So let's join forces on that effort, and we'll
15 figure out a decision on this as quickly as we can.

16 Thank you. Merry Christmas.

17 JUDGE DAWSON: It is 1:45 p.m. on
18 December 12th, 2023, and the hearing for PU-23-66 on
19 the application of Otter Tail for an advanced
20 determination of prudence is closed, and the record
21 is left open for the filing of late-filed exhibits
22 and briefs.

23 This hearing is closed.

24 (Hearing concluded.)

25

1 STATE OF MINNESOTA)
) ss.
2 COUNTY OF RAMSEY)

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REPORTER'S CERTIFICATE

I, Christine Simons, do hereby
certify that the above and foregoing transcript,
consisting of the preceding 199 pages is a full,
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proceedings to the best of my ability.

Dated January 17th, 2024.

/s/ Christine Simons
CHRISTINE SIMONS
Registered Merit Reporter
Registered Professional Reporter

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