BEFORE THE MINNESOTA PUBLIC UTILITIES COMMISSION

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| Katie J. Sieben | Chair |
| Hwikwon Ham | Commissioner |
| Valerie Means | Commissioner |
| Joseph K. Sullivan | Commissioner |
| John A. Tuma | Commissioner |

In the Matter of Otter Tail Power's 2023–2037 Integrated Resource Plan

ISSUE DATE: July 22, 2024

DOCKET NO. E-017/RP-21-339

ORDER MODIFYING OTTER TAIL POWER'S 2023–2037 INTEGRATED RESOURCE PLAN

## PROCEDURAL HISTORY

On September 1, 2021, Otter Tail Power Company (Otter Tail) filed its 2022–2036 Application for Resource Plan Approval (initial resource plan).

On March 31, 2023, Otter Tail filed its 2023–2037 Application for Supplemental Resource Plan Approval (supplemental resource plan).

On December 15, 2023, Otter Tail filed its Minnesota Preferred Plan with Available Maximum Emergency (AME).

On April 2, 2024, Otter Tail filed a settlement agreement.

On April 3, 2024, Otter Tail, the Clean Energy Organizations (CEOs),[1] and the Office of the Attorney General–Residential Utilities Division (OAG) filed comments.

On April 17, 2024, the CEOs and Otter Tail filed reply comments.

On May 30, 2024, this matter came before the Commission.

[1] In this matter, the CEOs are comprised of Fresh Energy, Clean Grid Alliance, Sierra Club, and the Minnesota Center for Environmental Advocacy.

## FINDINGS AND CONCLUSIONS

## I. Summary of Commission Action

This matter concerns Otter Tail's resource plan for the years 2023–2037. Broadly speaking, the plan provides an overview of how the utility intends to meet its customers' service needs in the most cost-effective manner possible while ensuring reliability and minimizing environmental impacts. Over the course of this matter, Otter Tail filed multiple versions of its resource plan, each of which varied significantly. Otter Tail ultimately entered into a settlement agreement with several stakeholders. The OAG and the CEOs are not parties to the settlement agreement, and they oppose some of its terms.

In this order, the Commission will take the following actions, among others, on Otter Tail's 2023–2037 resource plan:

- Direct Otter Tail to designate the Minnesota portion of its Coyote Station coal power facility as an AME resource starting in 2026.
- Direct Otter Tail to stop providing power to its Minnesota customers from Coyote Station as soon as feasible but no later than December 31, 2031.
- Find that Otter Tail's proposal to add on-site liquid natural gas storage at its Astoria Station natural gas facility is reasonable and prudent.
- Direct Otter Tail to pursue adding wind, solar, and battery resources.
- Direct Otter Tail to work with organized labor stakeholders.
- Direct Otter Tail to take several actions related to its next integrated resource plan, which must be filed no later than May 15, 2026.

## II. Background

### A. Resource Planning

A public utility providing electricity to at least 10,000 customers and capable of generating 100 megawatts (MWs) of electricity must file a resource plan for the Commission's approval, rejection, or modification. A resource plan generally details the projected need for electricity in the utility's service territory for a forecasted period, and the utility's plans for meeting projected need.[2] Resource plans are evaluated on their ability to:

A. maintain or improve the adequacy and reliability of utility service;

B. keep the customers' bills and the utility's rates as low as practicable, given regulatory and other constraints;

C. minimize adverse socioeconomic effects and adverse effects upon the environment;

D. enhance the utility's ability to respond to changes in the financial, social, and technological factors affecting its operations; and

[2] Minn. Stat. § 216B.2422; Minn. R. Chap. 7843.

E. limit the risk of adverse effects on the utility and its customers from financial, social, and technological factors that the utility cannot control.[3]

To reliably provide the electricity demanded by its customers, an electric utility considers both supply and demand. The utility can supply electricity through a combination of generation and power purchases, and by reducing the amount of electricity lost through transmission and distribution. The utility can manage customer demand by encouraging customers to conserve electricity or to shift activities requiring electricity to periods when there is less demand on the electric system.

A resource plan contains a set of demand- and supply-side resource options that the utility could use to meet the forecasted needs of customers.[4] By integrating the evaluation of supply- and demand-side resource options—treating each resource as a potential substitute for the others—a utility can find the least-cost plan that is consistent with legal requirements and policies.

Any number of resource combinations might permit a utility to match supply with demand under a given set of assumptions. To select a plan that balances the needs for maintaining reliability, reducing adverse environmental and socioeconomic burdens, and minimizing rates, a utility analyzes various options under a variety of assumptions—including assumptions about unanticipated deviations from forecasts, or unexpected failures of generators or transmission facilities. Computer models help parties evaluate each scenario under a variety of assumptions. Specifically, utilities develop a base case scenario and develop other scenarios as variations on the base case. While the base case scenario has no greater weight than any other scenario, it tends to reflect a conventional, status quo position. After analyzing the various scenarios, the utility selects a preferred plan.

While the Commission must ultimately approve, reject, or modify a resource plan, the resource-planning process is largely collaborative and iterative. The process is collaborative because a wide array of facts and considerations may be relevant to resource choices or deployment timetables. The facts on which resource decisions depend—how quickly an area and its need for electricity will grow, how much electricity will cost over the lifetime of a generating facility or a purchased-power contract, how much conservation potential the service area holds and at what cost—all require the kind of careful judgment that sharpens with exposure to the views of engaged and knowledgeable stakeholders.

The process is iterative because analyzing future energy needs and preparing to meet them is not a static process; strategies for meeting future needs are always evolving in response to changes in actual conditions in the service area. When demographics, economics, technologies, or environmental regulations change, so do a utility's resource needs and its strategies for meeting them.

[3] Minn. R. 7843.0500, subp. 3.

[4] Minn. Stat. § 216B.2422, subd. 1(d).

### B. Other Legal Requirements and Rules

As noted, resource planning entails trying to identify an optimal strategy for meeting customer needs given constraints. Among the legal and policy constraints are the following:

*Renewable Energy Standard:* Minn. Stat. § 216B.1691 generally directs Minnesota utilities to generate or procure a certain percentage of electricity from renewable sources. For example, this statute directs utilities to use renewable sources of generation to meet 25 percent of their retail load by 2025 and 55 percent by 2035.

*Carbon-Free Standard:* Carbon dioxide ($CO_2$) is a greenhouse gas—that is, $CO_2$ emissions absorb and retain heat in Earth's atmosphere much like a greenhouse does, and this added heat is changing Earth's climate. Minn. Stat. § 216B.1691, subd. 2g directs utilities to acquire increasing amounts of electricity from generators that do not emit $CO_2$—specifically, 60-80 percent by 2030, 90 percent by 2035, and 100 percent by 2040.

*Environmental Costs/Externalities*: In addition to monitoring $CO_2$ regulatory costs, the Commission must "to the extent practicable, quantify and establish a range of environmental costs associated with each method of electricity generation" and use those costs "when evaluating and selecting resource options in all proceedings before the commission, including resource plan and certificate of need proceedings."[5] Environmental costs are called "externalities" because they are borne by people who are external to the choice to generate the costs.

*Local Employment:* Minn. Stat. § 216B.2422, subd. 4a states that a resource plan must report the steps taken by the utility, its contractors, and its energy suppliers, to maximize the employment of local workers, and directs the Commission to give preference to proposals that maximize the creation of construction employment opportunities for local workers, consistent with the public interest.

### C. Overview of Otter Tail Power

Otter Tail serves 137,000 customers in three states—Minnesota, North Dakota, and South Dakota. Roughly fifty percent of Otter Tail's service goes to Minnesota, forty percent to North Dakota, and ten percent to South Dakota. Many of the towns Otter Tail serves are small, rural communities. Because Otter Tail operates in multiple states, it must comply with laws and utility commission orders in all three states, which can vary significantly.

To meet its customers' service needs in the coming years, Otter Tail plans to use new and existing resources. The resources most relevant to this order include:

- **Coyote Station** – a 428 MW coal facility located near Beulah, North Dakota. Coyote Station is located next to a lignite mine, which provides all its fuel pursuant to a sales agreement with the mine owner that extends until the end of 2040. Otter Tail has a thirty-five percent ownership interest in Coyote Station that is governed by an ownership

[5] Minn. Stat. § 216B.2422, subd. 3.

agreement with the station's co-owners. The other owners are Northern Municipal Power Agency, Montana Dakota Utilities Co., and Northwestern Energy.

- **Astoria Station** – a 245 MW natural gas peaking plant. Peaking plants are typically used during periods of high demand for a limited number of hours.

- **New wind and solar resources** – Each iteration of Otter Tail's resource plan included adding wind and solar resources.

- **Big Stone** – a 475 MW coal facility located near Milbank, South Dakota. Otter Tail co-owns Big Stone with Montana Dakota Utilities Co. and Northwestern Energy.

### D. Otter Tail Power's 2023–2037 Integrated Resource Plan

Throughout the course of this proceeding, Otter Tail proposed three distinct resource plans—an initial plan, a supplemental plan, and a Minnesota-specific plan. The predominant distinction between the plans concerned the Coyote Station coal facility. Ultimately, Otter Tail and several stakeholders entered into a settlement agreement, which, consistent with Otter Tail's most recent preferred plan, proposed to designate Coyote Station as an emergency-only resource for Otter Tail's Minnesota customers.

#### 1. Initial Resource Plan

In its initial resource plan, Otter Tail recommended a preferred plan, which Otter Tail described as a least-cost/least-risk plan. Under the preferred plan, Otter Tail proposed to withdraw its ownership interest in Coyote Station, add dual-fuel capability to Astoria Station, and add new carbon-free resources. As to withdrawing from Coyote Station, Otter Tail observed:

> In almost every scenario and permutation analyzed, the results are clear: It is no longer in customers' best interest for Otter Tail to continue to participate as an owner in Coyote Station. This outcome is true regardless of any future compliance obligation or potential change in law. Should significant investments need to be made at Coyote Station for environmental compliance purposes, the economic analysis is even more compelling.[6]

Otter Tail included the following table comparing the cost of withdrawing in 2028 with the cost of continuing operations at Coyote Station.

[6] Initial resource plan, p. 6.

**Table 1**
**Coyote Withdrawal Net Present Value of Revenue Requirements (NPVRR) Comparison**[7]

| | No Externalities | | With Externalities | |
|---|---|---|---|---|
| | Base Case | Preferred Plan | Base Case | Preferred Plan |
| Continued Operation ($000) | $2,515,096 | $2,530,668 | $2,971,847 | $2,991,608 |
| 2028 Withdrawal ($000) | $2,466,554 | $2,479,385 | $2,864,875 | $2,909,334 |
| **Difference ($000)** | **-$48,542** | **-$51,283** | **-$106,972** | **-$82,274** |

Otter Tail stated that withdrawing from Coyote Station would allow it to avoid possible significant capital expenditures that would be needed to make Coyote Station compliant with the Environmental Protection Agency's (EPA) Regional Haze Rule and other environmental regulations. To withdraw, Otter Tail proposed to sell its ownership interest in Coyote Station to its co-owners or qualified third parties. If a buyer could not be found, Otter Tail proposed to exercise its right to terminate its ownership interest with five years advance notice, as permitted under the ownership agreement.

Regarding its Astoria Station proposal, Otter Tail asserted that adding a back-up fuel source to the peaking plant would protect against price volatility that can occur in the natural gas market. Astoria Station uses natural gas as its sole source of fuel. With on-site fuel storage at Astoria Station, Otter Tail would have the option of using stored fuel instead of buying natural gas from the market when prices are high. This would potentially protect customers from exceedingly high natural gas prices, especially during extreme weather events.

Finally, Otter Tail's proposal to add new carbon-free resources included adding 100 MWs of wind generation and 150 MWs of solar generation.

### 2. Supplemental Resource Plan

Otter Tail submitted a supplemental resource plan in response to changes that it said significantly altered the planning landscape. The changes include:

- The Midcontinent Independent System Operator's (MISO) adoption of a seasonal resource adequacy construct and capacity requirement that increased planning reserve margins (PRMs) above the quantities included in the initial filing and its modeling.

- The enactment of the federal Inflation Reduction Act, which provides renewed and new incentives for wind, solar, clean energy storage, and clean energy manufacturing projects, such as the extension of wind and solar tax incentives that were set to expire and the creation of other new tax credits for renewable energy projects.

- Changes to Otter Tail's load forecasts.

[7] *Id.*, p. 8.

- MISO's projection for capacity deficits and recent volatility in energy markets.

- The enactment of clean energy legislation in Minnesota that requires all electric utilities to generate or procure sufficient electricity from carbon-free resources to provide retail customers with 100 percent carbon-free electricity by 2040.

Many of Otter Tail's proposals in its supplemental resource plan—such as adding fuel storage at Astoria Station and adding new wind and solar resources—were the same or similar to those made in its initial plan. The most significant change concerned Coyote Station. Instead of withdrawing from Coyote Station, Otter Tail proposed to retain its ownership interest unless it were required to make a major, non-routine capital investment in the plant.

Otter Tail argued that retaining its ownership interest in Coyote Station would allow it to avoid possible risk caused by changes at MISO. For example, MISO increased PRMs substantially for the 2023/2024 planning year. For 2022/2023, MISO required an annual PRM of 8.7 percent, but for 2023/2024, MISO adopted a seasonal construct and increased the PRM to 25.5 percent for the winter season, which is particularly significant for Otter Tail as a winter peaking utility. Otter Tail argued that keeping its interest in Coyote Station would help it avoid potential resource adequacy risk caused by the higher winter PRM and mitigate against other uncertainties related to MISO accreditation methodologies.

Even though the planning landscape changed between Otter Tail's initial and supplemental resource plans, Otter Tail's modeling in its supplemental resource plan continued to show that withdrawing from Coyote Station in 2028 would be less expensive than withdrawing in 2040, whether considering externalities or not, as shown in the following tables.

**Table 2**
**NPVRR Comparison of 2028 Coyote Withdrawal to 2040 Continued Operation[8]**

| **No Externalities** | **Preferred Plan (NPVRR, $000)** | **2028 Difference from 2040 Exit NPVRR ($000)** |
|---|---|---|
| Withdraw from Coyote 12/31/2040 | $2,764,110 | |
| Withdraw from Coyote 12/31/2028 | $2,724,103 | -$40,007 |
| | | |
| **Externalities** | **Preferred Plan (NPVRR, $000)** | **2028 Difference from 2040 Exit NPVRR ($000)** |
| Withdraw from Coyote 12/31/2040 | $3,312,474 | |
| Withdraw from Coyote 12/31/2028 | $3,199,210 | -$113,264 |

Otter Tail's base assumption in its modeling was that Regional Haze compliance costs and $CO_2$ regulatory costs would be zero. If regulatory costs were imposed, however, Otter Tail's modeling

[8] Modeling data from Otter Tail's supplemental resource plan, Appendix I.

showed that a 2028 withdrawal from Coyote Station would result in significant additional savings.

**Table 3**
**NPVRR Comparison of Regional Haze and $CO_2$ Cost Scenarios to Preferred Plan[9]**

| | Cost (Savings) of 2028 Coyote withdrawal Compared to 2040 withdrawal ($000) | |
|---|---|---|
| **Scenario Name** | **No Externalities Included** | **Externalities Included** |
| Preferred Plan | ($40,007) | ($113,264) |
| Regional Haze (RH) Mid Cost | ($83,982) | ($155,499) |
| RH High Cost | ($103,845) | ($179,189) |
| Carbon Tax | ($134,913) | |

### 3. Minnesota Preferred Plan with AME

In response to jurisdictional complications, Otter Tail submitted a third resource plan—its Minnesota Preferred Plan with AME—specifically for Minnesota.[10] The most significant proposal in Otter Tail's Minnesota Preferred Plan with AME involves using a tool in the MISO tariff to turn Otter Tail's portion of Coyote Station attributable to Minnesota (approximately 70 MWs) into an Available Maximum Emergency (AME) resource. According to Otter Tail, if Coyote Station were designated an AME resource, it would be called upon only if there were a maximum generation event, such as in the case of extreme heat, cold, or other extreme events, and it would effectively become a peaking plant for Otter Tail's Minnesota customers. Otter Tail argued that its AME proposal would allow it to retain Coyote Station's capacity, mitigate against changes to MISO capacity accreditation standards, increase reliability for its Minnesota customers, and reduce costs and carbon emissions from the facility.

### 4. Settlement Agreement

After submitting its Minnesota Preferred Plan with AME, Otter Tail entered into a settlement agreement with several stakeholders, including the Department of Commerce (Department), the International Union of Operating Engineers Local 49, the North Central States Regional Council of Carpenters, and the Laborers' International Union of North America–Minnesota and North Dakota. The OAG and the CEOs were not parties to the settlement agreement. Key elements of the settlement agreement include:

- Designating Coyote Station as an AME resource.
- Authorizing Otter Tail to begin the process of withdrawing from the Minnesota share of Coyote Station if a material, non-routine capital investment in the plant is required.

[9] *Id.*

[10] Minnesota's resource planning process requires the Commission to consider, along with other factors, the environmental impacts of energy generation resources. Minn. R. 7843.0500, subp. 3(c). Otter Tail stated that no such requirement exists for resource planning in North Dakota.

- Directing Otter Tail to work with organized labor stakeholders.
- Directing Otter Tail to include in its next integrated resource plan modeling and resource options including mid- and long-duration energy storage systems.
- Finding that Otter Tail's proposal to add on-site liquified-natural-gas storage at Astoria Station is reasonable and prudent to protect system reliability and provide price protection for customers.
- Directing Otter Tail to provide in its renewable resource eligibility filings a full narrative description and financial analysis demonstrating that the project selected was competitively superior to other alternatives available to Otter Tail.

## III. Resource Plan Analysis

### A. Coyote Station

#### 1. Comments

The CEOs and the OAG argued that Otter Tail should withdraw its ownership interest in Coyote Station in 2028 as it initially proposed. They noted that withdrawing from Coyote Station was not only the least-cost option but also the best option to reduce impacts on human health and the environment. To establish that a 2028 withdrawal from Coyote Station was the least-cost option, the CEOs prepared the following table using data from Otter Tail's modeling.

**Table 4**
**Summary of Otter Tail's Sensitivity Results[11]**

| | | Cost (Savings) of 2028 Coyote withdrawal Compared to 2040 withdrawal ($000) | |
|---|---|---|---|
| | **Scenario Name** | **No Externalities Included** | **Externalities Included** |
| A | 2023 Base Case | ($28,173) | ($105,154) |
| A.1 | Preferred Plan | ($40,007) | ($113,264) |
| B | Natural Gas & Energy Markets (NGEM) +50% | ($27,223) | ($80,510) |
| C | NGEM +100% | $230 | ($54,033) |
| D | NGEM -50% | ($41,494) | ($106,873) |
| E | Regional Haze (RH) Mid Cost | ($83,982) | ($155,499) |
| F | RH Mid Cost NGEM +100% | ($53,899) | ($1,096,581) |
| G | RH High Cost | ($103,845) | ($179,189) |
| H | RH High Cost NGEM +100% | ($72,677) | ($1,115,381) |
| I | 10% Increased Load | ($13,950) | ($104,668) |
| J | 10% Increased Load NGEM +100% | $6,503 | ($64,565) |
| K | 25% Increased Load | $33,386 | ($97,300) |
| L | 25% Increased Load NGEM +100% | $18,516 | ($45,720) |
| M | High Renewable Accreditation | ($51,225) | ($114,143) |
| N | Low Accreditation | $37,082 | ($26,297) |
| O | Carbon Tax | ($134,913) | |
| P | Renewable High Cost | $37,531 | ($85,272) |
| Q | Renewable High Cost NGEM +100% | $42,196 | ($24,053) |
| R | Solar and Battery Low Cost (40% ITC) | ($32,992) | ($113,658) |
| S | Low Accreditation RH High | ($39,099) | ($93,888) |
| T | 25% Increased Load RH High | ($39,845) | ($164,207) |
| U | Renew High Cost RH High | ($39,166) | ($158,931) |

The CEOs explained that Otter Tail's modeling shows that withdrawing from Coyote Station in 2028 is less expensive than continuing to operate the plant until 2040 under fifteen out of twenty-two no-externalities scenarios and twenty-two out of twenty-two externalities-included scenarios.

The CEOs also argued that environmental regulations—such as the EPA's Regional Haze rule, the EPA's proposed Greenhouse Gas Rule, and the EPA's proposed Mercury and Air Toxics Standards Rule—are likely to impact Coyote Station and will necessitate substantial compliance-related capital investments in the plant. The CEOs asserted that Coyote Station is one of the most polluting coal plants in the nation when measured by its haze-causing sulfur dioxide ($SO_2$) and nitric oxide ($NO_x$) emissions per megawatt hour. According to the CEOs, Coyote Station emitted:

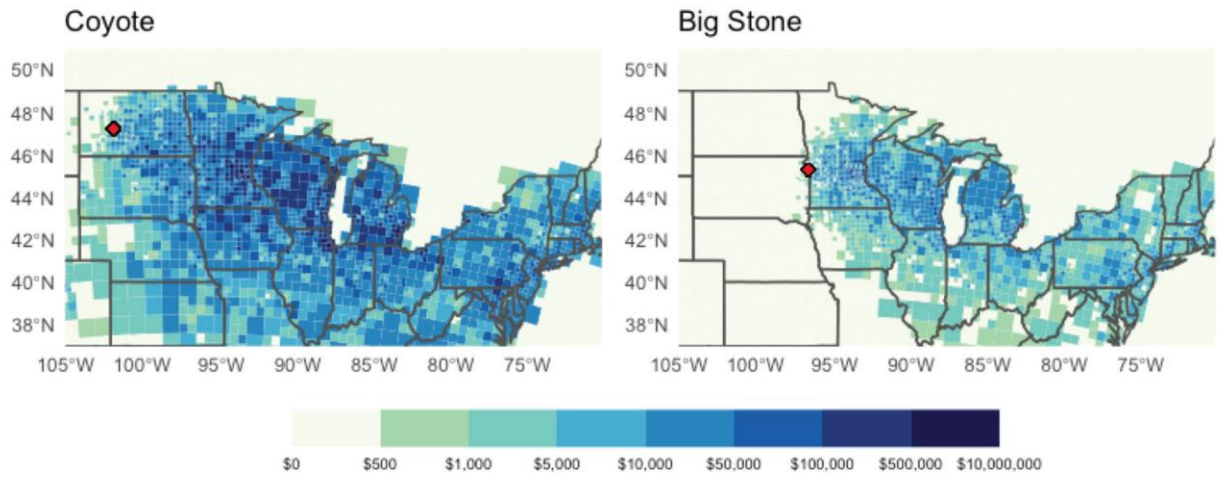
[11] CEOs' comments, p. 18 (September 13, 2023).

- $SO_2$ at a rate eight times higher than any coal plant in Minnesota or South Dakota in 2021,
- $NO_x$ at a rate at least three-and-a-half times higher than any coal plant in Minnesota or South Dakota in 2021, and
- Mercury at a rate approximately three to five times higher than any other coal plant in Minnesota and South Dakota in 2022.

The CEOs also explained that the EPA proposed to reduce allowable mercury emissions from lignite-fired plants to 1.2 lb/TBtu,[12] which is well below Coyote Station's 2022 emissions rate of 2.28 lb/TBtu. The capital expenditures required to make Coyote Station compliant with the EPA's rules would be very high, the CEOs argued, which strengthens the cost-savings argument for withdrawing from Coyote Station in 2028 instead of 2040.

The CEOs also asserted that Minnesotans' health is being adversely impacted by both Coyote Station and Big Stone based on a report of health and equity issues prepared by Physicians, Scientists, and Engineers for Healthy Energy (PSE). PSE determined in its report that impacts from both facilities extend across multiple states, especially downwind to the east of each facility. Based on PSE's analysis, closing Coyote Station by 2028 would avoid approximately seventeen to forty mortalities each year from 2029-2040. The report also included the following figure that maps the total health impacts of each plant in dollars:

**Figure 1**
**Annual Total $PM_{2.5}$[13] Public Health Impacts of Each of Otter Tail's Coal Plants**




In response to Otter Tail's Minnesota Preferred Plan with AME, the CEOs and the OAG submitted additional comments in which they urged the Commission to deny Otter Tail's proposal to designate Coyote Station as an AME resource. They argued that even as an AME

[12] Pounds per trillion British thermal units.

[13] Fine particulate matter.

resource, Coyote Station would still be unreasonably expensive, mainly because of high fixed costs. For example, the OAG stated that the fuel-supply agreement[14] requires Otter Tail to pay for coal whether or not Otter Tail actually uses it. The OAG went on to observe that if the plant operated as an AME resource, the high fixed costs at the plant combined with low electricity generation would cause the per-megawatt-hour cost of generation to increase greatly. The OAG and the CEOs continued to view a 2028 withdrawal from Coyote Station as the best option for Otter Tail's customers.

As an alternative to AME, the CEOs recommended that Otter Tail replace the electricity generation from Coyote Station with seventy-five MWs of battery storage. The CEOs asserted that battery storage would provide at least the same accredited capacity as Coyote Station with AME, sufficiently meet winter peaking demand, be less expensive, be an environmentally friendly alternative to AME, and help Otter Tail reach Minnesota's goal of 100% carbon-free electricity generation by 2040.

Even though they did not support designating Coyote Station as an AME resource, the CEOs and the OAG made additional recommendations in the event the Commission approves Otter Tail's AME proposal. The CEOs urged the Commission to direct AME to begin in 2026 or as soon as replacement renewable energy resources could be brought online. They also recommended that the Commission require Otter Tail to request pre-approval for any large and non-routine capital investments in Coyote Station, that Otter Tail be required to refund to Minnesota ratepayers any charges for fixed costs at Coyote Station not found to be just and reasonable, and that the Commission establish back-up requirements in the event Otter Tail is unable to convert Coyote Station into an AME resource, including:

- Require Otter Tail to submit a filing within four months of the date of this order with the results of the fatal flaw analysis.[15]
- Find that if the AME proposal does not proceed, it is not reasonable or in the public interest for Minnesota ratepayers to continue to pay for or depend on Coyote Station beyond 2028.
- Require Otter Tail to submit a new resource plan within six months of finding that the AME plan cannot proceed.

The OAG recommended the Commission limit, in the appropriate docket, the amount of fixed fuel costs Otter Tail can recover through rates.

In response to these comments and recommendations, Otter Tail argued that the CEOs and the OAG downplayed the benefits of operating Coyote Station as an AME resource and asserted that the CEOs' battery proposal was riskier than AME in terms of both reliability and capacity accreditation. Otter Tail argued that AME at Coyote Station would provide greater reliability during an emergency event than a four-hour battery because emergency events can last longer than four hours. Additional battery storage could extend that time, but it would come at

[14] Also known as the Lignite Sales Agreement.

[15] By conducting a fatal flaw analysis, Otter Tail will determine whether AME designation at Coyote Station can be accomplished.

additional cost, which would likely make AME the lower-cost option. Otter Tail also observed that while MISO's class accreditation estimates show strong winter accreditation values for storage in the coming years, those accreditation values are expected to decrease significantly by 2032.[16]

In addition to capacity and reliability benefits, Otter Tail maintained that operating Coyote Station as an AME resource, as agreed to in the settlement agreement, would result in reduced greenhouse gas emissions and a $6.9 to $7.9 million annual reduction in fuel and reagent costs. Otter Tail also asserted that a 2028 withdrawal from Coyote Station is likely infeasible, especially considering the ownership agreement requires Otter Tail to give five years advance notice to terminate its ownership interest. An order directing Otter Tail to sell its interest in Coyote Station could force a sale on unfavorable terms, Otter Tail argued, and possibly create legal risk. Otter Tail stressed that it is not proposing to permanently designate Coyote Station as an AME resource, but rather it is proposing a short-term solution meant to address uncertainties and complexities in the current resource planning environment.

### 2. Commission Action

The financial analyses in the record support the conclusion that Otter Tail should cease providing power to its Minnesota customers from Coyote Station as soon as practicable. Otter Tail's modeling shows that withdrawing in 2028 would be less expensive than continuing to operate Coyote Station until 2040, even without considering externalities or the high likelihood that large capital expenditures will be required to make the facility compliant with environmental regulations in the coming years. From an economic perspective, the sooner Otter Tail withdraws from Coyote Station, the better.

But cost is not the only factor to consider. The Commission must also evaluate resource plans on their ability to minimize adverse environmental effects, and the record shows that Coyote Station produces high levels of emissions that not only negatively impact the environment but also create public health concerns for Minnesotans. Viewed from the perspective of Minnesota's environmental policies, Otter Tail should take steps to withdraw from Coyote Station as soon as possible. The Commission recognizes, however, that operating Coyote Station as an AME resource would reduce the facility's harmful impacts on humans and the environment.

Service adequacy and reliability are other essential considerations, and if Coyote Station operated as an AME resource, Otter Tail's Minnesota customers would receive some protection against outages or price volatility in energy markets during emergency events. Otter Tail's need for this emergency protection is likely reduced, however, by the Commission's decision on fuel storage at Astoria Station, which is discussed below.

The Commission is also mindful that the process of Otter Tail withdrawing its ownership interest in Coyote Station will take time. Otter Tail initially proposed to look for a buyer for its share of Coyote Station, and if none could be found, to exercise its right under the ownership agreement

[16] Resource accreditation refers to the process in which MISO measures and assigns a capacity value to a resource based on the resource's contribution to system reliability during the highest risk periods.

to terminate its interest in the facility with five years advance notice. Neither option can be completed overnight.

In light of these considerations and the record presented, the Commission is persuaded that Otter Tail should take steps to remove all jurisdictional allocations to its Minnesota ratepayers for Coyote Station as soon as feasible but no later than December 31, 2031. This deadline will ensure that Minnesota ratepayers are not paying for costs at Coyote Station indefinitely, while also giving Otter Tail time to withdraw from the Minnesota portion of Coyote Station.

The Commission will also direct Otter Tail to designate the Minnesota portion of Coyote Station as AME for MISO Planning Years 2026-27 through 2030-31. With an AME designation, Coyote Station will improve Otter Tail's service adequacy and reliability for its customers during extreme events and reduce the amount of harmful emissions that Coyote Station would otherwise produce if operated normally. If AME is found to be infeasible, however, the Commission is persuaded that it is not reasonable or in the public interest for Minnesota ratepayers to continue to pay for or depend on Coyote Station past 2028.

The Commission makes the following findings related to Coyote Station:

a. The economic case for continuing to operate Coyote Station is not persuasive. In both the no-externalities and externalities-included modeling runs, and in both the initial resource plan and the supplemental resource plan, the majority of sensitivities indicate that exiting Coyote Station sooner rather than later is least cost.

b. The risk of environmental compliance costs at Coyote Station is very high, and under no scenario does investing in environmental controls appear to be cost effective.

c. Even though Coyote Station is located in North Dakota, public health concerns apply to Minnesota.

d. Otter Tail's modeling showed that withdrawing from Coyote Station in 2028 was less expensive than continuing to operate the plant until 2040 under fifteen out of twenty-two no-externalities scenarios and twenty-two out of twenty-two externalities-included scenarios.

e. All of Otter Tail's Regional Haze and $CO_2$ regulatory-cost modeling scenarios in the initial resource plan and the supplemental resource plan found that, with or without externalities, exiting Coyote Station by 2028 was least cost.

f. Otter Tail's analysis of its preferred plan showed that the 2028 Coyote Station exit was less expensive than the 2040 exit by $40 million without externalities. When externalities were included, the 2028 Coyote Station exit was less expensive than the 2040 Coyote Station exit by $113.3 million.

The Commission will impose additional requirements on Otter Tail related to Coyote Station in the ordering paragraphs below.

### B. LNG Storage at Astoria Station

Otter Tail proposed to add backup fuel capability to its Astoria Station natural gas peaking plant to protect customers from price volatility in the natural gas market and to support system reliability. Specifically, Otter Tail's proposal involved trucking liquified natural gas (LNG) to Astoria Station, storing it in a tank, and converting the liquid to gas as needed. Combustion turbine modifications would not be required. The parties to the settlement agreement supported LNG storage at Astoria Station.

In its initial resource plan, Otter Tail explained that as it moves toward variable resources (e.g., wind and solar), it relies more on natural gas generation to fill short-term demand needs. Natural gas prices can be volatile, especially during extreme weather events. Using Winter Storm Uri in 2021 as an example, Otter Tail prepared an analysis of the possible financial benefits of having backup-fuel capability at Astoria Station during such a storm. The analysis showed that the net benefit of having backup-fuel capability ranged from $3.2 million to $21.8 million depending on which assumptions were used. Based on its analysis, Otter Tail argued that backup fuel is justified at Astoria Station regardless of any decision on Coyote Station.

#### 1. Comments

The CEOs and the OAG opposed Otter Tail's proposal to add on-site LNG storage to Astoria Station. The CEOs considered LNG storage to essentially be an unnecessary "insurance policy," especially if the Commission approves Otter Tail's proposal to designate Coyote Station as an AME resource. The CEOs argued that Otter Tail should not invest in two backup resources.

The OAG agreed with Otter Tail that storing fuel at Astoria Station would provide some reliability and price-hedging benefits but raised concerns about abandonment losses if Astoria Station retires early. The OAG asserted that future regulations could make operating gas-fired peaking plants cost prohibitive by 2040 and observed that Astoria Station will not be fully depreciated until 2056. The onsite-storage upgrades are expected to have a useful life of at least 30 years, which would likely mean those costs would also be depreciated well past 2040. The OAG urged the Commission to weigh the risk of abandonment when considering the project and to make clear to Otter Tail that approval of the project does not guarantee full recovery of its investment if Astoria Station retires early. The OAG also recommended the Commission place a hard cap on recovery of project costs and set requirements for the resource acquisition process.

Otter Tail responded that the OAG's argument is speculative because it is unclear what will happen to natural gas peaking plants in the future. But, Otter Tail argued, there is strong evidence in the record—such as modeling showing substantially reduced fuel costs during extreme weather events like Winter Storm Uri—that LNG storage at Astoria Station would provide benefits to customers. LNG storage would also help avoid a reduction in the MISO capacity accreditation for Astoria Station. A reduction in the facility's capacity accreditation reduces the amount of capacity Otter Tail can offer into the capacity market, which Otter Tail noted is a lost revenue opportunity for its customers.

Otter Tail also disagreed with the OAG's recommendations to limit its recovery if Astoria Station retires early and to place a hard cap on recovery of project costs. Utilities need reasonable assurance of recovery when projects are approved, Otter Tail argued, and facilities projects would rarely proceed if recovery came with significant caveats. As to the hard cap, Otter Tail asserted that it is unreasonable to foreclose the possibility of recovering project costs that are necessary and prudent just because they exceed initial projected costs. Otter Tail suggested imposing a soft cap instead.

### 2. Commission Action

The Commission agrees with the parties to the settlement agreement that it would be reasonable and prudent for Otter Tail to add LNG storage to Astoria Station. It is difficult to quantify the value of additional reliability, but the record shows—in Otter Tail's modeling of the financial benefits of having fuel storage at Astoria Station during Winter Storm Uri, for example—that backup fuel at Astoria Station would provide substantial price and service protections for Otter Tail's customers, especially during extreme weather events that are occurring more frequently and with greater intensity. Backup storage would also protect Astoria Station's MISO capacity accreditation and assist Otter Tail in its efforts to add more variable carbon-free energy resources by ensuring reliable service when carbon-free resources are unavailable.

The OAG is correct that the future of natural gas generating facilities is uncertain, but the benefits of LNG storage at Astoria Station outweigh the risk of the facility potentially retiring early. The Commission will not impose a limit on Otter Tail's potential recovery of Astoria Station's undepreciated costs should the facility retire early. Utilities need proper incentives to invest in new projects that are beneficial to their customers—such as LNG at Astoria Station—and the threat of nonrecovery creates a disincentive that could prevent useful projects from moving forward.

The Commission is also unpersuaded that it should impose a hard cap on Otter Tail's recovery of project costs for the Astoria Station LNG storage project. Otter Tail should have the opportunity to establish that it was necessary and prudent to incur costs beyond the anticipated project costs, if such costs are incurred. But in future resource acquisition proposals, the Commission will evaluate whether a cap is appropriate.

Turning to the CEOs' argument about the need for two reliability projects, the Commission does not view LNG storage at Astoria Station and AME at Coyote Station to be unreasonably redundant. This is because any service adequacy and reliability benefits from Coyote Station will be short term and are contingent upon Otter Tail successfully having the facility designated as an AME resource. Even if AME is approved, Otter Tail must cease providing its Minnesota customers power from Coyote Station by the end of 2031 at the latest, at which point the service adequacy and reliability benefits it provides will end. With LNG storage, Astoria Station could provide price and service protections for Otter Tail's customers for many years after Coyote Station no longer serves Minnesotans.

For these reasons, the Commission will find Otter Tail's proposal to add on-site LNG storage at Astoria Station to be reasonable and prudent to protect system reliability and provide price

protections for customers. The OAG's recommendation on Otter Tail's resource acquisition process is discussed separately below.

### C. Carbon-Free Projects

The settlement agreement and all of Otter Tail's proposed plans included adding wind and solar resources at some point over the next several years to meet system capacity needs and to comply with Minnesota's renewable energy and carbon-free standards. Otter Tail also proposed to add a battery resource in its supplemental plan but removed that proposal in its Minnesota Preferred Plan with AME because it viewed the additional capacity from battery storage as unnecessary with Coyote Station designated as an AME resource. Under the settlement agreement, Otter Tail would add between 200 and 300 MWs of solar resources on November 1, 2027, or as soon as practicable thereafter, and it would also add between 150 and 200 MWs of wind resources on December 31, 2029, or as soon as practicable thereafter. The settlement agreement provides that all costs and benefits of these projects would be allocated solely to Minnesota customers.

#### 1. Comments

The parties to the settlement agreement and the CEOs supported Otter Tail's addition of solar and wind resources.

#### 2. Commission Action

Adding solar and wind resources will help Otter Tail meet the renewable energy and carbon-free standards and support Otter Tail's transition away from fossil-fuel-based resources. The Commission is supportive of adding these types of resources, but it is unclear how these projects will affect rates, especially when added to the costs of LNG storage at Astoria Station and AME at Coyote Station. The Commission will therefore not include in this order the language from the settlement agreement that allocates all costs and benefits of solar and wind projects to Minnesota customers only. Instead, allocation will be considered as each project is proposed.

In addition to solar and wind resources, the Commission considers it important for Otter Tail to add a battery storage resource, which will not only provide Otter Tail with added capacity and reliability benefits, but also give Otter Tail an opportunity to learn about integrating and operating such resources. The Commission will therefore direct Otter Tail to pursue adding 20 to 75 MWs of battery storage by December 31, 2029, or as soon as practicable thereafter.

### D. Resource Acquisition Process

#### 1. Comments

In the interest of protecting ratepayers from overpaying for capital investments, the OAG made recommendations on Otter Tail's process for acquiring new resources, specifically related to LNG storage at Astoria Station and generally for all new resource acquisitions. The OAG recommended Otter Tail use at least three bidders for both equipment and fuel supply acquisitions for the Astoria Station storage project, which, the OAG noted, Otter Tail committed to do. For other new projects, the OAG urged the Commission to require Otter Tail to use the bidding process the Department recommended in its comments filed on September 13, 2023,

which included, among other things, requiring Otter Tail to issue a request for proposals (RFP) for future resource acquisitions and using an independent auditor to oversee the bidding process. In response to the OAG's recommendation, Otter Tail argued that language in the settlement agreement ensures greater transparency into its acquisition process, and the use of an independent auditor or the RFP and bidding procedures are unnecessary and better suited to larger utilities.

#### 2. Commission Action

The Commission appreciates Otter Tail's efforts to bring greater transparency into its resource acquisition process. But the Commission also agrees with the OAG that additional requirements will help keep the process neutral and ensure Otter Tail's customers do not overpay for capital investments. The Commission will therefore direct Otter Tail to use the bidding process the Department recommended in its comments filed on September 13, 2023, with modifications.

### E. Future Filing Requirements

The Commission will direct Otter Tail to file its next resource plan no later than May 15, 2026. The plan must include modeling and resource options including mid- and long-duration energy storage systems and an analysis considering continued operation of Big Stone as an AME resource, among other requirements, as set forth below.

## ORDER

1. The Commission finds that:

    a. The economic case for continuing to operate Coyote Station is not persuasive. In both the no-externalities and externalities-included modeling runs, and in both the initial resource plan and the supplemental resource plan, the majority of sensitivities indicate that exiting Coyote Station sooner rather than later is least cost.

    b. The risk of environmental compliance costs at Coyote Station is very high, and under no scenario does investing in environmental controls appear to be cost effective.

    c. Even though Coyote Station is located in North Dakota, public health concerns apply to Minnesota.

    d. Otter Tail's modeling showed that withdrawing from Coyote Station in 2028 was less expensive than continuing to operate the plant until 2040 under fifteen out of twenty-two no-externalities scenarios and twenty-two out of twenty-two externalities-included scenarios.

    e. All of Otter Tail's Regional Haze and $CO_2$ regulatory cost modeling scenarios in the initial resource plan and the supplemental resource plan found that, with or without externalities, exiting Coyote Station by 2028 was least cost.

f. Otter Tail's analysis of its preferred plan showed that the 2028 Coyote Station exit was less expensive than the 2040 exit by $40 million without externalities. When externalities were included, the 2028 Coyote Station exit was less expensive than the 2040 Coyote Station exit by $113.3 million.

2. Otter Tail shall designate the Minnesota portion of Coyote Station as AME for MISO Planning Years 2026-27 through 2030-31 but not beyond.

3. The Minnesota share of Coyote Station costs identified in paragraph 1b of the proposed settlement agreement filed April 1, 2024, and incurred after June 1, 2031, cannot be recovered from Minnesota ratepayers unless Otter Tail proves such costs will be reasonable and prudent in its next integrated resource plan (IRP) proceeding.

4. Immediately following the order, Otter Tail shall, in a reasonable and prudent fashion, commence activities to remove all jurisdictional allocations to its Minnesota ratepayers for Coyote Station, such that it will no longer serve Minnesota customers, either through a sale, jurisdictional realignment or other means that ends all Minnesota ratepayer obligations for the plant, coal contracts and associated facilities as soon as feasible but no later than December 31, 2031. Otter Tail shall make quarterly filings from the date of this order with the Commission in this docket and in their next IRP filing on May 15, 2026, regarding the progress of efforts to remove Minnesota ratepayers from any obligation for the plant, coal contracts, and associated facilities. Regardless of a sale, jurisdictional realignment, or other arrangement, Otter Tail will no longer utilize Coyote Station to serve Minnesota customers beyond December 31, 2031.

5. Otter Tail shall submit a filing within four months of the date of this order in this docket with the results of its AME fatal flaw analysis. The filing should describe Otter Tail's efforts to obtain formal written approvals of the proposal by the MISO Independent Market Monitor, by MISO regarding tariff compliance, by Coyote Station's co-owners, and by any other parties that could block the AME plan. The filing should attach those approvals or explain why they have not been obtained.

6. The Commission finds that if AME is found to be infeasible, it is not reasonable or in the public interest for Minnesota ratepayers to continue to pay for or depend on Coyote Station past 2028.

7. In the event that on December 31, 2030, no sale or jurisdictional realignment under which Otter Tail no longer utilizes Coyote Station to serve Minnesota customers has occurred, Otter Tail shall file on that date its proposed plan to wrap up the use of Coyote Station to serve Minnesota customers by December 31, 2031.

8. The Commission finds that based on the record in this docket, it would not be prudent for Otter Tail to make a large, non-routine capital investment in Coyote Station, and therefore Otter Tail may not recover from Minnesota ratepayers the costs of a large, non-routine capital investment in Coyote Station unless it obtains the Commission's approval prior to making that investment.

9. Otter Tail must annually file with the Commission a listing of all capital projects with a total plant cost over $10 million.

10. The Commission finds that Otter Tail's proposal to add on-site liquid natural gas storage by 2027 at its Astoria Station natural gas facility, a jurisdictionally shared resource, is reasonable and prudent to protect system reliability and provide price protection for customers.

11. The carbon-free projects are: (a) No less than 200 MWs and up to 300 MWs of solar resources with a commercial operation date of November 1, 2027, or as soon as practicable thereafter; (b) no less than 150 MWs and up to 200 MWs of wind resources with a commercial operation date of December 31, 2029 or as soon as practicable thereafter; and (c) no less than 20 MWs and up to 75 MWs of battery storage resources with a minimum of four hour duration with a commercial operation date of December 31, 2029 or as soon as practicable thereafter.

12. To ensure greater transparency into Otter Tail's resource selection process, Otter Tail must provide in its renewable resource eligibility filings a full narrative description and financial analysis demonstrating that the project selected was competitively superior to other alternatives available to Otter Tail. Otter Tail and the Department shall jointly develop relevant data points and fields for this analysis.

13. For other approved resources, Otter Tail must use an acquisition process that:

    a. uses a minimum of three bidders for both of the major components of Astoria Station on-site fuel storage project and evaluates at least five proposals for all other resource acquisition projects;

    b. ensures that the request for proposals (RFP) or procurement process is consistent with the Commission's then-most recent IRP order and direction regarding size, type, and timing unless changed circumstances dictate otherwise;

    c. ensures that the RFP or procurement process includes the option for both power purchase agreements (PPA) and build–transfer proposals unless Otter Tail can demonstrate why either a PPA or build–transfer proposal is not feasible;

    d. provides the Department and other stakeholders with notice of RFP or procurement process issuances;

    e. notifies the Department and other stakeholders of material deviations from initial timelines;

    f. updates the Commission, the Department, and other stakeholders regarding changes in the timing or need that occur between IRP proceedings;

    g. where Otter Tail or an affiliate proposes a project,

i. requires Otter Tail to create separate teams for the Otter Tail project and for evaluation of the bids received, and

ii. engages an independent auditor, if required to by the Department and the OAG, to oversee the bid process and provide a report for the Commission;

h. includes in the RFP or procurement process a plan to address the impact of material delays or changes of circumstances on the bid process; and

i. ensures that any RFP or procurement process documents for peaking resources issued are technology neutral.

j. The commission will evaluate whether a cap is appropriate in any future process to approve a project or cost recovery for a particular project.

14. Otter Tail must work with organized labor stakeholders to ensure that resource acquisitions and investments maximize the availability of high-quality employment and career opportunities for local workers by prioritizing investment in the utility's service territory and plant host communities, and the state of Minnesota through the employment of local workers and use of registered apprenticeship programs that have a proven track record of developing local and diverse skilled workforce.

15. Otter Tail must file its next Minnesota IRP no later than May 15, 2026.

16. Otter Tail must include in its next IRP modeling and resource options mid- and long-duration energy storage systems.

17. In its next IRP, Otter Tail must:

a. Include an analysis of the costs of its preferred plan and its comparative plans under the full range of regulatory and externality costs specified by the Commission in its order in docket 22-236. This analysis should include emissions both inside and outside Minnesota to the extent they are associated with generation used to serve Minnesota customers.

b. Present modeling runs that allow a reasonable amount of both market purchases and sales.

c. Conduct production cost modeling to obtain more detailed information to develop the portfolio PVRRs (present value of revenue requirements) and to evaluate the dispatch of resources during specific periods of time, including during periods of challenging system conditions.

d. Include an analysis of the health and equity impacts of its preferred plan.

e. Include an assessment of energy efficiency, demand flexibility, and energy storage options, especially in comparison with the addition of on-site fuel storage at its Astoria facility.

f. Prepare an analysis considering continued operation of Big Stone as AME to file in its next Minnesota IRP. The analysis must include a resource planning analysis, a rate impact analysis, include a plan and target of developing flexible load, and address multi-jurisdictional, co-ownership, socioeconomic, and environmental issues.

18. This order shall become effective immediately.

BY ORDER OF THE COMMISSION

Will Seuffert
Executive Secretary

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## CERTIFICATE OF SERVICE

I, Robin Benson, hereby certify that I have this day, served a true and correct copy of the following document to all persons at the addresses indicated below or on the attached list by electronic filing, electronic mail, courier, interoffice mail or by depositing the same enveloped with postage paid in the United States mail at St. Paul, Minnesota.

**Minnesota Public Utilities Commission**
**ORDER MODIFYING OTTER TAIL POWER'S 2023–2037 INTEGRATED RESOURCE PLAN**

Docket Numbers: **E-017/RP-21-339**

Dated this **22nd** day of **July, 2024**

/s/ Robin Benson

| First Name | Last Name | Email | Company Name | Address | Delivery Method | View Trade Secret | Service List Name |
|---|---|---|---|---|---|---|---|
| Laura | Bishop | Laura.Bishop@state.mn.us | MN Pollution Control Agency | 520 Lafayette Rd<br>Saint Paul,<br>MN<br>55155 | Electronic Service | No | OFF_SL_21-339_21-339 |
| Ray | Choquette | rchoquette@agp.com | Ag Processing Inc. | 12700 West Dodge Road<br>PO Box 2047<br>Omaha,<br>NE<br>68103-2047 | Electronic Service | No | OFF_SL_21-339_21-339 |
| Generic Notice | Commerce Attorneys | commerce.attorneys@ag.state.mn.us | Office of the Attorney General-DOC | 445 Minnesota Street Suite 1400<br>St. Paul,<br>MN<br>55101 | Electronic Service | Yes | OFF_SL_21-339_21-339 |
| Brooke | Cunningham | Health.Review@state.mn.us | Minnesota Department of Health | PO Box 64975<br>St. Paul,<br>MN<br>55164-0975 | Electronic Service | No | OFF_SL_21-339_21-339 |
| Adam | Duininck | aduininck@ncsrcc.org | North Central States Regional Council of Carpenters | 700 Olive Street<br>St. Paul,<br>MN<br>55130 | Electronic Service | No | OFF_SL_21-339_21-339 |
| Kristin W | Duncanson | kw.duncanson@gmail.com | | 57746 Highway 30<br>Mapleton,<br>MN<br>56065 | Electronic Service | No | OFF_SL_21-339_21-339 |
| John | Farrell | jfarrell@ilsr.org | Institute for Local Self-Reliance | 2720 E. 22nd St<br>Institute for Local Self-Reliance<br>Minneapolis,<br>MN<br>55406 | Electronic Service | No | OFF_SL_21-339_21-339 |
| Sharon | Ferguson | sharon.ferguson@state.mn.us | Department of Commerce | 85 7th Place E Ste 280<br>Saint Paul,<br>MN<br>551012198 | Electronic Service | No | OFF_SL_21-339_21-339 |
| Lucas | Franco | lfranco@liunagroc.com | LIUNA | 81 Little Canada Rd E<br>Little Canada,<br>MN<br>55117 | Electronic Service | No | OFF_SL_21-339_21-339 |
| Barb | Freese | bfreese@mncenter.org | Minnesota Center for Environmental Advocacy | 1919 University Ave W Ste 515<br>Saint Paul,<br>MN<br>55104-3435 | Electronic Service | No | OFF_SL_21-339_21-339 |

| First Name | Last Name | Email | Company Name | Address | Delivery Method | View Trade Secret | Service List Name |
|---|---|---|---|---|---|---|---|
| Jessica | Fyhrie | jfyhrie@otpco.com | Otter Tail Power Company | PO Box 496<br>Fergus Falls,<br>MN<br>56538-0496 | Electronic Service | Yes | OFF_SL_21-339_21-339 |
| Julie | Goehring | julie@redriverbasincommission.org | | 708 70 Ave NW<br>Moorhead,<br>MN<br>56560 | Electronic Service | No | OFF_SL_21-339_21-339 |
| Adam | Heinen | aheinen@dakotaelectric.com | Dakota Electric Association | 4300 220th St W<br>Farmington,<br>MN<br>55024 | Electronic Service | No | OFF_SL_21-339_21-339 |
| Kristin | Henry | kristin.henry@sierraclub.org | Sierra Club | 2101 Webster St Ste 1300<br>Oakland,<br>CA<br>94612 | Electronic Service | No | OFF_SL_21-339_21-339 |
| Nathan | Jensen | njensen@otpco.com | Otter Tail Power Company | 215 S. Cascade St.<br>Fergus Falls,<br>MN<br>56537 | Electronic Service | No | OFF_SL_21-339_21-339 |
| Richard | Johnson | Rick.Johnson@lawmoss.com | Moss & Barnett | 150 S. 5th Street<br>Suite 1200<br>Minneapolis,<br>MN<br>55402 | Electronic Service | No | OFF_SL_21-339_21-339 |
| Nick | Kaneski | nick.kaneski@enbridge.com | Enbridge Energy Company, Inc. | 11 East Superior St Ste 125<br>Duluth,<br>MN<br>55802 | Electronic Service | No | OFF_SL_21-339_21-339 |
| William D | Kenworthy | will@votesolar.org | Vote Solar | 332 S Michigan Ave FL 9<br>Chicago,<br>IL<br>60604 | Electronic Service | No | OFF_SL_21-339_21-339 |
| Kate | Knuth | kate.knuth@gmail.com | | 2347 14th Terrace NW<br>New Brighton,<br>MN<br>55112 | Electronic Service | No | OFF_SL_21-339_21-339 |
| Randy | Kramer | rlkramer89@gmail.com | Water and Soil Resources Board | 42808 Co. Rd. 11<br>Bird Island,<br>MN<br>55310 | Electronic Service | No | OFF_SL_21-339_21-339 |

| First Name | Last Name | Email | Company Name | Address | Delivery Method | View Trade Secret | Service List Name |
|---|---|---|---|---|---|---|---|
| James D. | Larson | james.larson@avantenergy.com | Avant Energy Services | 220 S 6th St Ste 1300<br>Minneapolis, MN 55402 | Electronic Service | No | OFF_SL_21-339_21-339 |
| Eric | Lindberg | elindberg@mncenter.org | Minnesota Center for Environmental Advocacy | 1919 University Avenue West<br>Suite 515<br>Saint Paul, MN 55104-3435 | Electronic Service | No | OFF_SL_21-339_21-339 |
| Alice | Madden | alice@communitypowermn.org | Community Power | 2720 E 22nd St<br>Minneapolis, MN 55406 | Electronic Service | No | OFF_SL_21-339_21-339 |
| Kavita | Maini | kmaini@wi.rr.com | KM Energy Consulting, LLC | 961 N Lost Woods Rd<br>Oconomowoc, WI 53066 | Electronic Service | No | OFF_SL_21-339_21-339 |
| Andrew | Moratzka | andrew.moratzka@stoel.com | Stoel Rives LLP | 33 South Sixth St Ste 4200<br>Minneapolis, MN 55402 | Electronic Service | No | OFF_SL_21-339_21-339 |
| Matthew | Olsen | molsen@otpco.com | Otter Tail Power Company | 215 South Cascade Street<br>Fergus Falls, MN 56537 | Electronic Service | No | OFF_SL_21-339_21-339 |
| Debra | Opatz | dopatz@otpco.com | Otter Tail Power Company | 215 South Cascade Street<br>Fergus Falls, MN 56537 | Electronic Service | No | OFF_SL_21-339_21-339 |
| Kevin | Pranis | kpranis@liunagroc.com | Laborers' District Council of MN and ND | 81 E Little Canada Road<br>St. Paul, MN 55117 | Electronic Service | No | OFF_SL_21-339_21-339 |
| Generic Notice | Residential Utilities Division | residential.utilities@ag.state.mn.us | Office of the Attorney General-RUD | 1400 BRM Tower<br>445 Minnesota St<br>St. Paul, MN 551012131 | Electronic Service | Yes | OFF_SL_21-339_21-339 |
| Stephan | Roos | stephan.roos@state.mn.us | MN Department of Agriculture | 625 Robert St N<br>Saint Paul, MN 55155-2538 | Electronic Service | No | OFF_SL_21-339_21-339 |

| First Name | Last Name | Email | Company Name | Address | Delivery Method | View Trade Secret | Service List Name |
|---|---|---|---|---|---|---|---|
| Nathaniel | Runke | nrunke@local49.org | International Union of Operating Engineers Local 49 | 611 28th St. NW<br>Rochester,<br>MN<br>55901 | Electronic Service | No | OFF_SL_21-339_21-339 |
| John | Saxhaug | john_saxhaug@yahoo.com | | 3940 Harriet Ave<br>Minneapolis,<br>MN<br>55409 | Electronic Service | No | OFF_SL_21-339_21-339 |
| Will | Seuffert | Will.Seuffert@state.mn.us | Public Utilities Commission | 121 7th Pl E Ste 350<br>Saint Paul,<br>MN<br>55101 | Electronic Service | Yes | OFF_SL_21-339_21-339 |
| Bria | Shea | bria.e.shea@xcelenergy.com | Xcel Energy | 414 Nicollet Mall<br>Minneapolis,<br>MN<br>55401 | Electronic Service | No | OFF_SL_21-339_21-339 |
| Cary | Stephenson | cStephenson@otpco.com | Otter Tail Power Company | 215 South Cascade Street<br>Fergus Falls,<br>MN<br>56537 | Electronic Service | Yes | OFF_SL_21-339_21-339 |
| Stuart | Tommerdahl | stommerdahl@otpco.com | Otter Tail Power Company | 215 S Cascade St<br>PO Box 496<br>Fergus Falls,<br>MN<br>56537 | Electronic Service | Yes | OFF_SL_21-339_21-339 |
| Amelia | Vohs | avohs@mncenter.org | Minnesota Center for Environmental Advocacy | 1919 University Avenue West<br>Suite 515<br>St. Paul,<br>MN<br>55104 | Electronic Service | Yes | OFF_SL_21-339_21-339 |
| Laurie | Williams | laurie.williams@sierraclub.org | Sierra Club | Environmental Law Program<br>1536 Wynkoop St Ste 200<br>Denver,<br>CO<br>80202 | Electronic Service | No | OFF_SL_21-339_21-339 |
| Patrick | Zomer | Pat.Zomer@lawmoss.com | Moss & Barnett PA | 150 S 5th St #1200<br>Minneapolis,<br>MN<br>55402 | Electronic Service | No | OFF_SL_21-339_21-339 |