STATE OF MINNESOTA
PUBLIC UTILITIES COMMISSION

Katie Sieben	Chair
Hwikwon Ham	Commissioner
Valerie Means	Commissioner
Joseph Sullivan	Commissioner
John Tuma	Commissioner

In the Matter of Otter Tail Power Company's 2023-2027 Integrated Resource Plan

Docket No. E017 / RP-21-339

SUPPLEMENTAL COMMENTS OF THE CLEAN ENERGY ORGANIZATIONS

April 3, 2024

TABLE OF CONTENTS

INDEX OF TABLES

INDEX OF FIGURES

INTRODUCTION

On December 15, 2023, Otter Tail Power ("Otter Tail," "OTP," or "the Company") submitted a supplemental filing which proposed a new resource plan, "Otter Tail's Minnesota Preferred Plan with AME," in lieu of the Company's March 2023 Supplemental Preferred Plan.[1] The Company's revised proposal includes several important changes: first, it proposes to change how Otter Tail does resource planning for its Minnesota customers by using state-specific modeling (which Otter Tail calls "bifurcated resource planning"); second, it proposes to shift the Minnesota portion of the Coyote Station coal plant (70 MW) to operate as an Available Maximum Emergency ("AME") resource starting in 2029; and third, it proposes a smaller overall package of renewable energy additions than before (150MW of wind and 200 MW of solar by 2032), and proposes that these resources should be wholly allocated to Otter Tail's Minnesota customers.[2] The Commission met to consider Otter Tail's resource plan on January 4, 2024, and determined that further record development on the new AME proposal was necessary.

In these Supplemental Comments, the Clean Energy Organizations ("CEOs") present an alternative plan which is identical to the Company's new AME Plan except that it replaces the Minnesota portion of Coyote Station with a 75 MW battery resource in 2029. This plan, referred to as the "Alternative CEO Plan with Battery," is cheaper than

[1] Otter Tail Power Company's Minnesota Preferred Plan with AME, Dec. 15, 2023 (hereinafter, OTP AME Filing), at 6-8.
[2] *Id.*

the Company's AME Plan on a PVRR basis, provides the same (and potentially more) winter accredited capacity, and is able to meet peak winter energy needs in every hour.

After a thorough analysis of AME, the CEOs find that it is no substitute for withdrawal from Coyote Station, is more expensive than alternatives, and is likely to only further prolong Minnesota's support of and reliance on the Coyote coal plant – with its contractual complexities, growing regulatory risk, and significant public health and climate damages. Weighing all the factors and nearly three years of record development in this case, CEOs continue to believe that the best course of action is the one laid out in our Initial Comments in September 2023: to plan now for exiting both of Otter Tail's coal plants—by 2028 for Coyote and by 2030 for Big Stone. This is the least-cost plan for Minnesota's Otter Tail customers and is what is required to meet U.S. and global emissions reduction standards. However, CEOs recognize that the issues surrounding Coyote Station are most urgent to resolve in this proceeding. Therefore, we recommend that in the alternative, the Commission approve the Alternative CEO Plan with Battery which consists of:

- At least 200 MW of solar resources as soon as feasible, wholly allocated to Minnesota (the model selects this resource in 2025);
- At least 150 MW of wind in 2026, but no later than 2029, wholly allocated to Minnesota;
- 75 MW of energy storage resources of at least four-hour duration by 2029, wholly allocated to Minnesota;
- Withdrawal from the Minnesota share of Coyote Station by December 31, 2028.

Summary of Argument

In Part I, CEOs demonstrate that the Company's modeling continues to show that a 2028 exit from Coyote Station is the best course of action for Minnesota customers, providing significant savings not achieved by AME. We also present EnCompass modeling of the CEO Alternative Plan with Battery which demonstrates that replacing the AME portion of Coyote with battery storage in 2029 would be cheaper overall for Otter Tail's Minnesota customers, would provide the same (and perhaps more) accredited capacity value, and can serve Otter Tail customers' winter peak demand in each hour.

In Part II, CEOs describe five concerns with the Company's AME plan: 1) the lack of evidence in the record showing that AME is in the public interest, especially compared to alternatives; 2) the overstated greenhouse gas reduction potential of AME; 3) the large ongoing costs of Coyote Station to Minnesota customers under AME; 4) the existence of cheaper alternatives for achieving the same capacity and emergency energy hedges; and 5) the lack of fallback plan should AME prove infeasible.

In Part III, CEOs argue that if the Commission approves the AME Plan, it should also make five important modifications to protect Minnesota customers. These include: 1) requiring that Otter Tail seek pre-approval for any large non-routine capital expense at Coyote Station; 2) conditioning approval of AME on agreement from Otter Tail to refund Minnesota customers any payments for AME later found to be unjust or unreasonable; 3) requiring reporting on the AME fatal flaw analysis and adopting a fallback plan; 4) ordering that AME start as soon as feasible, at least seasonally; and 5)

requiring that Otter Tail begin planning now for resources to replace Coyote Station by the end of 2031 at the latest.

In Part IV, CEOs explain why delaying a decision about an end date for Minnesota's involvement in Coyote Station would have both procedural and planning costs. This is true even if the Commission approves AME (which we do not recommend). The evidence in the record supporting an early exit from Coyote is abundant and clear. Deferring a decision on an end date for Coyote Station will only mean the Commission has to consider the same evidence and arguments again in the next resource plan—i.e., the prudence of a 2028 exit, the comparative advantages of AME versus exit, what is an appropriate exit date, the Company's complex contractual obligations, and more—on top of other pressing resource planning and energy transition issues that are sure to arise. Additionally, parties impacted by coal plant transitions can benefit from advance planning. It will be easier for Otter Tail, its customers, plant workers, and others to make a smooth transition to a decarbonized system if the Company is not faced with transitioning both coal plants simultaneously.

ARGUMENT

I. Withdrawing from Coyote Station by the End of 2028 Continues to Be a Better Option for Minnesota Customers Than Otter Tail's New AME Plan

After a thorough evaluation of Otter Tail's AME plan, CEOs have found that withdrawal from Coyote Station as soon as possible remains the best plan for Otter Tail's Minnesota customers. Otter Tail names several benefits of AME including: reduced

greenhouse gas emissions from the plant, avoiding most variable costs of Coyote station, and use of the MN share of Coyote as a capacity and emergency energy hedge. While each of these benefits is real, some are overstated. Moreover, this list does not capture the full picture of AME operations because it ignores some of the costs inherent in the AME proposal. Instead, CEOs' analysis shows that on balance, any net gains from AME are outweighed by the benefits of withdrawing from Coyote altogether. Consequently, in this section CEOs describe why we continue to recommend that the Commission approve a resource plan that includes withdrawal from Coyote Station by the end of 2028.

A. Otter Tail's New Minnesota Preferred Plan with AME Costs More Than Withdrawing from Minnesota's Share of Coyote in 2028 and More Than Ending AME in 2031, Based on Otter Tail's Own Modeling

AME should not be seen as a reasonable substitute for withdrawal from Coyote; it is in fact a means of delaying withdrawal, at a cost to Minnesota customers. The modeling provided by Otter Tail in this case shows clearly that AME is more costly than withdrawing from Coyote. Critically, AME is more costly in large part *because* it would delay the withdrawal or retirement of Coyote. The Company's modeling demonstrates that the longer that Minnesota ratepayers are tied to the plant, the more they will pay. This is not surprising as early withdrawal has consistently been lower-cost in Otter Tail's own modeling throughout this case. The introduction of AME does not change this ultimate conclusion but would simply delay the cost-saving strategy that Otter Tail should take: withdrawal from this plant.

In response to information requests from CEOs, the Company provided modeling results for several AME options. These modeling runs only evaluated the Minnesota portion of Otter Tail's system as opposed to modeling the entire Otter Tail territory, which was done in most of the previous modeling in this case. These recent Minnesota-only modeling runs explored the following options at Coyote:

- Operating Coyote as an AME resource from 2029 through 2040, then withdrawing/retiring Minnesota's share of the unit in 2040, which is Otter Tail's current proposal.[3]
- Operating Coyote as an AME resource from 2029 through 2031, then withdrawing/retiring Minnesota's share of the unit in 2031—to illustrate hypothetical compliance with EPA's proposed CO_2 regulations for existing power plants.[4]
- Withdrawing the Minnesota share of Coyote in 2028—similar to Otter Tail's original 2021 plan to withdraw from its entire share of Coyote.[5]

A review of the present value revenue requirements ("PVRR") from Otter Tail's modeling of these options shows that customer savings increase with earlier Coyote withdrawal. Table 1 below shows the incremental costs of operating Coyote as an AME resource compared to withdrawal in 2028. Otter Tail's modeling shows that its proposed plan of operating Coyote on AME from 2029 through 2040 is $70 million more costly than its 2028 Minnesota-only withdrawal plan. The shorter, modified AME plan where the Company withdraws from/retires Coyote in 2031 is $25 million more expensive than withdrawal in 2028 but $45 million cheaper than Otter Tail's proposed AME Plan. The

[3] OTP response to CEO IR 90, Attachment 8. OTP's plan does still seek to withdraw from Coyote in the event of a "large non-routine capital investment."
[4] OTP response to CEO IR 90, Attachment 17.
[5] OTP response to CEO IR 90, Attachment 10.

primary take-away from these results, which again, come directly from the Company's modeling, is that the longer Minnesota customers are involved in Coyote Station, the more they will pay for electricity.

Table 1: Minnesota Customers' Costs of Coyote Plans (PVRR, $mil, excluding CO_2 regulatory costs)[6]

	No AME, withdraw 2028	AME 2029-2031, then withdraw	AME 2029-2040, then withdraw
Portfolio PVRR (2023-2050, $mil)	$1,249	$1,274	$1,319
PVRR compared to 2028 withdraw (2023-2050, $mil)		+$25	+$70

For further detail, the annual revenue requirements of these three plans are illustrated in the figure below. The graph shows clearly the incremental costs of AME operations at Coyote during the duration of those operations. But there is also a notable drop in customer costs (annual PVRR) in the years corresponding to each plan's assumed withdrawal or retirement of the Minnesota share of Coyote Station: 2028, 2031, and 2040.

[6] OTP response to CEO IR 90, Attachments 8, 10, and 17 – Trade Secret.

Figure 1: Minnesota Customers' Annual Costs Under Various Coyote Scenarios ($mil)[7]

[TRADE SECRET DATA BEGINS

TRADE SECRET DATA ENDS]

Overall system costs are lower in plans with a Coyote withdrawal date simply because the earlier the unit is replaced, the more cost-effective it is. This finding is consistent with Otter Tail's and CEOs' modeling throughout this case. Plans using AME are generally more expensive simply because they delay the withdrawal and replacement of Coyote—and the longer the delay, the higher the costs. As we will discuss later in these comments, AME is also more costly than alternatives because Minnesota customers would forego all or most energy market revenue at the plant, but still pay the same fixed costs as if that portion of the plant were operating. CEOs believe there are better options available to Minnesota customers.

[7] Derived from OTP response to CEO IR 90, Attachments 8, 10, and 17 – Trade Secret.

B. Replacing the Minnesota Share of Coyote Station with 75MW of Battery Resources in 2029 Is Cheaper than AME, Provides the Same Resource Adequacy Value, and Is Much More Aligned with Minnesota Policy

Otter Tail's Minnesota-allocated share of Coyote is approximately 70 MW ("UCAP"). Shifting this portion of the plant to AME allows Otter Tail to continue to rely on that *capacity* without dispatching it for *energy* purposes, except in emergencies.[8] Thus, AME is primarily acting as a capacity resource in Otter Tail's plan. CEOs sought to evaluate whether a similarly sized battery resource could provide the same capacity benefits at lower cost, or whether the AME plan had a cost advantage. We found that replacing the Minnesota share of Coyote station with 75 MW of battery resources is cheaper on a PVRR basis – without considering either externalities or the regulatory cost of carbon. This path would also make use of a valuable surplus interconnection opportunity on Otter Tail's Minnesota system.

1. Present Value of Revenue Requirements Comparison

In order to directly evaluate the cost and capacity value of a resource plan using AME versus a resource plan using a similarly-sized battery, CEOs asked our experts at Energy Futures Group ("EFG") to develop a plan with all the same resource additions as Otter Tail's Minnesota Preferred Plan with AME, except that the CEO version includes a withdrawal from the Minnesota portion of Coyote at the end of 2028 and adds 75MW of battery resources in 2029. We call this the "Alternative CEO Plan with Battery." Table 2

[8] OTP AME Filing at 3-5.

from the accompanying EFG Report (copied below) compares the modeling assumptions in each run.

Table 2. Modeling Changes

Modeling Changes	**OTP Preferred Plan with AME**	**Alternative CEO Plan with Battery**
Add 200MW surplus solar in 2025	✓	✓
Add 100MW generic wind in 2026	✓	✓
Add 50 MW generic wind in 2029	✓	✓
CEO renewable and battery storage cost assumptions	✓	✓
Revised curtailment costs	✓	✓
Battery storage with minimum capacity	✓	✓
Withdraw from Coyote after 2028	-	✓
Minnesota portion of Coyote withdraw costs	-	✓
Production cost modeling	✓	✓
Add 50 MW of surplus battery in 2029	-	✓
Add 25 MW of generic battery in 2029	-	✓

CEOs modeled 50MW of the battery additions as a surplus battery resource based on the information provided by Otter Tail in its Supplemental Preferred Plan about surplus and replacement interconnection opportunities on its system.[9] The remaining 25MW we assumed to be a generic battery addition. All of the batteries are assumed to have a four-hour duration for the purposes of modeling.

EFG used the renewable and battery cost forecasts developed by Applied Economics Clinic for CEOs' Initial Comments, which used Otter Tail's "High Price" forecast until 2026 and then assumed prices would gradually correct toward the long-

[9] OTP Response to CEO IR 76; OTP Supplemental IRP, Mar. 31, 2023, at 7, resource build for "Base Case."

term "Conservative" (i.e., high price) forecast from the National Renewable Energy Laboratory's 2022 Annual Technology Baseline ("NREL ATB").[10] As we noted in our initial comments, this price forecast is quite conservative, contrary to some statements of other parties in this docket. In the near term, CEOs' forecast is higher than Otter Tail's own base assumptions for wind, solar, or storage costs.[11] Starting in 2027, we assume prices begin to rebalance from pandemic highs, but we do not assume that prices decline back to NREL's base forecast, but to NREL's "Conservative" (i.e., high-price forecast).

Specifically, the batteries that come in service in 2029 under the Alternative CEO Plan with Battery are modeled, after tax credits, at $8.33/kW-month (for surplus resources which also receive the energy community tax credit bonus) and $10.22/kW-month (for generic with interconnection costs). This uses Otter Tail's assumption that battery interconnection costs will average $1.14/kW-month.[12] We also used Otter Tail's assumptions for wind and solar interconnection costs.[13]

EFG's EnCompass results demonstrate that the Alternative CEO Plan with Battery is slightly cheaper on a PVRR basis than Otter Tail's Preferred Plan with AME, even before considering either externalities or the regulatory cost of carbon. The cost difference is not large – 1.6% – but demonstrates that replacing Coyote's capacity MW-for-MW with a battery is likely to be cost-neutral or result in cost savings for customers while at the same time shifting to a carbon free resource that will deliver long-term reliability benefits.

[10] CEOs' Initial Comments Attachment 1: EFG Report, Sept. 13, 2023, section 1.1.1.
[11] CEOs' Initial Comments Attachment 1: EFG Report, Sept. 13, 2023, Figures 1, 2, and 3.
[12] OTP Response to CEO IR 77.
[13] CEOs' Initial Comments Attachment 1: EFG Report, Sept. 13, 2023, at 6.

Table 3 of the attached EFG Report is reproduced below, showing the PVRR results comparison.

Table 3. Present Value of Revenue Requirements Excluding CO_2 Regulatory Costs[14]

Plan	PVRR ($000)
OTP Preferred Plan with AME	$1,446,232
Alternative CEO Plan with Battery	$1,423,420

2. Batteries Provide the Same or Improved Winter Capacity Accreditation

Replacing the Minnesota share of Coyote station with battery storage will maintain *or increase* Otter Tail's winter season accredited capacity as compared to using Coyote as an AME resource. Table 4 below summarizes information from EFG Report Tables 4 and 5 and compares winter season accredited capacity under the two plans, utilizing the accreditation assumptions in Otter Tail's modeling which use the current seasonal methodology. The two plans are identical until 2029, and in that year Otter Tail's AME Plan has 555 MW of accredited winter capacity, while the Alternative CEO Plan with Battery has 554 MW.

Table 4. Winter Season Accredited Capacity (MN Portion of OTP System, MW)

	2025	2026	2027	2028	2029	2030	2031	2032
OTP AME Plan	516	556	557	558	555			
Alt. CEO Plan with Battery	516	556	557	558	554			

[14] CEOs modeled our Alternative CEO Plan with Battery without CO_2 regulatory costs to facilitate comparison with the OTP Preferred Plan with AME, which Otter Tail modeled without CO_2 regulatory costs.

As the Commission knows, however, MISO is shifting toward a new methodology for calculating resource accreditation called its "direct loss of load" ("DLOL") method. Based on information presented by MISO at the most recent Resource Adequacy Subcommittee ("RASC") meeting on February 28, 2024, it appears likely that battery storage will receive *higher* accredited capacity than coal resources in the winter season under the DLOL method. Table 5 shows resource class-level accreditations under MISO's final DLOL proposal for the current planning year (PY23-24), as presented at the February 28 RASC. This shows that under the new DLOL method, storage resources would receive 91% class-average accreditation today, compared to 73% for coal. In other words, each MW of battery resources, on average, would provide 25% more winter accredited capacity than each MW of coal. For comparison, our 75MW of battery resources would provide approximately 68MW of accredited winter capacity, while a 70MW coal resource would provide 51.1MW.

Table 5: Resource Accreditations: Current vs. Proposed DLOL Method[15]

PY23-24	Summer		Fall		Winter		Spring	
Resource Class	Current*	Proposed	Current	Proposed	Current	Proposed	Current	Proposed
Gas	90%	88%	84%	88%	79%	66%	84%	69%
Combined Cycle	91%	90%	94%	89%	90%	74%	92%	75%
Coal	92%	91%	91%	88%	90%	73%	89%	74%
Hydro	96%	96%	94%	96%	93%	92%	97%	88%
Nuclear	95%	90%	96%	85%	95%	86%	92%	80%
Pumped Storage	99%	98%	91%	98%	94%	50%	89%	67%
Storage	95%	94%	95%	93%	95%	91%	95%	95%
Solar	45%	36%	25%	31%	6%	2%	15%	18%
Wind	18%	11%	23%	15%	40%	16%	23%	16%
Run-of-River	100%	100%	100%	100%	100%	100%	100%	100%

[15] MISO Resource Adequacy Subcommittee (RASC), Market Redefinition: Accreditation Reform, presented to MISO RASC Meeting Feb. 28, 2024, at slide 33. https://cdn.misoenergy.org/20240228%20RASC%20Item%2005a%20Accreditation%20Presentation%20RASC-2020-4%202019-2631885.pdf

The numbers in Table 5 are class averages for the current planning year, and are not meant to be definitive. The new DLOL method will not take effect until the 2028-29 planning year (beginning June 2028) so that utilities, market participants, and states have three years to better understand the changes and make adjustments to their resource portfolios if needed.[16] However, it is quite important to take these indicative numbers into account. In the current environment of uncertainty, particularly regarding accreditation changes at MISO, coal resources are not necessarily a "safe bet."

The changes to resource accreditation being proposed by MISO that are reflected in Table 5 are made by more precisely accounting for resource availability during hours of system risk. We can see that MISO expects significant declines in accreditation for thermal resources in the winter months: the gas, combined cycle, and coal categories all drop to approximately 80% of their previous accreditation level. This reflects the reality that MISO (and all other regions of the country) has seen significant challenges with thermal plant reliability during winter storms and risk hours.[17] PJM Interconnection found that during Winter Storm Elliot in December 2022, gas plants accounted for 70% of forced outages, coal plants accounted for 16%, and the remaining 14% of outages were

[16] *Id.* at slide 17.

[17] See for example, MISO Report The February Arctic Event: February 14-18, 2021 (https://cdn.misoenergy.org/2021%20Arctic%20Event%20Report554429.pdf); FERC-NERC Report The February 2021 Cold Weather Outages in Texas and the South Central United States, Nov. 2021 (https://www.ferc.gov/media/february-2021-cold-weather-outages-texas-and-south-central-united-states-ferc-nerc-and); and FERC-NERC Report Inquiry into Bulk-Power System Operations During December 2022 Winter Storm Elliott, Oct. 2023 (https://www.ferc.gov/media/winter-storm-elliott-report-inquiry-bulk-power-system-operations-during-december-2022).

from all other resources.[18] Diversification of fuel types in Otter Tail's portfolio, particularly those that provide winter capacity, would be a positive risk mitigation step for the Company's customers.

3. Batteries Provide Winter Peak Energy Availability

CEOs also evaluated whether 75MW of four-hour batteries would provide sufficient energy adequacy on peak winter days. Similar to the analysis performed for our Initial Comments, EFG did a close examination of the hourly dispatch of Otter Tail's system (in this instance, just the Minnesota portion) on the peakiest winter days in 2029 (the year following withdrawal from Coyote in our plan). EFG found four peak days in January 2029. In each of them, Otter Tail is able to meet the energy needs of its Minnesota customers with owned resources in every hour under the Alternative CEO Plan with Battery.

The attached EFG report provides illustrations of two of these days, copied below as Figures 2 and 3. These figures include a peak day with strong renewable energy generation (January 12, 2029) and a peak day with low renewable energy generation (January 26, 2029). On January 12, strong wind and solar generation reduce dispatch from Otter Tail's gas fleet, and the battery is able to charge mid-day. On January 26, with less wind and solar, we see more dispatch from the gas fleet and both the battery and demand response resources help to meet mid-day energy requirements. In both cases, Otter Tail

[18] PJM Interconnection, Winter Storm Elliot Event Analysis and Recommendation Report, July 17, 2023, at 49. https://pjm.com/-/media/library/reports-notices/special-reports/2023/20230717-winter-storm-elliott-event-analysis-and-recommendation-report.ashx.

is able to meet hourly Minnesota energy requirements with just the portions of its resources attributable to Minnesota customers.

Figure 2. Hourly Demand and Generation on January 12, 2029

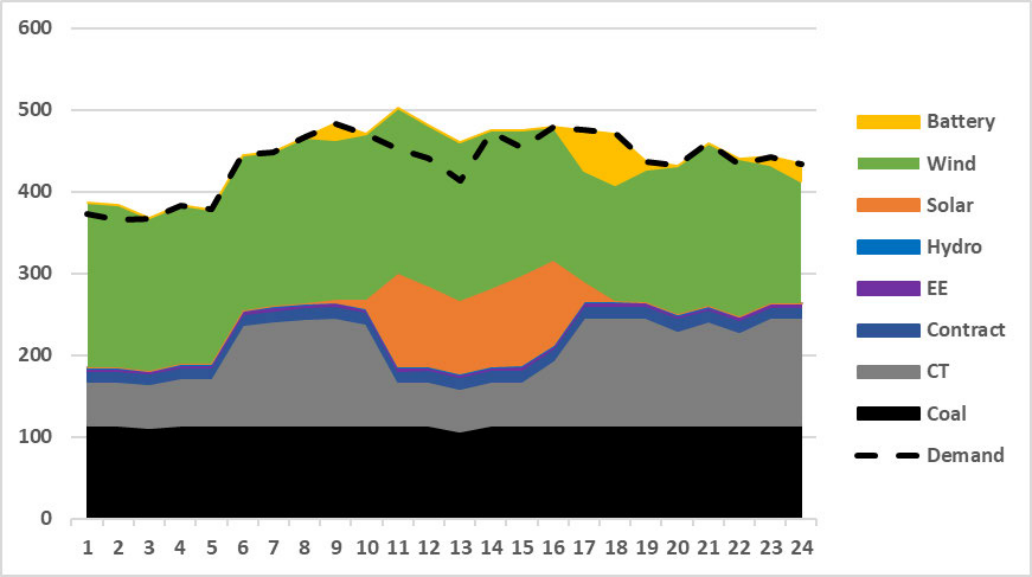
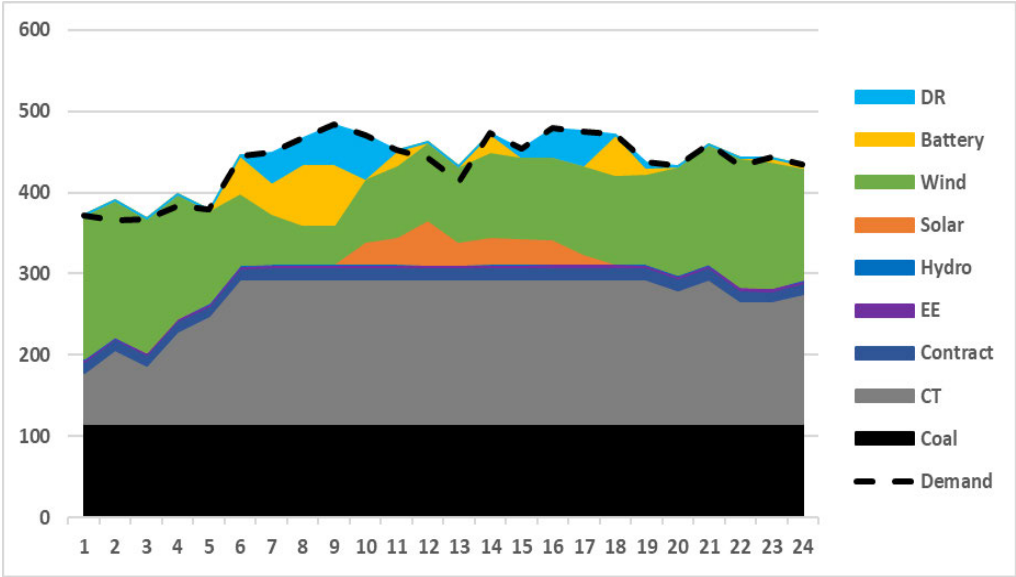


Figure 3. Hourly Demand and Generation on January 26, 2029



4. Replacing Coyote's Capacity with Batteries Is Aligned with Minnesota Policy

Replacing the Minnesota share of Coyote Station with battery resources is significantly more aligned with Minnesota state policy than Otter Tail's Preferred Plan with AME. Minnesota's newly enacted Carbon Free Standard requires electric utilities to supply their Minnesota customers with 100% carbon free power by 2040,[19] and the state has adopted a goal of net-zero greenhouse gas emissions economy-wide by 2050.[20] There is a clear and strong state policy preference for carbon free resources. While designating the Minnesota share of Coyote as an AME resource would reduce some emissions, there is a zero-carbon alternative that is cheaper, provides energy adequacy in peak winter conditions, and which may provide *more* accredited capacity in the winter season than Coyote.

There is also an understanding in Minnesota that the electric sector needs to add significant volumes of energy storage this decade in order to decarbonize reliably and affordably. At the legislature's request, the Minnesota Department of Commerce recently completed a study evaluating the level of energy storage required to achieve the state's policy goals.[21] The study found that Minnesota utilities will need between 1.35-2.8 GW

[19] Minn. Stat. § 216B.1691, subd. 2g.
[20] Minn. Stat. § 216H.02, subd. 1.
[21] Siemens PTI, Energy Storage System Capacity Study Report, prepared for the State of Minnesota, Mar. 1, 2024, available at: https://www.lrl.mn.gov/docs/2024/mandated/240414.pdf.

of energy storage to achieve carbon free electricity by 2040.[22] While Xcel, Minnesota Power, and GRE have plans to acquire up to 1.3 *GW* of battery resources by 2030, Otter Tail's Minnesota Preferred Plan with AME includes 0 MW of batteries. Shifting away from Coyote and replacing that capacity with energy storage gives the Company an opportunity to advance customer interests, diversify its portfolio, improve the Company's alignment with state policy, all at the same or lower cost. It also gives Otter Tail experience acquiring and operating a resource type that we know will be increasingly critical, and that unlike Coyote will be relevant beyond 2040, putting the Company in a better position for ongoing decarbonization. Adding battery resources and phasing out Minnesota customers' use of coal power is exactly what Minnesota clean energy policies are asking utilities to do.

C. The Commission's Choice of How to Handle Minnesota's Share of Coyote and New Minnesota-Only Resources Does Not Require Approval of Bifurcation as the New Default Planning Practice

In Otter Tail's December 15, 2023, filing, it proposes to "prospectively plan to serve its Minnesota customers with resources dedicated to and recovered solely from Minnesota customers and serve its other jurisdictions with resources dedicated to and recovered from those jurisdictions."[23] It goes on to propose that it "pursue a bifurcation

[22] Walker Orenstein, Minnesota Utilities Hope Surge of Big-Scale Batteries Helps Transition to Clean Energy, Star Tribune, Mar. 21, 2024, available at: https://www.startribune.com/minnesota-utilities-are-betting-on-big-scale-batteries-to-ease-transition-to-clean-energy/600352906/.
[23] OTP AME Filing at 3.

model for generation resources while maintaining a unified distribution and transmission system in the interest of its customers."[24]

CEOs agree that there are benefits to bifurcated planning for the purposes of Coyote and the new carbon free resources proposed by both Otter Tail and CEOs. However, we do not believe that approval of a resource plan with these components needs to result in bifurcation of the planning process from here on out, as Otter Tail suggests. Indeed, it will remain helpful for Otter Tail to provide modeling on system-wide resource needs, even if the Commission agrees that certain new carbon free resources may need to be state-specific. System-wide modeling can provide a baseline for the Commission and parties to understand the scale of need overall, and the most cost-effective tools to achieve it. If concerns about jurisdictional cost allocation persist, system-wide modeling can be compared with state-specific modeling that more accurately reflects state policy.

To resolve this issue in this IRP, CEOs suggest that the Commission direct Otter Tail to engage with the Department of Commerce and other parties prior to the filing of its next IRP to discuss how best to ensure a resource plan that recognizes the ongoing jurisdictional differences between the states but that also provides complete information regarding the Company's resource needs and planning direction. Today's jurisdictional differences may diminish with changing economics and regulations, and current policy

[24] *Id.*

differences should not dictate planning that overlooks the potential for multi-state resource decisions.

II. The AME Proposal Carries Potentially Substantial Risks and Uncertain Benefits

A. The Evidence in the Record Supporting AME Is Insubstantial

Otter Tail's Preferred Plan with AME, filed December 15, 2023, contained no modeled analysis of the financial, environmental, or reliability impacts of the AME plan as compared to the other plans that Otter Tail itself or CEOs have put forward. Otter Tail provided CEOs a preview of its interest in utilizing AME in November, which we appreciate. However, the December filing did not answer many of the concerns and questions CEOs flagged about AME's costs and benefits. Given that the AME plan includes several novel approaches to resource planning and operations (at least novel for Minnesota), CEOs believe the proposal demands greater scrutiny rather than less. Otter Tail's AME filing left critical questions unanswered, including:

- What would be the actual GHG emission reductions from AME using an 8760 analysis rather than a rough estimate?
- What would be the actual costs to Minnesota ratepayers of continuing to operate Coyote as an AME resource while replacing its energy generation?
- How would the costs compare to withdrawing from Coyote and obtaining the same capacity value in another way?
- How would the AME plan address the regulatory risk Otter Tail's customers face from continuing to depend on Coyote?
- What happens if the AME plan is approved by the Commission, but it is subsequently determined that it cannot be implemented?
- Could AME status reasonably start sooner than 2029?
- When should the AME status end?
- Would Otter Tail need the capacity hedge from both the AME status at Coyote and the LNG addition to Astoria?

- What are the broader implications of the system "bifurcation" represented by the AME plan?

Since December, CEOs and other parties have worked to obtain answers to some of these questions through information requests, and Otter Tail has provided additional modeling in response to these requests. However, nowhere has Otter Tail compared its AME Plan to its 2040 Preferred Plan or 2028 Preferred Plans under constant modeling assumptions (as noted in Otter Tail's Response to PUC IR 3), which makes it challenging to compare modeling results in this phase of the proceeding with modeling that took place in 2023.

As such, CEOs determined that the best approach for comparing Otter Tail's AME Plan to alternatives was to utilize Otter Tail's updated assumptions for the Minnesota-only modeling, including its changed load forecast and updated planning reserve margin requirements.[25] When CEOs did that modeling, as discussed previously in Part I, it showed that AME is more costly than withdrawal, even if we replace the Minnesota portion of Coyote Station MW-for-MW with a battery resource.

CEOs believe the lack of quantitative evidence on the record supporting AME is striking when compared to the robust record supporting withdrawal from Coyote. And even though in its December 15, 2023, filing Otter Tail does estimate certain costs and benefits of the AME proposal, the filing overestimates the benefits, underestimates the costs, does not evaluate cheaper capacity alternatives, and offers no back-up plan if AME

[25] OTP Response to CEO IR 90; OTP Response to CEO IR 102.

proves infeasible. In sum, we do not believe there is a sufficient or reliable record on which to approve Otter Tail's AME Plan as explained further below.

B. Otter Tail is Overestimating the GHG Reductions from AME

Otter Tail's AME Filing overstates the generation and greenhouse gas reductions that can be expected to occur as a result of shifting to AME operations at Coyote. Otter Tail states that, under AME, Coyote's annual generation would be reduced by roughly 400,000 MWh resulting in 488,000 fewer tons of CO_2 emitted.[26] The Company arrived at this calculation by assuming that the share of the plant utilizing AME commitment (70 MW) would have operated at a 65 percent capacity factor.[27] Sixty-five percent is a reasonable estimate of the plant's actual historical capacity factor, but it is not accurate to apply it to the AME share of the unit. The Company's calculation implicitly assumes that the whole plant's generation *in each hour* would be reduced by approximately 16% (i.e., the share of the plant on AME).[28] However, based on this record and Otter Tail's descriptions of AME operations, that is not how Coyote's AME status would work in practice. Otter Tail and its co-owners offer their respective shares of Coyote into the MISO and SPP markets as "individual, separate, and distinct generators."[29] Under its AME plan, Otter Tail would offer 70 MW of its share into the market as an AME resource, while

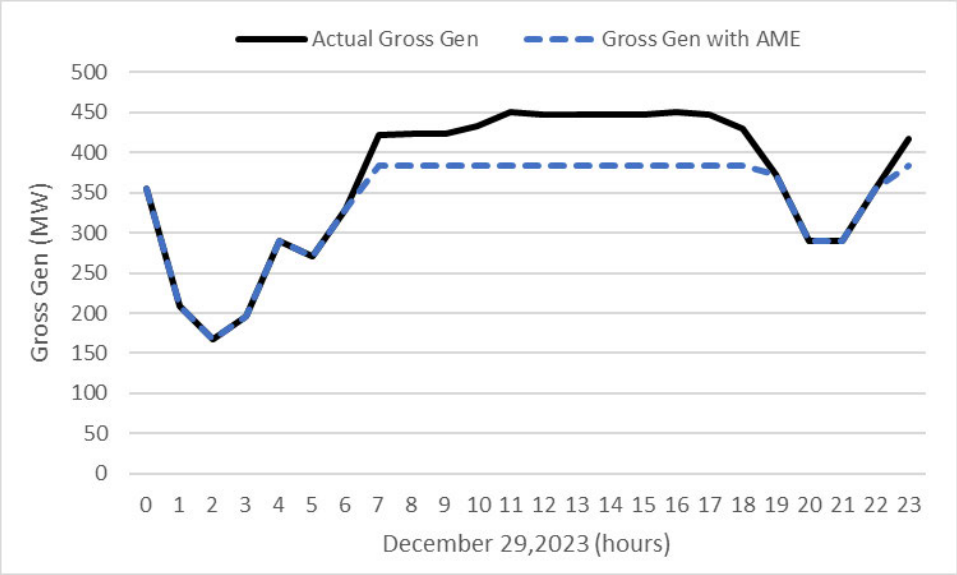
[26] OTP AME Filing at 5.
[27] The calculation of generation is: 70 MW * 8760 hours * 65% capacity factor = 398,580 MWh.
[28] Coyote nameplate capacity 427 MW * 35% OTP ownership stake * 46.6% MN allocation = 16.3% of the unit.
[29] OTP Supplemental Resource Plan, Mar. 31, 2023, at 34.

offering approximately 80 MW (the Dakotas' share of Coyote) as normal.[30] To our knowledge, Otter Tail's AME proposal would not impact the MW offered by other co-owners. Thus, AME would impose a maximum MW threshold (or cap) at approximately 357MW (427 MW - 70 MW) above which the plant would not operate unless in an emergency designated by MISO.[31] This means that if the plant were already generating at a level below the maximum threshold, AME would not lead to any reduction in that hour. AME would only reduce generation and emissions at Coyote if the plant would have operated *above that cap* without AME in place.

Essentially, AME shaves the maximum output of the plant during high operating hours—*not during all hours* of operation at Coyote. To get a sense of the impact of AME in practice, we have reviewed historical hourly gross generation at the plant and modeled what the generation would have been if AME had been in place. As an example, shown below in Figure 4, on December 29, 2023, the plant's generation under AME would have been capped between 7 am and 7 pm and again at 11 pm on that day; but its output would not have changed in other hours because the cap was not reached.

[30] OTP AME Filing at 5.
[31] See the exchange between OTP and Commissioner Ham during the Jan. 4, 2024, PUC Agenda Meeting at minute 1:29:00-1:30:45, https://minnesotapuc.granicus.com/player/clip/2305.

Figure 4: Example of Daily Generation under AME, December 29, 2023 (Gross MW)[32]



As a further illustration, when imposing AME on historical years of operational data, we find the practice would result in fewer reductions in generation and emissions than Otter Tail estimates, as shown in Table 6. When incorporating the AME threshold on actual generation in 2021 through 2023, we find that AME would have led to an average annual reduction of 224,907 MWh and 277,517 tons of CO_2—compared to Otter Tail's calculated reductions of 400,000 MWh and 488,000 tons, respectively. Thus, we find that the Company's calculation likely overstates the GHG reductions of AME by over 40 percent.

[32] Derived from EPA Clean Air Markets Division ("CAMD"), available at: https://campd.epa.gov/data/. This shows gross generation which was assumed to be limited by 80 MW, the equivalent of 82.5% of the gross generation at Coyote to represent a reduction of 17.5% for OTP's Minnesota share in the plant.

Table 6: Impacts of AME on Net Generation and Emissions (MWh, tons)[33]

	2021	2022	2023	Avg
Historical generation (Net MWh)	2,464,159	2,266,741	2,578,423	
Historical with AME	2,253,435	2,040,835	2,340,332	
Change due to AME	*-210,724*	*-225,906*	*-238,091*	*-224,907*
% change due to AME	*-9%*	*-10%*	*-9%*	*-9%*
Historical CO2 emissions (tons)	3,058,364	2,787,971	3,209,506	
Historical with AME	2,796,418	2,512,453	2,914,419	
Change due to AME	*-261,946*	*-275,518*	*-295,087*	*-277,517*
% change due to AME	*-9%*	*-10%*	*-9%*	*-9%*

Otter Tail's analysis of the impacts of AME assumes that it would reduce generation and emissions at all hours of operation, in proportion with the share of the plant on AME (approximately 16.3% of the plant). But in reality, the practice would only lead to reductions in hours of high output. Otter Tail's assumption would only make sense if the plant operated at maximum output in all hours of operation—which is not realistic. The impacts of AME on the plant's operations are, therefore, far more muted than the Company suggests in its proposal.

C. Minnesota Customers Would Still Pay Significant Operational Costs for Coyote Under Otter Tail's AME Plan

Otter Tail's description of its AME plan focuses on the variable cost savings that result from the reduced operations of the Minnesota portion under AME.[34] However, there is more to consider in order to understand the cost implications for Minnesotans.

---

[33] *Id.* Net generation from Energy Information Administration ("EIA"), available at: https://www.eia.gov/electricity/data/browser. Gross generation data from EPA CAMD was reduced to net by taking the annual ratio of net-to-gross generation. CO_2 emissions were reduced using the CAMD data on actual emissions and adjusting them in proportion to the reduced generation in each hour.

[34] OTP AME Filing at 7.

The plant does not directly serve Otter Tail's customers' energy needs—it serves the MISO market at-large. Minnesota customers pay their share of the plant's fixed and variable costs and receive their share of the energy, capacity, and ancillary services revenue which act as a credit against the fuel charge on their bills. Unfortunately for Minnesotans, AME operations will actually lead to higher net costs at Coyote because customers would continue to pay the plant's high fixed costs but would forgo the credit of energy and ancillary services revenue they would otherwise receive. This loss in energy market revenue under AME is not directly addressed by the Company in its December AME filing.

In addition to reviewing the portfolio costs of different options at Coyote (as previously discussed), we have also reviewed the operational costs and revenues at the plant itself from the Company's own modeling. As shown in Figure 5 below, under the Company's AME proposal the unit's variable costs and revenues disappear starting in 2029 because the unit is not modeled as operating at all during AME—it is purely a capacity resource unless there is an emergency event (which are rare and hard to predict). Thus, the variable costs and energy revenues from the plant are likely to be near zero starting in 2029. At that point, fixed costs are the only costs remaining and **[TRADE SECRET DATA BEGINS TRADE SECRET DATA ENDS]** throughout the period. Under the AME proposal, customers would indeed save on variable costs at the plant including fuel and variable O&M. However, customers would not receive any offsetting energy revenue from sales of Coyote's generation to the MISO market because of AME. Our analysis shows that losing those projected revenues means

that on net, Minnesotans would be paying more for AME operations than at present, not less.

Figure 5: Operational Costs at Coyote, AME 2029-2040[35]

[TRADE SECRET DATA BEGINS

TRADE SECRET DATA ENDS]

Under the shortened AME plan (2029 through 2031) that CEOs asked Otter Tail to model (shown in Figure 6 below) the values are **[TRADE SECRET DATA BEGINS TRADE SECRET DATA ENDS]**. For the years of AME operation (2029-2031), Otter Tail assumed **[TRADE SECRET DATA BEGINS TRADE SECRET DATA ENDS]**. Otter Tail appears to have assumed the unit would retire due to EPA's 111(d) rule in this scenario, therefore the fixed costs incurred at the unit **[TRADE SECRET DATA BEGINS**

[35] Derived from OTP response to CEO IR 90, Attachment 8 – Trade Secret.

TRADE SECRET DATA ENDS]. The main driver of cost savings is an earlier withdrawal or retirement of Coyote, as we have previously shown. Also, the **[TRADE SECRET DATA BEGINS TRADE SECRET DATA ENDS]** modeled may not materialize if the plant is not retired but rather only withdrawn from by Minnesota. In this shorter AME scenario, fixed costs **[TRADE SECRET DATA BEGINS TRADE SECRET DATA ENDS]** due to exit or retirement. (These figures do not include non-operational expenses such as undepreciated net book value.)

Figure 6: Operational Costs at Coyote, AME 2029-2031[36]

[TRADE SECRET DATA BEGINS

TRADE SECRET DATA ENDS]

[36] Derived from OTP response to CEO IR 90, Attachment 17 – Trade Secret.

The costs of Coyote 2028 withdrawal at the plant are shown below in Figure 7. In this scenario, the total costs and revenues are **[TRADE SECRET DATA BEGINS TRADE SECRET DATA ENDS]** through 2028, and both sides of the equation disappear after 2028.

Figure 7: Operational Costs at Coyote, 2028 Withdrawal[37]

[TRADE SECRET DATA BEGINS

TRADE SECRET DATA ENDS]

This analysis shows the Company's AME proposal effectively asks Minnesota customers to continue paying high fixed costs at a plant that would act as a capacity-only resource while simultaneously forgoing energy revenues except in limited emergency hours. The Company's proposal does not address this lost revenue, instead focusing on the variable cost savings. CEOs' analysis indicates that AME is a rather costly way to provide capacity and reduced emissions for Otter Tail's Minnesota system. If instead,

[37] Derived from OTP response to CEO IR 90, Attachment 10 – Trade Secret.

Coyote is replaced in the Company's portfolio with a clean resource, Minnesota customers could benefit from emission reductions *while* investing in a resource that has energy market revenues as well as capacity value.

It is also important to put the incremental cost of AME (lost energy revenue) in the context of the Company's full proposal, which asks Minnesota customers to pay for AME, the entire cost of 350 MW of renewable energy projects, and the Minnesota share (46.6%) of the on-site LNG storage proposal at Astoria. Both CEOs' and Otter Tail's modeling indicates that the renewable additions are likely to be a good investment for Minnesota customers and will lower overall system costs (i.e., these additions are selected when the model optimizes for the lowest PVRR). However, neither AME or the Astoria LNG project have similar revenues that would offset their costs; they are intended as hedges or "insurance" against capacity and energy risk. However, Otter Tail has not demonstrated why it is necessary, or why it will on net benefit Minnesota customers, for the Company to acquire two insurance policies at the same time.

D. The Net Costs of AME Are Far Higher Than Alternative Capacity Resources

As stated earlier, the primary function of AME is to act as a capacity resource, as it allows Otter Tail to continue to utilize the accredited capacity of this portion of the plant without operations in the energy market except for in MISO-designated emergency events. AME provides a secondary benefit as an emergency energy hedge as Otter Tail states in its December 15, 2023, filing, "[t]his solution retains the capacity and the

emergency energy hedge that Coyote Station currently provides Minnesota customers."[38] As discussed earlier in this section, Otter Tail did not examine alternative capacity hedges or clean dispatchable technology options against which AME could be compared. A comparison against alternatives is a crucial step in any resource procurement and is one of the primary purposes of an IRP. The lack of record development on this point is a serious concern for CEOs. We believe Otter Tail's assertion that AME is in the public interest is unsupported since the Company did not compare AME to other capacity hedge or resource options.

Below, CEOs compare the cost of continuing to operate 70MW of Coyote Station as an AME resource against a range of capacity resources or hedges available to the Company: 1) MISO's annual Planning Reserve Auction ("PRA"), 2) the cost of constructing a new combustion turbine ("CT") represented by the MISO-designated Cost of New Entry ("CONE"), 3) a recent capacity purchase made by Otter Tail, and 4) the cost of new four-hour lithium-ion batteries. Table 7 below shows that AME is the most expensive of these options by a significant margin.

Table 7: Comparison of Capacity Resource Costs

Capacity Resource	Cost	Limitations
MISO's annual Planning Reserve Auction (PRA) clearing price PY 2023-34	Avg: $9.25/MW-day Summer: $10/MW-day Fall: $15/MW-day Winter: $2/MW-day Spring: $10/MW-day	Uncertain year to year. Typically clearing prices have been below $10/MW-day, but in 2022 the PRA cleared at CONE.

[38] OTP AME Filing at 5.

Cost of New Entry (CONE) for Zone 1 PY2023-24[39]	$341/MW-day ($124,541/MW-yr)	The maximum clearing price for the MISO PRA, set annually in each MISO zone based on estimated cost of constructing a new CT unit.
Recent OTP Bilateral Contract	**[TRADE SECRET DATA BEGINS** **TRADE SECRET DATA ENDS]**	Data from an actual capacity purchase Otter Tail made in 2021. OTP has not purchased or sold capacity since 2021.[40]
Lithium Ion Battery	$336/MW-day	This price is the MW-day equivalent of $10.22/kW-month, the 2029 price used in CEOs' forecast for generic four-hour energy storage resources (after base tax credits, and including interconnection costs).
Coyote AME 2029	**[TRADE SECRET DATA BEGINS** **TRADE SECRET DATA ENDS]**	Range calculated using the daily, per MW cost of the 2029 MN share of Coyote plant *expenses* under AME (low end), and estimated 2029 MN *revenue requirements* under AME (high end). [41]

Of course, this is not meant as a comprehensive evaluation of costs and benefits of these resources; some of these capacity resources have trade-offs that are not shown in the table or may provide additional attributes (e.g., batteries and CTs provide energy and ancillary services) that have value. Notably, the costs of AME at Coyote are high in part because it is *not* expected to have significant energy or capacity revenue that could offset

[39] MISO Filing Regarding Local Resource Zone CONE Calculation, submitted to FERC Oct. 5, 2023. https://cdn.misoenergy.org/2023-10-05%20CONE%20Annual%20Filing630452.pdf.
[40] Otter Tail Response to CEO IR 92 – Trade Secret.
[41] Calculated using Otter Tail response to CEO IR 95, Attachment 2 – Trade Secret.

the costs shown above. Even if Otter Tail offers this 70MW into the PRA, revenues in most years are not likely to significantly change the cost picture: as noted above, typical clearing prices in the PRA are below $10/MW-day. It is certainly *possible* prices will increase, but to our knowledge there is no evidence or modeling demonstrating so.

Otter Tail notes that AME will also provide a market price hedge for Minnesota customers during emergency events when prices are high. This is true. However, the number of hours the plant would be dispatched to serve a MISO-designated emergency is likely to be very small, and therefore these emergency revenues (e.g., the value of the hedge) is likely to be small. Otter Tail notes in response to CEO IR 107:

> Over the last five years (2019-2023), given public data from MISO that is available to Otter Tail, the average number of hours has been approximately 12 (looking at only the events that effected the north region of MISO). Keep in mind that this is an average and that we are making an assumption based on a historical average and not knowing what future extreme events will actually occur. With this assumption, Minnesota's AME share of Coyote would generate approximately 840 MWhs each year if there were 12 hours declared in any given year assuming that that AME portion of Coyote is 70MW.[42]

It is also likely that, if Otter Tail instead acquires energy storage (or another capacity resource that could also participate in the energy market), that resource would receive similar emergency energy and surplus capacity revenues as Coyote under AME – so these are not advantages unique to Coyote.

In sum, it is not reasonable to approve AME without first assessing: whether the capacity is needed, whether there are cheaper alternatives that fill the need, or whether

[42] OTP Response to CEO IR 107.

other resources can serve the need and provide additional benefits. A brief assessment of alternative capacity hedges indicates that there are several lower-cost options available to Otter Tail, some of which also provide energy revenue and an emergency energy hedge. And as CEOs demonstrated previously in Part I, a portfolio that replaces the Minnesota share of Coyote with 75 MW of battery storage is cheaper for customers, has the same (and potentially more) winter accredited capacity, and is able to meet peak winter demand.

E. The Company Has No Plan B if AME Proves Infeasible

Otter Tail's AME proposal is unprecedented in Minnesota, which means it carries extra risk. It is characterized as an exception to the FERC's ban on withholding that is "uniquely available to Otter Tail at Coyote Station given its jurisdictional allocation of a jointly owned coal plant," but only if an explicit Commission order allows it.[43] Otter Tail acknowledges the possibility that the proposal may prove impossible to implement:

> Otter Tail will need to conduct a fatal flaw analysis to ensure that the AME designation can be implemented as envisioned. Should the Commission order that Coyote Station operations be limited, Otter Tail will then undertake the necessary analysis to determine the specific details of AME implementation and provide updates to the Commission in its next IRP, which is expected to be filed well before implementation of AME in 2029.[44]

However, if that fatal flaw analysis or realities on the ground make the AME proposal impossible to implement, what happens? Otter Tail has offered no alternative, meaning that the critical and long-delayed question of how to handle Coyote Station –

[43] OTP AME Filing at 4.
[44] OTP AME Filing at 5.

with its tremendous climate and health damages, growing regulatory risk, and hard-to-escape contractual complexities – would simply been punted to the next IRP or an as-yet-undefined other proceeding.[45]

Otter Tail suggests that conversations with MISO and the Independent Market Monitor ("IMM") have been positive and have not revealed any fatal flaws thus far.[46] However, it would be helpful to see written representations to this effect in the docket. And, even if Otter Tail receives a green light from MISO and IMM in 2024, that does not negate the potential for market rules to change between now and the next IRP. Even if the Commission is certain that AME can go forward under current conditions, it is essential to put in place a "Plan B" in case matters change mid-stream.

Addressing the Coyote question is the most urgent issue posed by this IRP, and the uncertain future of this plant is one of the reasons it has now been nearly seven years since the Commission's approval of Otter Tail's last IRP. The filing deadline for this docket was extended twice at Otter Tail's request, with the second extension due largely to uncertainty about Coyote's risk under the EPA Regional Haze rule. It was granted in 2019 despite concerns the Commission expressed over the growing delay and its desire for evidence that Otter Tail was making a timely effort to resolve Coyote's compliance issues.[47] Otter Tail's changed approach to Coyote was also the most significant change

[45] OTP Response to OAG IR 39.
[46] OTP Response to OAG IR 39.
[47] The Commission found in 2019 that "Otter Tail's need to again delay its resource plan filing is largely due to its North Dakota Coyote Station lignite coal plant and compliance with the Environmental Protection Agency's Regional Haze Rule." It expressed concern

made when replacing its 2021 IRP filing with its 2023 IRP filing, further prolonging this proceeding.

More delay around Coyote Station if the AME plan fails would be especially concerning given that Otter Tail has repeatedly stressed its inability to quickly withdraw from the plant, insisting it needs five years' notice under its contract with co-owners as well as approval from regulators in North and South Dakota in addition to Minnesota.[48] Even if the AME proposal goes ahead as proposed, it represents a delay in permanently resolving the Coyote problem, but at least it would be a delay with some emission reduction benefits. If the AME proposal cannot proceed, however, this prolonged IRP process will have achieved nothing in terms of reducing Coyote's tremendous ongoing climate and health damages or reducing Minnesotans' dependence on an aging coal plant facing major regulatory risks.

If the Commission decides to approve the AME proposal, CEOs urge the Commission to modify the proposal to limit the potential damage if the proposal cannot proceed. We describe three such modifications in Part III.C below.

about the delay and required a supplemental filing in 2020 "evidencing a more timely demonstration of the efforts being made to address the compliance issues largely responsible for causing the delay." Minn. Pub. Utils. Comm'n, *In the Matter of Otter Tail Power Company's 2017-2031 Resource Plan,* Order Extending Deadline for Filing Resource Plan, Requiring Supplemental Filing, and Completing Competitive Bidding Process, Docket No. E-017/RP-16-386, at 4 (Dec. 30, 2019).

[48] See, e.g., OTP Supplemental IRP at 38-42. CEOs do not accept that costs and risks associated with Otter Tail's operating contract or with the views of other states' regulators should necessarily be borne by Minnesota ratepayers, as discussed on Part III.F.

III. If the Commission Decides to Pursue the AME Proposal, Modifications Are Needed to Protect Minnesota Customers

While CEOs consider it more prudent and consistent with the public interest for the Commission to require Otter Tail to withdraw from at least the Minnesota portion of Coyote by 2028, if the Commission decides to approve the AME proposal, we urge it to modify it in ways that increase the benefits and control the risks to Minnesota customers. The modifications include: (a) requiring Otter Tail to seek prior Commission approval of any large, non-routine capital investment in Coyote Station; (b) requiring Otter Tail to explicitly agree to refund to its Minnesota ratepayers any charges made under the AME proposal that the Commission finds in a future rate case or other proceeding to have been unjust or unreasonable; (c) putting in place back-up requirements in case the AME proposal cannot be implemented; (d) requiring AME, as modified by the Commission, to commence as soon as feasible, at least seasonally; and (e) requiring Otter Tail to plan for adding resources to replace Coyote Station by December 31, 2031 at the latest. As we explain in Part III.F., these modifications help ensure that Minnesotans are not paying unduly for the AME proposal.

A. The Commission Should Require That Otter Tail Seek Approval *Before* Making Any Large, Non-Routine Capital Expenditure at Coyote Station

If the Commission approves the AME plan rather than requiring withdrawal from Coyote Station, Minnesota ratepayers continue to be exposed to the risk that the plant will be forced to either retire suddenly or pay for costly pollution upgrades required by the forthcoming haze or greenhouse gas rules. That risk can be reduced somewhat by an

order that requires Otter Tail to seek the Commission's approval before making any large, non-routine capital expenditures at Coyote Station.

Otter Tail has repeatedly expressed its intention to exit the Coyote ownership agreement if a large, non-routine capital expenditure is required to continue operation. However, there is no guarantee that Otter Tail co-owners would agree to retire the plant rather than make the large investment. Otter Tail has said that if there is not consensus, it would seek to sell its ownership interest (which would likely be difficult); if no buyer could be found, it would initiate termination of the ownership agreement, but it would still need to give five years advance notice—starting at that time.[49]

However, there is no guarantee that the future regulatory compliance deadlines will be settled in time to give Otter Tail the five years it seeks to give notice. CEOs are concerned that Otter Tail could be outvoted by its co-owners and thus face the obligation under its operating contract to make that investment or breach its contract. Its co-owners could be particularly inclined to make the investment if regulators in other states push to keep Coyote running and oppose replacement resources. This ongoing regulatory risk, amplified by potential contractual and jurisdictional conflicts, is another reason withdrawal from Coyote by 2028 is more prudent than AME.

In order to protect Minnesota ratepayers from this ongoing risk, CEOs ask that if the Commission approves AME, it include a finding that, based on the record in this docket, it would not be prudent for Otter Tail to make a large, non-routine capital

[49] OTP Supplemental IRP at 39.

investment in Coyote, and therefore Otter Tail may not recover the costs of such an investment from Minnesota ratepayers unless it obtains prior Commission approval of the investment.

B. The Commission Should Condition Any Approval of AME on an Agreement by Otter Tail to Refund Any Payments by Minnesotans Later Found to be Unjust or Unreasonable

The Commission cannot make an unqualified presumption that the costs Minnesotans would incur under the AME proposal are just and reasonable. There is simply no support for it in this record and, as we discussed previously in Part II, there is substantial evidence that requiring Minnesota to continue to pay all Coyote's operational costs other than its variable costs would be unjust and unreasonable, particularly given the high level of fixed costs.

These cost allocation questions are beyond the scope of an IRP proceeding and best addressed in a rate case. However, it could be years before the Commission has an opportunity to fully assess the fairness of the cost allocation under the AME proposal in a rate case, since Otter Tail's last rate case was just concluded in 2022.[50] If its next rate case begins after the commencement of AME operations, Otter Tail could have been overcharging Minnesotans for some time, and the typically forward-looking nature of a rate case would fail to remedy that overcharge. As CEOs understand it, the fixed portions of Coyote Station's fuel costs are reviewed annually in the fuel charge forecasting and

[50] Minn. Pub. Utils. Comm'n. *In the Matter of the Application of Otter Tail Power Company for Authority to Increase Rates for Electric Service in the State of Minnesota,* Findings of Fact, Conclusions, and Order, Docket No. E-017/GR-20-719 (Feb. 1, 2022).

true-up process; so perhaps this component of AME costs could be addressed outside of a rate case. However, that would not address the reasonableness of fixed O&M costs at the plant under AME.

The Commission should therefore make any approval of the AME arrangement contingent upon Otter Tail's explicit agreement that it will make the appropriate refunds to its Minnesota customers if the Commission finds in a future proceeding that Minnesota ratepayers have paid more for Coyote during its AME status than is just and reasonable. Putting the burden on Otter Tail to remedy any overcharge is appropriate given the lack of evidence supporting the economic prudence of this proposal, and requiring an agreement from Otter Tail to make such a refund avoids any future dispute over the Commission's authority to require such a refund under Minn. Stat. § 216B.23 or other statutory provisions.

C. The Commission Should Put in Place Back-Up Requirements in Case the AME Proposal Cannot Be Implemented

As discussed previously in Part II, the novel and last-minute nature of the AME proposal increases the risk that unforeseen barriers could block its implementation. If so, this IRP process will have been wasted when it comes to Coyote, and the problems related to the plant will remain unmitigated for years more. We therefore propose three modifications to reduce the consequences if the AME plan cannot proceed. First, the Commission should require Otter Tail to submit a filing within four months of the date of its order in this docket with the results of the fatal flaw analysis to ensure the analysis proceeds with due haste. That filing should describe Otter Tail's efforts to obtain formal

written approvals of the proposal by the IMM, by MISO regarding tariff compliance, by Coyote'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.

Second, the Commission's order in this docket should include a finding that, based on the existing record, if the AME proposal does not proceed, it would not be reasonable or in the public interest for Minnesota ratepayers to continue to pay for or depend on Coyote beyond 2028. This finding is fully supported by the record, which shows the benefits to Minnesotans of withdrawing from Coyote by that year. Since AME is offered as an alternative to that better-supported and beneficial withdrawal—an alternative partly designed to help Otter Tail remain compliant with its contractual obligations[51]—it is appropriate that the risks of AME's failure should fall on Otter Tail and not on its Minnesota ratepayers. (We further discuss why the costs and risks of Otter Tail's Coyote contracts should not fall unduly on Minnesotans in Part III.F).

Third, Otter Tail should be required to submit a new IRP within six months of a finding that the AME plan cannot proceed. That finding could be by the Commission (potentially in response to the fatal flaw filing required above), by Otter Tail, or evidenced by a rejection of the plan by MISO, the Independent Market Monitor, or any other party with power to block the plan. In its new IRP Otter Tail should be required to include a preferred plan that removes Coyote from its Minnesota-serving portfolio by the end of 2028 and includes any additional replacement resources. An accelerated IRP filing is

[51] OTP AME Filing at 5.

needed because if Otter Tail's next IRP is filed in 2026, two years after the order in this docket, it would not likely be resolved until 2027 or 2028. This delay would limit Otter Tail's ability to acquire the optimal resources to replace the capacity from Coyote by 2028. In the alternative, if the Commission approves the AME plan, it could order that in the event of a fatal flaw being revealed before the next IRP is filed, Otter Tail shall move forward the Alternative CEO Plan with Battery, which is identical to the Company's Minnesota Preferred Plan with AME, except that CEOs' plan replaces Coyote in 2029 with 75 MW of battery resources.

D. A Modified AME Should Start as Soon as Feasible

If the Commission decides to approve the AME proposal and includes the Minnesota customer protections we suggest, CEOs recommend the Commission direct Otter Tail to begin offering the plant as AME as soon as feasible, at least on a seasonal basis. This would ensure that Minnesota residents benefit from the resulting emission reductions before 2029. While overall emission reductions from AME are not a large share of the plant's emissions, Coyote is one of the most polluting plants in the country, so speeding emission reductions by three years would increase the benefits of the AME plan.

The Company's response to PUC IR 7 indicates that Otter Tail could likely begin to offer the Minnesota share of Coyote as an AME resource within 12 months of the Commission's order. The Company proposes to do so on a seasonal basis (e.g., spring and fall) until replacement energy resources are brought online in 2027, at which time the

unit could be offered as AME year-round.[52] Should the Commission approve AME, with the customer protections we have recommended, CEOs believe the timing Otter Tail describes here is a reasonable approach, and we recommend the Commission direct Otter Tail to implement this plan. Given the somewhat novel nature of this use of AME (applying only to a portion of a unit that is otherwise must-run) explicit direction from the Commission on the timing and manner in which Otter Tail shall use the AME designation will help ensure clarity for the Company, MISO and the IMM.

E. The Commission Should Require Otter Tail to Begin Planning Now for Resources That Will Replace Coyote by the End of 2031 at the Latest

The AME proposal does not solve Otter Tail's long-term Coyote problem. At best, it reduces the plant's emissions while allowing Otter Tail to delay confronting the complexities of fully disentangling itself from Coyote Station. In the meantime, however, Otter Tail's Minnesota customers remain partially dependent on an aging coal plant likely to face major capital costs in order to stay open. To avoid perpetuating this dependence indefinitely, if the Commission approves the AME proposal, it should include in its order a finding that, based on the existing record, even if the AME proposal is implemented as proposed, it would not be reasonable or in the public interest for Minnesota ratepayers to continue to pay for or depend on Coyote beyond the end of 2031. And the Commission should require Otter Tail to plan to acquire by that date the necessary resources to replace Coyote as a Minnesota-serving resource.

[52] OTP Response to PUC IR 7.

The EPA's proposed rules addressing greenhouse gases from coal plants would very likely require Coyote Station to retire by December 31, 2031, because the other three options for coal units under the rule appear untenable for Coyote.[53] As discussed in our earlier comments,[54] two of the options require major capital investments in either carbon capture equipment and a pipeline or in natural gas cofiring equipment and a pipeline. Otter Tail has already stated that this plant is not worth keeping open if it needs major new capital investments.[55] The last option under the rule (reducing the plant's capacity factor to below 20%) would make the plant even more uneconomic to run and would only delay retirement three years, until December 31, 2034.

Coyote Station's co-owners also face the even more imminent risk of being required to install pollution controls under other EPA rules. Coyote could be required to install controls for sulfur dioxide and nitrogen oxides under the EPA Haze Rule by 2028.[56] And, the proposed Mercury and Air Toxics Standards Rule ("MATS") would require compliance by 2027 (although EPA is considering an even sooner compliance date).[57] The head of North Dakota's Division of Environmental Quality recently called EPA's proposed MATS rule a "death penalty for coal."[58]

---

[53] 88 Fed. Reg. 33240 (May 23, 2023).
[54] CEOs' Initial Comments at 33-34.
[55] OTP Supplemental IRP at 3.
[56] CEOs' Initial Comments at 29-33.
[57] *Id.* at 35-36.
[58] Jeff Beach, North Dakota prepares to fight EPA rule one official calls a 'death penalty for coal', North Dakota Monitor, April 1, 2024, available at https://northdakotamonitor.com/2024/04/01/north-dakota-prepares-to-fight-epa-rule-one-official-calls-a-death-penalty-for-coal.

Under these circumstances it is imprudent for Otter Tail to assume it can rely on Coyote long-term. If it approves AME, the Commission should require Otter Tail in the reference case scenario of its next IRP to include the replacement resources necessary to allow Otter Tail to end the AME arrangement and cease Minnesota's dependence on Coyote Station entirely by the end of 2031. Its next IRP should also consider a scenario that would end AME and cease Minnesota's dependence on Coyote Station by the end of 2028, given the compelling evidence in the record showing the economic benefits of withdrawing from Coyote by the end of 2028, and given that the EPA haze rule has an anticipated compliance deadline of 2028 and the proposed MATS rule has a compliance date of 2027.[59] (As CEOs explained in our initial comments, Otter Tail's next IRP should also include a plan to withdraw from Big Stone by no later than the end of 2030, given our modeling showing that a plan with that withdrawal date is reliable and far more cost effective, and given that a 2030 Big Stone withdrawal would avoid an estimated $925 million in climate damage otherwise attributable to Minnesota.[60])

F. AME is Partially a Means of Helping Otter Tail Solve a Problem That Was Entirely Foreseeable When It Deepened Its Long-Term Commitment to Coyote in 2012 Without the Commission's Approval or Knowledge

Putting the risks of AME on Otter Tail rather than on Minnesota ratepayers is also appropriate given that AME is partly a means of helping Otter Tail out of the difficulties presented by the Coyote Station operating agreement and the Lignite Supply Agreement ("LSA"). However, Otter Tail chose to enter into the LSA in 2012 without seeking prior

[59] CEOs Initial Comments at 31, 35.
[60] *Id.* at 41-68.

approval from the Commission, thereby deepening and extending its commitment to Coyote by decades (through 2040), at a time when the wisdom of long-term investments in coal was already of great concern to the Commission. Otter Tail has said it did not seek prior approval of the LSA because there was "no mechanism" to do so.[61] However, an IRP docket would have been the perfect mechanism under which to at least seek approval of the Company's planned long-term extension of its commitment to Coyote (if not necessarily of the specific terms of the LSA itself), and Otter Tail was in fact in the midst of a resource planning docket before the Commission at the time.[62]

Indeed, as part of that IRP docket, in 2012 Otter Tail was conducting a "baseload diversification study." Otter Tail had originally proposed adding pollution controls to its Hoot Lake coal plant, but the Commission instead required this baseload diversification study to consider the prudence of such an investment given the plant's age and likely future environmental regulations. Otter Tail was told to look at the issue of new investments at Hoot Lake in "long-range, system-wide terms."[63] That study was filed on October 3, 2012, just before the LSA agreement was signed, but it says nothing about Otter Tail's imminent new long-term commitment to Coyote or the new costs it would face by

[61] OTP Reply Comments at 45.
[62] *In the Matter of Otter Tail Power Company's 2011-2025 Resource Plan,* Docket No E-017/RP-10-623.
[63] Minn. Pub. Utils. Comm'n, *In the Matter of Otter Tail Power Company's 2011-2025 Resource Plan,* Order Approving Plan Subject to Conditions, Requiring Further Filings, and Setting Requirements for the Next Resource Plan, Docket No. E-017/RP-10-623, at 5-6 (Feb. 9, 2012).

exiting the LSA before 2041.[64] CEOs have also found no mention of the pending plan to enter into a new Coyote fuel contract in Otter Tail's initial 2010 IRP filing.[65] Moreover, the Commission had recently completed a companion proceeding to determine whether it was worth making new long-term investments in pollution controls at Big Stone.[66]

Despite the Commission's clear oversight interest in whether it is more prudent to invest in or retire its other two coal plants, Otter Tail decided not to mention the new, long-term investment it was about to make in Coyote. (To CEOs' knowledge, the Commission did not see the actual LSA until the current IRP proceeding or learn of the added costs and liabilities Otter Tail agreed to incur if it withdraws from Coyote before 2041).[67] Additionally, given the shadow over the future of coal at that time, there was a clear need for Otter Tail to negotiate a more feasible path for unilaterally withdrawing from the operating agreement with co-owners as well. Nonetheless, Otter Tail entered into the LSA without doing so, thereby staying constrained by the five-year notice requirement.

In short, the risks and costs Otter Tail faces regarding withdrawal from Coyote were entirely foreseeable in 2012. Otter Tail decided to take on those risks without the Commission's knowledge or approval. If the Commission decides to approve the AME

---

[64] Otter Tail Power, *In the Matter of Otter Tail Power Company's 2011-2025 Resource Plan,* Baseload Diversification Study 2012-2026, Docket No. E-017/RP-10-623 (Oct. 3, 2012).
[65] Otter Tail Power, *In the Matter of Otter Tail Power Company's 2011-2025 Resource Plan,* Application for Resource Plan Approval 2011-2025, Docket No. E-017/RP-10-623 (July 1, 2010).
[66] *In the Matter of Otter Tail Power Company's Petition for an Advanced Determination of Prudence for its Big Stone Air Quality Control System Project,* E-017/M-10-1082.
[67] OTP Reply Comments at 45.

proposal, it should ensure that it does not allow the Company to indefinitely delay confronting the complexities of its contractual choices, and ensure the AME plan is not unduly costly to Minnesotans. The mitigations CEOs propose in this section will help the Commission to do so.

IV. Delaying a Decision in This Proceeding About an End Date for Coyote Station Would Have Both Procedural and Planning Costs

There are also numerous planning and procedural benefits to making a decision in this IRP which sets an end date for Minnesota customers' support of and reliance on Coyote Station. First, if no end date is established in this case, it will undoubtedly be a major focus of the next IRP. The Commission will have to consider all the same arguments that have been raised here—about withdrawal versus AME, an appropriate end date, and the complexity of Otter Tail's coal plant and mining contracts—in addition to other pressing energy transition issues which are sure to arise. The current proceeding has been going on since 2021. Otter Tail's previous IRP was decided over seven years ago. We strongly believe the record in this case is clear, and overwhelmingly so, showing that in order to best serve Minnesota customers Otter Tail needs to transition away from Coyote Station. The best option is to resolve this issue now when there has been a robust record developed on the issue.

Further, in Otter Tail's next IRP, it will be imperative for the Commission to consider the future of the Big Stone Plant. Making a decision about an end date for Coyote Station now can help to considerably reduce the number and scope of contested issues in the next IRP case, and ensure that other important issues are able to be fully addressed.

The Commission has in the past recognized the benefits of planning well ahead in order to give workers, the local community, the utility, MISO, and other impacted stakeholders time to adjust. Any decision about an end date or significant plant transition is challenging. CEOs believe that the longer a decision on Coyote's end date is deferred, the more likely it is that a withdrawal or retirement decision will have to be made on short notice and with potentially greater ramifications for ratepayers and the plant's community. On a broader level, it will be easier for Otter Tail and its customers to make a smooth transition to a decarbonized system if the Company is not faced with having to make the investments needed to address replacement of both its coal plants at roughly the same time. Otter Tail has stressed that it is a relatively small utility, but this merely increases the importance of reasonably pacing the steps it will need to take to complete the transition.

While it is possible that EPA will de-facto decide both coal plants' fate with one or more upcoming final rules, the Commission is not likely to have perfect certainty for several more years due to long litigation timeframes and the potential for disputes among the co-owners over future capital investments to bring Coyote into environmental compliance. The level of complexity and the number of tough choices the Commission is being asked to make to help ratepayers and utilities navigate the energy transition is not decreasing. Transitioning off coal plants is, incredibly, one of the simpler issues—we know we have to do it, and as soon as possible.

CONCLUSION AND RECOMMENDATIONS

For the reasons set forth above, CEOs make the following recommendations:

CEOs' Recommended Resource Plan:

CEOs continue to believe that the *best* course of action is the one laid out in our Initial Comments in September 2023: to plan now for exiting both coal plants, by 2028 for Coyote and by 2030 for Big Stone. This is the least-cost plan for Minnesota Otter Tail customers and is what is required to meet U.S. and global emissions reduction standards. However, CEOs recognize that the issues surrounding Coyote Station are most urgent to resolve in this proceeding. Therefore, we recommend that in the alternative the Commission:

1. Approve the resources in the Alternative CEO Plan with Battery, which are designed to serve Minnesota Otter Tail customer energy needs only and include:
    a. At least 200 MW of solar resources to be acquired as soon as feasible;
    b. At least 150 MW of wind to be acquired in 2026, and no later than 2029;
    c. 75 MW of energy storage resources of at least four-hour duration to be acquired by 2029;
    d. Withdrawal from the Minnesota share of Coyote Station by December 31, 2028.

If the Commission Pursues AME:

While we consider it more in the public interest to modify Otter Tail's resource plan to include withdrawal from the Minnesota share of Coyote by 2028, if the Commission decides to instead approve a plan putting Coyote Station on AME status, we urge it to adopt the following modifications to limit risk to Minnesota customers:

2. Find 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, and therefore

Otter Tail may not recover from Minnesota ratepayers the costs of a large, non-routine capital investment in Coyote unless it obtains the Commission's approval prior to making that investment.

3. Obtain from Otter Tail its explicit agreement that, if the Commission finds in a future proceeding that Minnesota ratepayers have paid more for Coyote during its AME status than is just and reasonable, Otter Tail will refund the overpayment to its Minnesota ratepayers.

4. Require Otter Tail to submit a filing within four months of the date of its 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'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.

5. Find 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.

6. Require Otter Tail to submit a new IRP within six months of a finding that the AME plan cannot proceed. Such a finding can be established the Commission, by Otter Tail, or evidenced by a rejection of the plan by MISO, the Independent Market Monitor, or any other party with power to block the plan.

Or, in alternative to 6, #7:

7. Require Otter Tail to move forward with the following resource acquisitions consistent with the Alternative CEO Plan with Battery, which are designed to serve Minnesota Otter Tail customer energy needs only:
    a. 200 MW of solar resources to be acquired as soon as feasible;
    b. 150 MW of wind to be acquired in 2026, and no later than 2029;
    c. 75 MW of energy storage resources of at least four-hour duration to be acquired by 2029;
    d. Withdrawal from the Minnesota share of Coyote Station by December 31, 2028.

8. Require Otter Tail to commence AME status at Coyote, as modified in this order, as soon as feasible. If Otter Tail is unable to commence AME status at least seasonally by 2026 and year-round by 2027, it will submit a filing to the

Commission explaining why not and identifying the soonest feasible time when it could commence AME status.

9. Require Otter Tail in its next IRP to:
    e. include in its reference case scenario the replacement resources necessary to allow Otter Tail to end the AME arrangement and cease Minnesota's dependence on Coyote Station entirely by the end of 2031; and
    f. include a scenario that would include the replacement resources necessary to allow Otter Tail to end the AME arrangement and cease Minnesota's dependence on Coyote Station entirely by the end of 2028.

CEOs' Other Recommendations:

CEOs offer the following recommendations regardless of whether the Commission approves the AME plan:

10. Find that it may be economic for Otter Tail to add more wind, solar and/or battery storage resources than specified above, especially in light of potential changes to its energy needs, capacity position, or market circumstances. Otter Tail should actively assess market conditions and project availability to bring forward economic resources when feasible and by no later than the dates specified.

11. Require Otter Tail to begin planning now for a Big Stone withdrawal by 2030, and to present a plan in its next Minnesota IRP that withdraws from Big Stone by no later than the end of 2030. The plan should demonstrate that Otter Tail is taking proactive steps to keep a 2030 exit on the table and is exploring the economic value of retiring the plant, including consulting with co-owners on the issue.

12. Defer a decision on Otter Tail's Astoria LNG proposal until the Company's next IRP.

13. Direct Otter Tail in its net IRP to:
    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 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.

14. Order Otter Tail to submit its next IRP by two years from the date of this order.

15. Require Otter Tail to engage with the Department of Commerce and other parties prior to filing its next IRP to discuss the issue of bifurcated planning and how best to ensure a resource plan that recognizes ongoing jurisdictional differences between states but that also provides complete information regarding the Company's resource needs and planning direction.

Respectfully submitted,

/s/ Amelia Vohs
Amelia Vohs
Climate Director and Regulatory Attorney
Minnesota Center for Environmental Advocacy
1919 University Ave W Suite 515
Saint Paul, MN, 55104