

Staff Briefing Papers

Meeting Date	October 31, 2024	Agenda Item 3*
Company	Otter Tail Power Co.	
Docket No.	E-017/AA-24-65	
	In the Matter of Otter Tail Power Co.’s Petition for Approval of the Annual Forecasted Rates for its Energy Adjustment Rider, Rate Schedule Section 13.01	
Issues	At what level should Otter Tail Power Co.’s 2025 Annual Forecasted Rates for its Energy Adjustment Rider be set?	
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✓ Relevant Documents	Date
Otter Tail Power Co. – Initial Petition (Public and Trade Secret)	May 1, 2024
Department of Commerce – Comments (Public and Trade Secret)	July 1, 2024
Otter Tail Power Co. – Reply Comments	July 24, 2024
Department of Commerce – Response to Reply Comments	August 26, 2024

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The attached materials are work papers of the Commission Staff. They are intended for use by the Public Utilities Commission and are based upon information already in the record unless noted otherwise.

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I. STATEMENT OF THE ISSUES

At what level should Otter Tail Power Co.'s 2025 Annual Forecasted Rates for its Energy Adjustment Rider be set?

II. BACKGROUND

On May 1, 2024, Otter Tail Power Company (Otter Tail or the Company) filed its 2025 Energy Adjustment Rider (EAR or FCA) forecast (Petition) under Otter Tail's Rate Schedule Section 13.01.

On July 1, 2024, the Minnesota Department of Commerce – Division of Energy Resources (Department) filed Comments recommending approval of Otter Tail's 2025 forecast.

On July 24, 2024, Otter Tail filed Reply Comments agreeing with the Department's recommendations, while providing no refresh of its 2025 FCA forecast.

On August 26, 2024, the Department filed its Response Comments recommending final approval of Otter Tail's forecast, while also recommending the MISO capacity revenue change should be included in Otter Tail's 2024 annual FCA True-Up filing, not the 2025 filing.

III. PARTIES' COMMENTS

A. Otter Tail Power – Initial Petition

1. 2025 Forecast Summary

Otter Tail stated that, consistent with past methodology, it develops its rates based on an Otter Tail Total (OTP Total) system basis. Customer class specific EAR rates are derived from these amounts by applying class specific Energy Adjustment Factor ratios to the average monthly rates. Table 1 summarizes Otter Tail's forecasted 2025 monthly fuel cost charges.

Table 1 – 2025 Monthly Forecasted Fuel Cost (cents per kWh)¹

Jan	Feb	Mar	April	May	June	July	Aug	Sept	Oct	Nov	Dec
2.71	2.83	2.28	2.42	2.31	2.01	2.01	2.12	2.23	2.18	2.40	2.89

Otter Tail indicated that its forecasted 2025 System Sales will be 5,885,378 MWh, with a system cost of \$140,775,339 and an average cost of \$23.920/MWh.²

As summarized in Table 2, Otter Tail's forecasted total generation and purchases will be 6,120,800 MWh. Otter Tail attributed the difference between Table 2 volumes and forecasted

¹ Petition at Attachment 2, Line 17.

² Petition, at 5.

sales to transmission line losses.

Table 2 – Forecast 2024 Generation Type and Proportion³

Generation Type	Volume (MWhs)	Proportion (%)	Source Attachment
OTP Steam Generation	1,986,376	32.5%	Attachment 3.1: Line 26
OTP Internal Combustion (Peaking and Natural Gas) Generation	520,669	8.5%	Attachment 3.1: Lines 43 plus 47
OTP Wind & Solar Generation - Owned	1,368,270	22.4%	Attachment 3.1: Line 35
OTP Hydro Generation	20,000	0.3%	Attachment 3.1: Line 37
Purchased Power, DA/RT Purchases & Other Market Charges, Wind Curtailment, less Asset-Based Sales	2,225,485	36.4%	Attachment 3.1: Lines 61 minus Line 63 plus Attachment 5: Line 6
Total Generation & Purchases	6,120,800	100%	

2. Overview of Forecast Process

The forecasting process begins with the development of Otter Tail's system sales forecast, which includes the sales forecasts of four municipal communities to which Otter Tail delivers energy. The sales forecast data, along with forward energy and fuel pricing forecasts, are then used to develop the generation and fuel costs forecast. Following the development of the generation and fuel costs forecast, the non-energy wholesale market charges, wind curtailment, steam and water sales, and Hoot Lake Solar generation credit forecasts are developed. Data from these forecasts is then used to calculate the monthly cost per kilowatt-hour (kWh) forecast. Calculations of the monthly cost per kWh are shown in the Petition's Attachment 2.

3. Description of Sales Forecast

The sales forecast includes total system retail sales of 5,882,383,365 kWh and forecasted sales to four municipalities of 2,994,511 kWh, totaling 5,885,377,876 kWh.⁴ Otter Tail developed its sales forecast using ordinary least squares (OLS) regression models. The purpose of these models is to estimate the relationship between a dependent variable and explanator variables such as heating degree days, or Gross Regional Product. The econometric models forecast average use-per-meter and forecast the number of meters for each customer class based on historical sales data and number of meters, economic activity, and weather conditions as primary independent variables. Month-specific variables are used to capture any seasonal patterns that are not related to the other independent variables. Monthly sales forecasts are developed by multiplying use-per-meter forecasts by number of meter forecasts for each customer class and jurisdiction. The Large Commercial class is forecasted slightly differently,

³ Petition at 6.

⁴ *Id.* at Attachment 6.



using kWh sales instead of use-per-meter and number of meters.

The econometric techniques use 20 years of historical data (2004 – 2023) to produce estimated effects of weather, economic factors, and demographic factors on class usage. Forecast values for the independent values (derived from Woods and Poole economic forecasts or based on weather normalized conditions) are then inserted into the equations to produce forecast values of class-level sales. Otter Tail noted significant load growth in its North Dakota jurisdiction, resulting in a significant increase in its North Dakota forecasted sales over prior years.

Otter Tail delivers energy to four municipalities – Newfolden, Shelly, and Nielsville, MN, and Badger, SD. The municipality forecasts on Attachment 6 are developed based on historical information using the average kWh sales of the prior two years.

4. Description of Forecast Modeling Software, Fuel, Purchased Power, Other Costs

Otter Tail indicated that it used EnCompass, its modeling software, to develop its 2025 forecast.

a. Encompass Modelling Software

EnCompass performs full year, 8,760⁵ hourly modeling which includes operating parameters for generating units and uses the sales forecast as the basis to determine the energy requirements for Otter Tail's system. EnCompass performs an economic dispatch of available resources to meet the energy requirements. Price forecasts for oil, coal, and natural gas, as well as forecasted locational marginal prices (LMPs) for the Otter Tail load zone (OTP.OTP) are used as key inputs. There are also 'shapes' or 'profiles' for retail sales, energy prices, and renewable generation used to determine retail sales and economic dispatch.

b. Steam Generation

Big Stone Plant agreed to a methodology to allow its operation to be offered into the Midcontinent Independent System Operation (MISO)/Southwest Power Pool (SPP) markets on an economic dispatch basis. All Co-Owners (Otter Tail Power Company, Montana-Dakota Utilities Co., and NorthWestern Energy) meet weekly, bi-weekly, or as needed to review its economic dispatch or self-commitment status. For Big Stone's 2025 forecast, EnCompass modeling reflects self-commitment at minimum output.

Steam plant costs are related to Big Stone Plant and Coyote's coal and fuel oil costs. A large factor in determining these plants' economic dispatch is the Locational Marginal Price (LMP) for the OTP.OTP load zone. Otter Tail calculated forward day ahead OTP.OTP load zone pricing

⁵ 24 hours per day by 365 days per year.

using forward day-ahead Indiana Hub pricing⁶ (both monthly peak and monthly off peak) and including a basis adjustment from Indiana Hub to the OTP.OTP load zone. Based on historical deltas between the OTP.OTP load zone and the Indiana hub, Otter Tail forecasted a future basis to predict forward pricing at OTP.OTP. The 2025 forecast was based on the forward, day-ahead, Indiana Hub price curve dated March 28, 2024.⁷

Table 3 summarizes Otter Tail’s primary coal agreements which help maintain low coal costs for its coal burning generating facilities.

Table 3 – Primary Coal Supply Agreements⁸

Plant	Coal Suppliers	Type of Coal	Expiration Date
Big Stone	Peabody COALSALES, LLC	Wyoming subbituminous	December 31, 2024
Coyote Station	Coyote Creek Mining Co, LLC	North Dakota lignite	December 31, 2040

Otter Tail noted that, in May 2022, it entered into its current coal agreement with Peabody COALSALES, LLC that runs through December 31, 2024. Otter Tail has no fixed minimum purchase requirements under this agreement but all Big Stone’s coal requirements for the period covered must be purchased under this agreement. Otter Tail has not executed a Big Stone coal contract for 2025, but included an estimate based on best available data, and is utilizing a competitive bidding process for 2025 requirements.

In October 2012, Coyote’s owners, including Otter Tail, entered into a lignite sales agreement (LSA) with Coyote Creek Mining Company, L.L.C. (CCMC) for the purchase of Coyote’s coal requirements. The agreement runs from May 2016 through December 2040. The price per ton being paid by Coyote’s owners under the LSA reflects the cost of production, along with an agreed profit and capital charge. The LSA provides for Coyote’s owners to purchase the membership interests in CCMC in the event of certain early termination events and at the end of the LSA’s term.

Coyote is looking to test a fuel additive that has the potential to improve boiler efficiency. If successful, Coyote may implement this fuel additive after the test. The fuel additive cost is around \$1/ton of fuel or \$58,000/month. The pilot test cost is not included in this FCA filing, but the Company will update the Commission of the results and seek cost recovery in the next FCA True-up filing.

Otter Tail explained that planned and forced outages of its coal generation plants is a key factor

⁶ Otter Tail acquires forward day-ahead Indiana hub pricing from the International Exchange (ICE) website, <https://www.theice.com/index>.

⁹ Petition, Attachment 7.

⁸ *Id.*, Table 4, at 11.

that impacts the forecast. Based on operating history, plant personnel have a good understanding of the length of time between operational periods before the boiler or other systems will need to be cleaned or maintained while off-line. Otter Tail's planned 2025 outages are trade secret.⁹

Financial impacts of plant outages, planned or unplanned, are generally the difference between the generation costs at Otter Tail's owned facilities and market costs incurred to purchase replacement energy.¹⁰ Otter Tail explained that replacement energy costs are determined by removing the planned outage variables from the EnCompass base case scenario. Otter Tail plans outages to best minimize added energy costs and typically schedules these outages in the spring or fall when energy usage is generally lowest.

To forecast forced outage costs, Otter Tail used a six-year average (2018 to 2023) Equivalent Demand Forced Outage Rate for each plant. Forced outage rates are included in the forecast to reasonably account for and protect customers and Otter Tail from the inevitability of unplanned outages and the effect on rates as a result of the outage.¹¹

c. Internal Combustion

Internal combustion plant costs are related to fuel oil costs for the Jamestown 1 and 2 and the Lake Preston peaking plants; and natural gas fuel costs for the Solway and Astoria Station natural gas-fired peaking plants.

Fuel oil costs are forecasted based on the Wood-Mackenzie fuel oil forecast. Because its operational timing and ability to provide economical and dispatchable energy will have a large impact on Otter Tail's natural gas fuel costs, Astoria Station fuel cost and forecasted output is a major variable and assumption in this forecast. Natural gas prices play a vital role in Astoria Station and Solway's economic dispatch and costs. Due to uncertainty regarding the amount of dispatch of these plants, Otter Tail generally procures gas on a day-ahead or intra-day basis.

The Ventura hub, located in northern Iowa, is the most liquid natural gas trading hub in the region. For 2025 forecasting purposes, Otter Tail used ICE's¹² March 28, 2024 forward Ventura price curve.¹³

Astoria Station is located on the Northern Border Pipeline which has higher requirements and

⁹ *Id.*, Table 5, at 13.

¹⁰ Forecast 2025 replacement energy costs are trade secret.

¹¹ Forecast 2025 forced outage energy costs are trade secret.

¹² ICE is a subscription-based trading platform that offers historical, current, and forward pricing information for numerous commodities including energy, natural gas, and oil.

¹³ Petition at Attachment 8.



tighter tolerances for balancing daily nominations and gas withdrawals. Due to the highly variable and intermittent nature of a simple cycle gas turbine, differences between the gas and electric trading days, and changes between the MISO day-ahead forecast and actual real time operations, Otter Tail determined it prudent to secure Park and Loan (PAL) service for its natural gas supply. PAL is the Northern Border Pipeline balancing service. This service allows an entity to “park” excess gas in the pipe to be consumed later, or to “loan” gas from the pipe to be replaced later. The PAL service procured by Otter Tail will allow for additional supply availability, enhanced operational flexibility, and enable Astoria to better operate within required Northern Border operating tolerances. PAL storage levels and costs are trade secret.

d. Wind Generation

Otter Tail has a significant wind generation portfolio, both Company-owned and from purchase power agreements (PPAs). Although there are no fuel costs associated with Company-owned wind generation, that generation contributes to the energy output for Otter Tail’s generation system. Otter Tail’s existing owned wind generation fleet consists of the Merricourt (150 MWs), Langdon (40.5 MWs), Ashtabula (48 MWs), Ashtabula III (62.4 MWs), and Luverne (49.5 MWs) facilities. The generation output from the Langdon, Ashtabula, Ashtabula III, & Luverne wind farms are forecasted based on an hourly generation profile that reflects the average historical performance of each facility. Merricourt is forecasted based on a forward-looking hourly generation profile that reflects Otter Tail’s expectations of the facility’s performance.

e. Hydro Generation

Otter Tail has no fuel costs from hydro generation which is sourced from the following facilities: Dayton Hollow, Hoot Lake, Pisgah, Taplin Gorge (Friberg), and Wright (Central). Generation for hydro plants is forecasted using historical averages.¹⁴

f. Solar Generation

Otter Tail completed the construction of its 49.9 MW Hoot Lake Solar project in August of 2023, near Fergus Falls, Minnesota. This zero-fuel-cost project is fully allocated to Minnesota customers.

Otter Tail also completed two smaller solar projects in 2020: Blue Jay Solar in Jamestown, North Dakota, and Blue Heron Solar near Otter Tail, Minnesota. Each of these facilities are approximately 40-kilowatts (kW) in capacity.

g. Purchased Power

Purchased Power costs include energy purchases from the Edgeley (21 MWs) and Langdon (19.5 MW) wind PPAs. Otter Tail also acquires energy from shared loads, small co-generation,

¹⁴ Petition at Trade Secret Attachment 3.1, Line 37.



bilateral purchases, and market purchases.¹⁵ PPA costs are set forth in the PPAs as a price per MWh for all output. The generation output of the PPA facilities is forecasted using an hourly generation profile that reflects the average historical performance of each facility. For 2025, Otter Tail also procured a winter energy purchase delivered to the OTP.OTP load zone. This purchase is embedded in the bilateral purchases total and was procured as a hedge against the historic volatility of natural gas pricing during the winter months (December, January and February).¹⁶ Under existing market conditions, the price of natural gas is a large driver in energy market pricing. Ultimately, this purchase will be fulfilled by the MISO market and Otter Tail will be made financially whole to the above stated contract price with the counterparty under a contract for differences (CFD) arrangement.

h. Fuel Costs of Asset-Based Sales and MN Asset-Based Margins

All realized asset-based margins are credited to the EAR rate calculation. Asset-based margins are the net difference between asset-based sales and the fuel cost of sales associated with asset-based sales. Forecasted asset-based sales are derived from the hourly economic dispatch where the hourly market prices are compared to the marginal cost of Otter Tail's thermal units (that are running to meet customer load). If the hourly market price is more than the marginal cost of Otter Tail's units (and the unit generation is not needed to meet customer needs), Otter Tail's unit is assumed to be dispatched and an hourly asset-based sale is made. Forecasted fuel costs for asset-based sales and asset-based margins are included on Attachment 3.1, Lines 103 and 104, respectively.

i. Wind Curtailment

Otter Tail's monthly forecasted wind curtailment costs are developed using the monthly average of the available actual wind curtailment MWh for the wind PPA(s) subject to wind curtailment. Forecasted wind curtailment costs were then determined by multiplying the forecasted monthly MWhs by the 2025 blended forecasted average annual cost per MWh of Otter Tail's wind PPAs subject to wind curtailment.¹⁷

j. Wholesale Market Charges

Forecasted wholesale market charges consist of 70 different charges and credits Otter Tail is subjected to as a MISO and SPP energy markets participant and are individually forecasted using varying methods such as averaging, application of calculated historical rates, and scaling to meet forecasted loads. All forecasting methods are based on historical data and future projections. For historical data, Otter Tail used the most recent 24 months of available data: April of 2022 through March of 2024.

¹⁵ *Id.* at Trade Secret Attachment 3.1, Lines 91-99 (excluding 94).

¹⁶ *Id.*, Trade Secret Attachment 3.1, Line 97.

¹⁷ Petition at Attachment 5.



The individual charge types are categorized into three categories:

- MISO Wholesale Market Charges (Non-Energy) – this category forecasts numerous, miscellaneous MISO wholesale charges and credits including uplift charges, make whole payments, financial transmission rights charges and credits, real time miscellaneous charges, etc. This summary also includes forecasting for net congestion and net loss charges and credits. These are charges and costs associated with moving energy from Otter Tail generation resources to Otter Tail load.
- SPP Wholesale Market Charges (Non-Energy) – The primary drivers of the SPP wholesale market charges forecast are the Real-Time Over Collected Losses Distribution Amount, the Real-Time Pseudo-Tie Congestion Amount, the Real Time Pseudo-Tie Loss Amount, the Auction revenue Rights Daily Amount, and the Auction Revenue Rights Annual Closeout Amount. These charge types are the result of Otter Tail’s required SPP transmission service necessary to serve Otter Tail’s pseudo tied load within the SPP footprint. This category also forecasts other numerous, miscellaneous SPP wholesale charges and credits.
- MISO ASM Market Charges – This category forecasts MISO ASM charges and credits, including regulation reserves, spinning reserves, supplemental reserves, and short-term reserves, both withdrawn by Otter Tail load and produced by Otter Tail generation. It also includes other miscellaneous charges associated with the ASM market.

k. Reagents

Otter Tail’s coal-fired generation facilities, Big Stone Plant and Coyote Station, use reagents such as anhydrous ammonia, pebble lime, and powder activated carbon to process emissions and are necessary for Otter Tail’s compliance with federal regulations enforced by the Environmental Protection Agency. Forecasted reagent expenses (included on Attachment 3.1, lines 110-125) were determined using a forecasted cost per MWh for each applicable reagent and multiplying that by the forecasted output (MWh) of the applicable facility.

l. Costs and Revenues associated with Steam/Water Sales

Otter Tail sells steam and water from its Big Stone Plant to a geographically adjacent, non-affiliated company. The 2025 forecasted steam/water sale expenses and revenues are included on Attachment 3.2, Lines 1-9. Steam/water sale expenses and revenues were forecasted by Big Stone Plant employees, who have the best knowledge and experience with the facility’s steam sales. The revenue forecasts are derived from many factors, including: the customer’s needs and forecasts provided by the customer, contractual agreements between Big Stone Plant and the customer, and Big Stone Plant’s forecasted operational output and ability to provide steam/water. The expense forecast is derived from the revenue forecast. The amount of coal burned is calculated based on the measured energy and boiler efficiency. Reagent amounts



attributable to steam sales are determined in proportion to the forecasted coal burned. The amount of coal and reagents forecasted to be used is then multiplied by a forecasted \$/ton or \$/lb. to arrive at the forecasted costs.

m. Hoot Lake Solar Generation Credit

In Docket No. E-017/M-20-844, the Commission approved Otter Tail's request to fully allocate the output and costs of the Hoot Lake Solar project to Minnesota. Otter Tail's current Minnesota EAR mechanism calculates Minnesota EAR rates based on total system costs divided by total system sales. Because Minnesota is not the only jurisdiction Otter Tail serves, the impact of the zero-fuel cost output of Hoot Lake Solar is diluted amongst all customers in the three states Otter Tail serves. Minnesota customers will only receive approximately 45 percent of the benefit of lowered EAR rates from Hoot Lake Solar without modifications to the current mechanism. Otter Tail included the previously approved calculation methodology as shown in Attachment 3.3, which is the estimated cost of avoided market purchases due to Hoot Lake Solar's output (Lines 1-5). The amount of avoided cost captured by Minnesota customers in the current mechanism, based on Minnesota sales as a percent of total sales, is calculated on Lines 8 – 13. The amount of avoided cost not captured by Minnesota is calculated on line 15. Finally, the amount is "grossed up" to a Total System amount (Line 17) and credited to the EAR rate calculation at a system level in Attachment 2, Line 9.

Otter Tail uses the forecasted monthly cost per MWh of Market Purchases and the forecasted monthly output for Hoot Lake Solar to calculate the avoided cost. On a monthly actual basis, Otter Tail is able to obtain the actual revenue generated by Hoot Lake Solar through two primary MISO charge types, Day-Ahead Asset Energy amount and Non-Excessive Energy Amount. The total actual revenue from Hoot Lake Solar replaces the forecasted amount on line 5 of Attachment 3.3 to calculate the actual amount of credit necessary to the MN EAR calculation. Values on lines 8 and 9 are also replaced with actual sales values.

n. MISO Planning Resource Auction Results

The Commission's December 29, 2022 Order in Docket No. E-017/AA-22-214 required Otter Tail include actual known MISO Planning Resource Auction (PRA) costs and revenues in the EAR. The 2023/2024 planning year results were only \$330k, of which the January to May 2024 revenues will be included in the 2024 recovery year True-up Filing. Results for the MISO June 2024/May 2025 planning year auction will be known sometime in May 2024. Otter Tail will update its 2024 rates to include known (anticipated) June to December 2024 revenues. If results are immaterial, Otter Tail would propose they be included in the 2024 annual True-up Filing.

Due to uncertainty in the ability to forecast their results, no estimated PRA costs or revenues for the 2025 portion of the June 2024/May 2025 MISO planning year are included in this forecast. Once the Planning Year 2024/2025 results are known, if they are material, Otter Tail will include the 2025 portion of those results in the forecast and provide updated rates in the

July 31, 2024 Reply Comments.

o. Risk Mitigation

Otter Tail indicated that its supply resource portfolio is managed in a way to cost-effectively meet energy needs while maintaining flexibility and reasonably limiting the risk of exposure to variability in the availability of resources and the costs thereof. The Company has some risk mitigation strategies to procure needed energy from the broader MISO market when necessary or when economically beneficial. However, there are some risks between forecasted costs and actual costs that are either difficult or outside of the Company's control to manage. Table 4 identifies key variables or assumptions that could impact actual costs relative to forecasted costs which may have a five percent or greater impact on the fuel cost per kWh.

Table 4 – Risk Matrix¹⁸

Variable	Risk	Potential Impact on cost/kWh
Sales	Actual sales differ from forecasted sales	Increases in sales may result in more reliance on market purchases – potentially at higher-than-average cost. Lower sales may reduce market purchases and lower average cost.
Weather	Weather drives usage higher or lower than forecasted	Colder or hotter weather than normal can increase demand for energy, which may result in more purchases from the market.
Natural Gas Prices	Actual gas prices differ from forecasted prices. Generally, the cost of gas is procured on a short-term (day-ahead) basis due to uncertainty of dispatch of Otter Tail's gas generation and limiting the ability to hedge price.	Otter Tail is exposed to price variances which could increase or decrease costs relative to forecast.
Locational Marginal Prices (Market Prices)	Actual prices differ from forecasted prices which impact both dispatch of generation and cost of purchases from the market.	Cost of market purchases could be higher or lower than forecasted.
Wind	The forecast includes a certain amount of wind generation for both Otter Tail's owned wind resources and for certain PPAs. Variance from the forecast will impact the cost of energy.	<p>If Otter Tail's owned wind resources generation is less than forecasted, Otter Tail will replace with a resource that has a higher cost. If it is greater than forecasted, energy will be supplied at lower average cost.</p> <p>If Wind PPAs do not produce as much energy as forecasted, the FCA-related cost per kWh could be higher or lower depending on</p>

¹⁸ Petition at 23-24.

		the market purchase price comparison needed to replace the Wind PPA price.
Solar	The forecast includes a certain amount of solar generation. Variance from the forecast will impact the cost of energy.	If Otter Tail's owned solar resource generation is less than forecasted, will replace with a resource that has a higher cost. If it is greater than forecasted, energy will be supplied at lower average cost.
Market Purchases	Entering into PPAs creates price certainty and reduces rate volatility. Certainty of pricing comes at a premium cost. Otter Tail's supply portfolio is described throughout this Petition and includes an all-of-the-above strategy. Otter Tail relies on the market to supply a certain amount of energy for its customers. This approach exposes Otter Tail to potential volatility in the market but also helps us mitigate FCA-related costs.	Market prices may either be higher or lower than forecasted which will impact the overall fuel cost per kWh.
Unplanned Outages at Otter Tail Generating Facilities	Number of outages greater than forecasted could potentially increase exposure to market purchases.	Cost of additional market purchases could be higher or lower than cost of generation.
Freight Prices	The coal freight prices used for Big Stone Plant are based on current tariffed rates.	These rates can be adjusted by the railroad, affecting actual fuel cost per kWh.
Asset-Based Sales and Margins	The relation of market prices to the cost of Otter Tail's owned generation resources is different than forecasted and results in lower Asset-Based Sales and Margins than forecasted.	Creates less of a credit to the FCA calculation, increasing overall cost per kWh.

5. Allocations and Rate Design

Otter Tail provided Attachment 2 and Attachments 3.1 through 6 for forecasted costs and sales applicable to the MN FCA. Each customer class is assessed a class specific Energy Adjustment Factor (EAF) monthly rate in Attachment 1, which is calculated by multiplying the forecasted monthly EAR rate by the applicable EAF ratio listed on page 2 of Otter Tail's Electric Rate Schedule Section 13.01.

6. Energy Adjustment Rider Rate Schedule

Otter Tail's current EAR Rate Schedule - Section 13.01 was included as Attachment 9 in its Petition.¹⁹ Otter Tail requested no changes to this Rate Schedule in this Docket.

¹⁹ Docket No. E-017/AA-23-181.



B. Department of Commerce - Comments

1. Annual Compliance and Reporting Requirements

The Department verified the Company provided the required information and recommended the Commission accept Otter Tail's petition as complying with the FCA forecast reporting requirements.

2. Otter Tail's Proposed Calculation of the 2025 Energy Adjustment Charges

The Department concluded Otter Tail's calculation of its proposed 2025 EAR rates for each customer class is consistent with the Commission-approved EAR tariff.

3. Forecast System Costs

As shown in Table 5, the Department noted that, when looking from 2011 to present day, Otter Tail's 2025 forecasted system costs are about average.

Table 5 - Otter Tail's Historical and Forecasted Net System FCA Costs (\$/MWh)²⁰

Calendar Year	Net System Cost (\$/MWh)
2011	22.43
2012	23.11
2013	23.48
2014	25.15
2015	24.73
2016	23.06
2017	23.78
2018	24.14
2019	23.93
2020	25.72
2021	21.68
2022	25.89
2023	20.75
2024 (Forecast)	26.099
2025 (Forecast)	23.92

4. Forecast System Sales

Table 6 summarizes actual 2014 – 2023 and forecasted 2024-2025 systems sales. The Department noted that 2025 forecasted system sales are similar to 2024's forecasted sales and 2023 actual system sales but about 20.7 percent higher than the 2014 – 2022 average. The

²⁰ Department Comments at 9.

increase is due to the 2022 addition of a new Large Commercial class customer in the North Dakota service territory.

Table 6 - Otter Tail's Historical and Forecasted System Sales Subject to Fuel Clause²¹

Calendar Year	System Sales (MWh)
2014	4,687,965
2015	4,600,009
2016	4,726,433
2017	4,787,858
2018	4,969,986
2019	4,999,522
2020	4,782,786
2021	4,772,031
2022	5,575,424
2023	5,818,926
2024 (Forecast)	5,750,224
2025 (Forecast)	5,885,378

The Department concluded the Company's forecasted 2025 system sales appear reasonable and recommended the Commission approve Otter Tail's forecasted 2025 system sales for the purpose of setting initial 2025 FCA/EAR rates in this proceeding, subject to the subsequent true-up. The Department cautioned that its recommendation in this docket should not be used in future rate cases or other proceedings, where a more thorough review of sales forecast will occur.

5. Forecasted 2025 Net System FCA Costs

The Department noted that Otter Tail's forecasted 2025 system cost of \$140,775,339 is a \$9,301,354 decrease, or about 6.2 percent, from the approved 2024 forecast.²²

The Department reviewed Otter Tail's 2025 net system FCA costs to assesses the reasonableness of the amounts incorporated into this estimate and identify costs inconsistent with historical data. Otter Tail provided reasons for variances between the 2025 forecast and 2021-2023 average actuals:²³

- 2025 forecasted plant generation costs are approximately 11 percent higher than the 2021 – 2023 average due to increased forecasted dispatch of coal and natural

²¹ Department Comments at 10.

²² *Id.* at 11.

²³ *Id.* at 12-13.

gas units in lieu of market purchases because OTP-owned units are more economical than purchasing energy from the market.

- 2025 forecasted net wholesale market charges are approximately 10 percent lower than the 2021 – 2023 average due to completion of transmission outages and upgrades in the Otter Tail service territory, resulting in congestion costs and financial transmission right revenues to decrease in 2024. This reduction results in a forecast elimination of the MISO wholesale energy market credit and a return to more typical expectation of a MISO wholesale energy market charges.
- 2025 forecasted wind curtailment costs are approximately 67 percent lower than the 2021 – 2023 average due to lower forecasted MWh compared to recent years.
- 2025 forecasted asset-based sales, which are a credit to the FCA calculation, are approximately 44 percent lower than the 2021 – 2023 average. The Company explained forecasted OTP-owned resources' fuel cost per MWh is higher than in recent years and decreasing forecasted energy market prices compared to recent years, leads to decreasing margins from asset-based sales.

The Department concluded that Otter Tail's explanations of the differences between its 2025 forecasted FCA cost and revenue component categories and the corresponding 2021 – 2023 averages are reasonable.

6. MISO Planning Resource Auction Revenues

The Department noted MISO operates an annual Planning Resource Auction (PRA) which covers the period from June through May of the following year. The annual PRA allows utilities to purchase needed capacity or sell excess capacity for the upcoming planning year. The Department said it will review the 2025 rates for the June to December EAR forecast from Otter Tail's Reply Comments by July 31, 2024 in this Docket with the known 2025 MISO/PRA costs or revenues for the June 2024 – May 2025 MISO planning year.

7. Customer Notification

Otter Tail provided its proposed customer notification in Petition Attachment 10. The Department verified the language in this notification is consistent with language approved in the Company's 2024 FCA/EAR forecast in Docket No. E-017/AA-23-181 and recommended it be approved.

8. Other Items

The Department mentioned two other items related to Otter Tail's 2025 FCA/EAR forecast.



a. Transition reagent expense and steam/water sales revenue to EAR

The Department noted that, as approved in Otter Tail's most recent rate case,²⁴ the Company's 2025 forecast includes the reagent's expense and the steam/water sale revenue and expenses transitions from base rates to the EAR. The Department reviewed the forecasted steam and water sales and incorporated the data in its analysis comparing Otter Tail's FCA 2021 – 2023 Historical Net Cost to 2025 FCA Forecast.

b. Coyote Plant Analysis

Docket No. E-999/CI-19-704, an investigation into the self-commitment and self-scheduling of large baseload generation facilities, includes discussions on whether additional analyses and reporting on Otter Tail's Coyote plant should be included in the Company's future FCA filings. Since the dispatch status and retirement dates of OTP's baseload units are being addressed in other proceedings, the Department did not address them here.

9. Recommendations

The Department concluded Otter Tail's 2025 FCA/EAR forecast is reasonable, and recommended the Commission:

- Approve Otter Tail's Petition as complying with the FCA/EAR forecast reporting requirements.
- Approve Otter Tail's 5,885,378 MWh of forecasted sales subject to the FCA/EAR and the \$140,775,339 in net system FCA/EAR costs including the corresponding forecasted EAR rates for each customer class.
- Approve the Company's proposed customer notification, updated as applicable with the effective date and rates approved in the instant Petition.

The Department added that, if Otter Tail submits a revised 2025 forecast, the Company should include the following:

- Identify all inputs to the economic dispatch model with revised value(s), with a narrative fully describing each and all such inputs. For each such input, explain the need for the value(s) revision and fully justify the reasonableness of the corresponding revised value(s).
- Provide revised red-lined and clean versions of all tables (Tables 2 - 16) included in the Department's comments, with a narrative explaining and fully justifying any data changes.
- Provide revised responses to all the Department's discovery to date.

The Department also requested that, in Reply Comments, Otter Tail provide information on the

²⁴ Docket No. E-017/GR-20-719.

2024 MISO actual PRA costs and revenues.

C. Otter Tail Power - Reply Comments

Otter Tail agreed with the Department's analysis of its May 2024 filing but did not submit a revision for its 2025 forecast. Specifically, Otter Tail stated:

Since Otter Tail's May 2024 filing 2025 forward natural gas pricing forecasts and Locational Marginal Price (LMP) forecasts have been falling. Compared to the forward energy pricing used in Otter Tail's May 2024 Filing,²⁵ the Peak and the Off-Peak OTP. OTP load zone LMPs decreased on average approximately \$2.62/MWh (5 percent decrease) per month and \$4.22/MWh (11 percent decrease) per month, respectively.²⁶ The Ventura Hub decreased on average approximately \$0.09/MMBtu (2 percent decrease) per month.²⁷ Otter Tail's "refresh" of its 2025 FCA forecast and associated rates for 2025 did not produce a material change of more than five percent; and, therefore, Otter Tail will continue to use its May 2024 filing forecast. Otter Tail will keep the Commission apprised if forward market energy prices are suspected to have a significant impact on Otter Tail's 2025 forecast and associated rates.²⁸

Otter Tail requested the Commission approve its 2025 FCA forecast and associated rates submitted in its May 2024 filing.

Otter Tail stated the MISO 2024/2025 Planning Resource Auction (PRA) revenues received in May 2024 of \$555,213 was immaterial for the quarter percentage point change. Otter Tail proposed to include this amount in the 2025 annual FCA True-Up filing.

D. Department of Commerce - Response to Reply Comments

The Department agreed with Otter Tail that, since the changes were under five percent, the 2025 FCA forecast "refresh" was not significant enough to justify a revised forecast. Further, the MISO capacity revenue was not material and should be included in its 2024 annual True-Up filing, not 2025.

IV. STAFF ANALYSIS

Staff concurs with the Department's final recommendation to the Commission to approve Otter Tail's 2025 FCA forecast based on 5,885,378 MWh of forecasted sales and the \$140,775,339 in

²⁵ Forward natural gas and LMP pricing in Otter Tail's May 2024 filing is from April 1, 2024.

²⁶ Based on forward LMP pricing from July 1, 2024.

²⁷ Based on forward natural gas pricing from June 28, 2024.

²⁸ Otter Tail Reply Comments, at 1.

net system FCA/EAR costs, at an average cost per MWh of \$23.920.

The Department recommended including the MISO capacity revenue in Otter Tail's 2024 annual True-Up filing, not 2025. Since this recommendation came in at the end of the comment period, the Commission may want to offer Otter Tail the opportunity to respond.



V. DECISION OPTIONS

Forecasted Sales and Fuel Costs

1. Approve Otter Tail's 2025 FCA forecast and associated rates, based on forecasted sales of 5,885,378 MWh and the \$140,775,339 in net system FCA/EAR, average cost \$23.920 per MWh, subject to a subsequent true-up. (Otter Tail, Department)

Customer Notification

2. Approve the Company's proposed customer notification, updated as applicable with the effective date and rates approved in the instant Petition. (Otter Tail, Department)

MISO Capacity Revenue

3. Require Otter Tail to include the MISO Planning Resource Auction (PRA) revenue of \$555,213 in its 2024 annual FCA True-Up filing. (Department)
4. Require Otter Tail to include the MISO Planning Resource Auction (PRA) revenue of \$555,213 in its 2025 annual FCA True-Up filing. (Otter Tail)