MINNESOTA
PUBLIC UTILITIES COMMISSION

Staff Briefing Papers

Meeting Date	**October 31, 2024**		**Agenda Item 4***
Company	**Minnesota Power**		
Docket No.	**E-015/AA-24-64**		
	In the Matter of Minnesota Power's Petition for Approval of the Annual Forecast of Automatic Adjustment Charges for the period of January 2025 through December 2025.		
Issues	Should the Commission approve Minnesota Power's Annual Forecast of Automatic Adjustment Charges for the period: January, 2025 through December, 2025?		
Staff	Andrew Larson	andrew.m.larson@state.mn.us	651-201-2259

✓ **Relevant Documents**	**Date**
Minnesota Power – Initial 2024 Petition (Public and Trade Secret)	May 1, 2024
Department of Commerce – Comments (Public and Trade Secret)	July 1, 2024
Minnesota Power – Reply Comments	July 31, 2024
Department of Commerce – Letter	August 22, 2024

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I. Statement of the Issues

Should the Commission approve Minnesota Power's Annual Forecast of Automatic Adjustment Charges for the period: January, 2025 through December, 2025?

II. Background

On May 1, 2024, Minnesota Power (MP, the Company) filed its initial petition (Petition) for approval of its annual forecast automatic adjustment charges for the period of January 2025 through December 2025.

On July 1, 2024, the Minnesota Department of Commerce – Division of Energy Resources (Department, DOC) filed comments recommending Petition approval and requesting additional information related to MISO's Planning Resource Auction.

On July 31, 2024, Minnesota Power filed Reply Comments providing the requested information.

On August 22, 2024, the Department filed a Letter recommending approval of MP's 2025 Fuel Forecast.

III. Parties' Discussion

A. Minnesota Power – Initial 2025 Forecast

1. 2025 Fuel Forecast and Purchased Energy (FPE) Costs

The Company's forecasted 2025 FPE rates are based on assumptions and information known at the time the forecast was developed. Tables 1 through 3 summarize MP's 2025 forecasted fuel costs and sales.

Table 1: Forecasted Fuel Cost Summary

	2025 Forecast
Company's Generating Stations	$131,822,689
Plus: Purchased Energy	$228,880,278
Plus: MISO Charges	$39,304,154
Less: MISO Schedules 16, 17, & 24	$(306,699)
Less: Costs Recovered through Inter-System Sales	$132,731,488
Less: Costs Related to Solar	$2,597,139
Plus: Time of Generation and Solar Energy Adjustment	$1,387,347
Total Cost of Fuel	**$266,372,540**
Total Fuel Clause Sales (MWh)	**8,997,900**
Average Cost of Fuel (¢/kWh)	**2.955**

Table 2: Forecasted Sales (MWh)

	2025 Forecasted Sales
Total Sales of Electricity	**12,710,739**
Residential	1,040,641
Commercial	1,202,801
Large Power Taconite	4,190,960
Large Power Paper and Pulp	601,791
Large Power Pipeline	321,073
Other Miscellaneous	318,858
Municipals	1,378,882
Inter System Sales	3,655,733
Less: Inter System Sales	**3,655,733**
Customer Intersystem Sales	1,011,240
Market Sales	2,640408
Station Service	4,085
Sales due to Retail Loss of Load	0
Less: Solar Generation & Purchases	**57,106**
Total Fuel Clause Sales	**8,997,900**

Table 3 shows Minnesota Power's proposed monthly forecasted rates to be implemented January 1, 2025.

Table 3: Proposed Monthly FPE Forecasted Rates (¢/kWh)

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
3.262	3.105	2.821	2.817	2.804	2.722	3.019	3.192	2.952	2.811	2.773	3.186

2. Revised Tariff Sheet

Minnesota Power stated that, to reflect approved rates, it will submit a compliance within 10-days of the Commission Order with a redline and clean revision of the FPE Rider.

3. Model and Forward Energy Prices

a. RTSim Model

For budgeting and planning purposes, Minnesota Power used the RTSim production cost model which is a detailed hourly simulation that dispatches generation to meet customer load requirements, while simultaneously factoring in bilateral contracts and the energy market, and assigns the appropriate energy costs to customers. The inputs that drive the model include customer loads, forecasted forward energy prices, contract energy purchases and sales, and generation parameters (i.e., fuel costs, maintenance schedules, economic dispatch status, etc.) The model's output includes the energy and costs for thermal generation, hydro generation, wind generation, bilateral contracts, and MISO market purchases and sales.

b. Forward Energy Prices

For forward energy prices, Minnesota Power used the forward market energy price outlook. The 2025 energy price outlook is based on a 10-business day average of forward market energy prices at close from January 29, 2024 through February 9, 2024. The market prices are used in the model for generation dispatch and the MISO market purchase costs or MISO market sales revenues.

4. Customer Sales

Minnesota Power explained that its sales forecast was based using the following assumptions:

Residential:

- Based on Minnesota Power's 2023 Annual Electric Utility Forecast Report (AFR).[1]
- The forecast of Residential class sales is primarily driven by residential customer account growth (regional housing starts), weather, and energy efficiency.

Commercial:

- Based on Minnesota Power's 2023 Annual Electric Utility Forecast Report (AFR).[2]
- The primary drivers of Commercial energy sales are commercial customer account growth (Gross Metro Product), weather, regional employment and population, and conservation. The modeling also accounts for some irregular energy consumption behavior due to COVID-19 restrictions in recent history. The econometric results are adjusted for the expected installation of new customer-owned generation.

Taconite:

- Operating at levels reflective of 35 million dry tax tons, adjusted for current U.S. steel mill operating levels. Routine maintenance incorporated based on historical trends and customer business plans, if known. Inter-system sales such as Incremental Production Services (IPS) fixed and variable non-firm are based on contract terms, historical trends, and customer business plans, if known.

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[1] Docket No. E-999/PR-23-11.

[2] *Id.*

Paper and Pulp:

- Operational customers reflective of 2019 operating levels and one customer reflective of operating levels based on an ownership change.
- Routine maintenance incorporated based on historical trends and customer business plans, if known.
- Inter-System sales such as IPS, Replacement Firm Power Service (RFPS), Economy, and Non-firm developed based on contract terms, historical trends, and customer business plans, if known.

Pipelines:

- 2-year average with one pipeline customer.

Other Miscellaneous:

- Based on Minnesota Power's 2023 Annual Electric Utility Forecast Report (AFR).[3]
- Other large industrial customers assume a 3-year (2021-2023) historical average of annual sales. Adjustments are applied for any known or expected change in operation that would impact energy sales.

Municipals:

- 13 customers reflect a new contract (implemented January 1, 2022) with reduced firm demand and energy sales. One customer reflects an increase in load relative to recent years due to change in pipeline pumping operations and restart of a large oil refinery. Hibbing Public Utilities reflects a new agreement that incorporates the city utilizing their own generation and market to serve their load removing their firm demand and energy sales.

Losses:

- Transmission losses are allocated to Firm Transmission service, Non-Firm Transmission, and Distribution-level service based on their projected energy requirements and expected losses at each level of service.
    - Total transmission losses allocated to Firm transmission customers is about 222,000 MWh.
    - Total losses allocated to Firm Distribution customers is approximately 241,000 MWh (Transmission loss = 90,000) + (Distribution loss = 151,000).

5. Generation Costs

a. Boswell

Assumptions for Boswell:

- 2024 year-end inventory fuel volume and total dollars as forecasted in February 2024. Latest estimate provides January 1, 2025, beginning fuel inventory.

[3] Docket No. E-999/PR-23-11.

- Fuel cost forecast provided is for Minnesota Power share only (WPPI Energy (WPPI) owns 12.5 percent of inventory per the Minnesota Power/WPPI Operating Agreement).
- 2025 delivery volume, as approved by Minnesota Power Fuel Strategy Group.
    - Rail transportation cost is based on L.E. Peabody forecast with All-LF escalator.
    - Rail fuel surcharge based upon EIA diesel forecast.
    - Coal topper pricing escalated 2 percent from 2023.
    - Coal commodity cost is based on actual coal 2025 coal contracts and open position based upon L.E. Peabody and Associates forecast.
    - Previous month's ending inventory (Total MMBtus and $) + Current month coal deliveries (Total MMBtus and $) = weighted average current month coal burn cost.
- Coal burn based upon generation formulated in RTSim modeling.
- Outages as provided by Generation Operations.
- 2025 Montana/Wyoming coal blend ratios remain consistent with 2024 target (60 percent Wyoming, 40 percent Montana for Boswell Energy Center (BEC) 3 and 50 percent Wyoming/50 percent Montana for BEC 4).
- Natural gas costs based upon 2025 Henry Hub Forward Natural Gas Curve, from Gas Daily and includes pipeline tariff cost.

b. Hibbard

Assumptions for Hibbard:

- Biomass burn based upon generation formulated in RTSim modeling.
- Biomass Pricing based upon 2025 forecasted forest residue pricing.
- Natural gas costs based upon 2025 Henry Hub Forward Natural Gas Curve, from Gas Daily, and includes City of Duluth Comfort Systems transportation charges.
- Also see Attachment 2, "Fuel Procurement" for additional support.

Laskin

Assumptions for Laskin:

- Natural Gas burn based upon generation formulated in RTSim modeling.
- Natural gas costs based on 2025 Henry Hub Forward Natural Gas Curve, from Gas Daily, and pipeline transportation based upon actual supplier contract formula pricing.
- Also see Attachment 2, "Fuel Procurement" for additional support.

Wind

Assumptions for Wind:

- Minnesota Power used a 5-year historical average to estimate wind generation levels.
- Wind generation owned by Minnesota Power has a $0 fuel cost.

Hydro

Assumptions for Hydro:

- Minnesota Power used a 5-year historical average to estimate hydro generation levels.
- Hydro generation owned by Minnesota Power has a $0 fuel cost.

6. Purchase Costs

Manitoba Hydro:

- Contract Terms - Refer to Docket No. E-015/M-11-938.
- Contract Terms - Refer to Docket No. E-015/M-14-960.

Minnkota Power Cooperation:

- Station Service Contract Terms - Refer to Docket No. E-015/AA-19-302.
- Renewable Source Contract Terms - Refer to E-015/GR-16-664. Purchase is offset by the sale to the renewable source customers in "Inter-system Sales Forecast."

Purchase to serve Non-Firm Retail Customer:

- Based on customers load - No purchase made, so price has been estimated.

Oliver County 1 - Refer to Docket No. E-015/M-05-975.

Oliver County 2 - Refer to Docket No. E-015/M-07-216.

Wing River - Refer to Docket No. E-015/M-07-537.

Nobles - Refer to Docket No. E-015/M-18-545.

Square Butte - Refer to Docket No. E-015/PA-09-526.

SES 20MW Solar:

- Generation - Refer to Docket No. E-015/M-20-828.
- Costs and generation will go to the Solar Energy Adjustment ("SEA").

Purchase to Serve Municipal Solar Energy:

- Purchase to procure solar energy for a municipal customer. Purchase is offset by the sale to the municipal customer in "Inter-System Sales Forecast."

Market Purchases:

- Minnesota Power uses the RTSim production cost model to determine the volume and cost for MISO market purchases. When additional energy is needed to serve load or it is lower cost to purchase energy from the market than to generate energy from Minnesota Power's dispatchable fleet, the model will utilize the MISO market for purchases.

7. Inter-System Sales

- IPS and RFPS - Developed based on contract terms, historical trends, and customer business plans, if known.

- Economy and Non-Firm - Developed based on contract terms, historical trends, and customer business plans, if known.

- Municipal Incremental - 13 customers have a new contract with reduced firm demand and energy sales. Contract: Developed based on contract terms, historical trends, and customer business plans, if known.

- Municipal Solar Energy - Sales side of the direct pass through of the "Purchase to Serve Municipal Solar Energy."

- Oconto - Refer to Docket No. E-015/AA-19-302.

- Hibbing Public Utilities - Customer outlook reflects the new agreement that incorporates the city utilizing their own generation and market to serve their load removing their firm demand and energy sales. Contract Terms – Refer to Docket No. E-015/M-21-28.

- Minnkota Power Cooperation – Renewable Source: Sales side of the direct cost pass through of the "Minnkota Power Cooperation Renewable Source".

- Asset Based Sales (Non-MISO) - Minnesota Power uses a RTSim production cost model to determine when a sale is an asset-based sale or liquidation sale. For 2025, no asset-based sales to a counterparty have been forecasted.

- Liquidated Sales (Non-MISO) - MISO Market Sales - Minnesota Power uses a RTSim production cost model to determine when a sale is an asset-based sale or liquidation sale. For 2025, no liquidation sales to a counterparty have been forecasted.

- MISO Market Sales - Variable- Minnesota Power uses a RTSim production cost model to determine the volume and cost for MISO market sales. When excess energy is available and it's economical, the model will sell the excess energy into the MISO market. MISO Market Sales are either an asset-based sale or liquidation sale.

- Minnkota Power Liquidation - Refer to Docket No. E-015/AA-19-302.

- Oliver County 1: January through December 2023 Average.

- Oliver County 2: January through December 2023 Average.

- WPPI Energy - January through December 2023 average per day multiplied by the 2025 forecasted scheduled and forced outages at BEC 4. See Attachment 5 for outage assumptions.

- MISO Costs - See Attachment 3 for MISO Costs breakdown and assumptions.

- Asset Based Sales Margins - Minnesota Power uses a RTSim production cost model to determine when a sale is an asset-based sale. The margins from these sales are included in the FAC Calculation (Attachment 1 – 2025 FAC Forecast Calculation) per the Rate Case Resolution Docket Nos. E-015/GR-19-442 and E-015/M-20-429. The margin from the Municipal Incremental Sale is also included in the Asset Based Sales Margins.

B. Department of Commerce – Comments

The Department noted that, in compliance with the Commission's June 12, 2019 Order in Docket No. E999/CI-03-802, Minnesota Power filed its 2025 Annual Forecasted Fuel and Purchased Energy Rates (Fuel Report) for the calendar year 2025.[4]

The Department recommended that the Commission accept the following Minnesota Power compliance filings per Minnesota Rules:

1. Fuel and Energy Source Procurement and Energy Dispatching Policies (Minnesota Rules 7825.2800).
2. Forecast of Annual Automatic Adjustment Charges (Minnesota Rules 7825.2810).
3. Annual Five-Year Projection of Fuel Costs (Minnesota Rules 7825.2830).
4. Annual Notice of Reports Availability (Minnesota Rules 7825.2840).

1. Sales Forecast for 2025

Table 4 compares Minnesota Power's Approved 2024 Sales (MWh)[5] and 2025 Forecasted Sales (MWh).

Table 4: 2024 Approved and 2025 Forecasted Sales (MWh)

	2024 Approved	2025 Forecasted	Change in MWh	Percent Change
Total Sales of Electricity	**12,397,514**	**12,710,736**	**313,225**	**2.53%**
Residential	1,045,140	1,040,641	(4,499)	-0.43%
Commercial	1,230,613	1,202,801	(27,812)	-2.26%
LP Taconite	3,794,988	4,190,960	395,972	10.43%
LP Paper and Pulp	599,802	601,791	1,989	0.33%
LP Pipeline	310,455	321,073	10,618	3.42%
Other Misc.	333,861	318,858	(15,003)	-4.49%
Municipals	1,313,471	1,378,882	65,411	4.98%
Inter System Sales	3,769,185	3,655,733	(113,452)	-3.01%
Less: Inter System Sales	**3,769,185**	**3,655,733**	**(113,452)**	**-3.01%**
Customer Inter System Sales	940,132	1,011,240	71,108	7.56%
Market Sales	2,826,652	2,640,408	(186,244)	-6.59%
Station Generation Service	2,401	4,085	1,684	70.14%

[4] Department Comments at 1.

[5] *Id.* at 4.

	2024 Approved	2025 Forecasted	Change in MWh	Percent Change
Sales due to Retail Loss of Load	-	-	-	-
Less: Solar Generation & Purchases	**55,492**	**57,106**	**1,614**	**2.91%**
Total Fuel Clause Sales	**8,572,838**	**8,997,900**	**425,062**	**4.96%**

The Department pointed out that MP's 2025 total sales forecast in higher than the 2024 approved forecast. The higher sales are largely driven by higher Large Power Taconite Sales and lower Market Sales.[6]

The Department cited MP's report that it continues to use the RTSim production cost model for budgeting and planning purposes and, in this proceeding, to estimate the monthly fuel costs:

> The RTSim model is a detailed hourly simulation that dispatches generation to meet customer load requirements, while simultaneously factoring in bilateral contracts and the energy market and assigns the appropriate energy costs to customers. The inputs that drive the model include customer loads, forecasted forward energy prices, contract energy purchases and sales, and generation parameters (i.e., fuel costs, maintenance schedules, etc.). The model's output includes the energy and costs for thermal generation, hydro generation, wind generation, bilateral contracts, and MISO market purchases and sales.[7]

In Table 5, the Department compared Minnesota Power's 2024 sales forecast to 2021 to 2023 actual sales (three most recent years of actuals) and the three-year average for 2021 to 2023.

[6] Department Comment at 5.

[7] *Id.*

Table 5: Minnesota Power's 2021 to 2023 Actual Sales Compared to 2025 Sales Forecast per MWh[8]

	2021 Actuals	2022 Actuals	2023 Actuals	2021-2023 Average	2025 Forecast
Total Sales of Electricity	**14,566,917**	**12,948,280**	**12,796,580**	**13,437,259**	**12,710,739**
Residential	1,043,665	1,063,695	1,013,751	1,040,370	1,040,641
Commercial	1,174,413	1,181,292	1,179,547	1,178,417	1,202,801
LP Taconite	4,428,819	4,297,541	4,410,110	4,378,823	4,190,960
LP Paper and Pulp	489,259	490,030	533,667	504,319	601,791
LP Pipeline	341,031	305,030	336,125	327,395	321,073
Other Misc.	341,353	341,716	355,881	346,317	318,858
Municipals	1,393,315	1,299,049	1,338,625	1,343,663	1,378,882
Inter System Sales	5,355,063	3,969,927	3,628,874	4,317,955	3,655,733
Less: Inter System Sales	**5,355,063**	**3,969,927**	**3,628,874**	**4,317,955**	**3,655,733**
Customer Inter System Sales	1,067,722	820,924	809,093	899,246	1,011,240
Market Sales	3,412,055	3,140,614	2,812,719	3,221,796	2,640,408
Station Generation Service	6,126	8,390	7,063	7,193	4,085
Sales due to Retail Loss of Load	869,160	-	-	289,720	-
Less: Solar Generation & Purchases	**17,215**	**16,112**	**38,441**	**23,923**	**57,106**
Total Fuel Clause Sales	**9,194,640**	**8,962,240**	**9,129,265**	**9,095,382**	**8,997,900**

The Department recommended the Commission accept Minnesota Power's 2025 sales forecast to set FCA rates for 2025, as total fuel clause sales are close but slightly higher compared to 2023 actuals and the three-year average for 2021 through 2023. Higher inter system sales in 2021 drove up the three-year average, which accounts for the difference between the 2025 forecast and the three-year average. The Department noted Minnesota Power's FCA revenues and costs are subject to true-up in the 2025 True-Up Report. The Department also noted that its recommendation in this docket should not be used in Minnesota Power's rate cases or other rate proceedings which require a more thorough review of the Company's sales forecast.

2. Forecasted Automatic Adjustment Charges for 2025

As shown in Table 6, the Department compared Minnesota Power's 2025 forecast to actual 2021 to 2023 fuel costs, by year, and the 2021 to 2023 three-year average.

[8] Department Comments at 6.

Table 6: 2021 to 2023 Actuals and 2021-2023 Three Year Average Compared to 2025 Forecasted Fuel Cost Summary per $/MWh

	2021 Actuals	2022 Actuals	2023 Actuals	2021-2023 Average	2025 Forecast
Company's Generating Stations	$111,316,951	$130,269,082	$120,798,378	$120,794,804	$131,822,689
Plus: Purchased Energy	$302,780,486	$262,867,849	$255,150,291	$273,599,542	$228,880,278
Plus: MISO Charges	$64,223,807	$59,750,884	$24,240,451	$49,405,048	$39,304,154
Less: MISO Sch. 16, 17, and 24	($79,627)	($406,916)	($434,364)	($306,969)	($306,699)
Less: Cost Recovered through Inter System Sales	$160,780,204	$167,749,176	$129,080,438	$152,536,606	$132,731,488
Less: Costs Related to Solar	$1,366	$83	$1,354,052	$451,834	$2,597,138
Plus: Time of Generation and Solar Energy Adjustment	$386,358	$440,270	$1,191,444	$672,690	$1,387,347
Total Cost of Fuel	**$318,005,659**	**$285,985,742**	**$271,380,438**	**$291,790,613**	**$266,372,540**
Total Fuel Clause Sales (MWh)	**9,194,640**	**8,962,240**	**9,129,265**	**9,095,382**	**8,997,900**
Average Cost of Fuel	**$34.59**	**$31.91**	**$29.73**	**$32.08**	**$29.60**

Although some differences are present across different categories, the Company's 2025 forecasted cost of fuel is similar to its 2023 actuals and lower than the three-year 2021 through 2023 average. Its 2025 forecast is lower than any actuals from 2021 through 2023. Purchased energy costs in the 2025 forecast are down significantly from 2023 because of increased generation offsetting energy purchases, resulting in fewer MWh of energy purchased and resultant lower purchased power costs. MISO Charges and Inter System Sales Costs are both up from 2023, but down significantly from 2021 and 2022 levels. Solar costs are up due to higher forecasted solar generation and increased contract prices.[9]

Table 6 shows the average cost of fuel for 2025 is 7.72% lower than the three-year average of 2021 through 2023 actuals, and 0.41% lower than 2023 actuals. Overall, based on the additional information Minnesota Power provided, the Department considers Minnesota Power's 2025 fuel forecast to be reasonable.

The Department recommended the Commission approve Minnesota Power's 2025 Fuel and Purchased Energy Forecast for setting initial FCA rates in this proceeding, subject to a true-up.

[9] Department Comments at 8.

3. Forecasted Company owned Generation by Fuel Type and Location

Table 7 compares, by facility, 2025 forecast Company-owned generation costs to 2021 through 2023 costs and 2021 through 2023 three-year average costs.

Table 7: Company Owned Generation – 2021 to 2023 Actuals, 2021 to 2023 Three-Year Average, and 2025 Forecast[10]

Company Owned Generation	2021 Actuals	2022 Actuals	2023 Actuals	2021-2023 Average	2025 Forecast
Coal					
Boswell 3	$46,778,306	$52,242,979	$53,904,679	$50,975,321	$49,397,131
Boswell 4	$53,449,013	$57,234,785	$58,342,766	$56,342,188	$67,769,780
Gas					
Laskin 1	$3,542,131	$6,306,886	$,2,355,052	$4,068,023	$3,543,752
Laskin 2	$3,287,399	$6,961,890	$1,915,269	$4,054,853	$3,491,045
Biofuel					
Hibbard	$4,260,102	$7,522,542	$4,280,613	$5,354,419	$7,620,980
Wind					
Bison	$0	$0	$0	$0	$0
Tac Ridge	$0	$0	$0	$0	$0
Hydro					
Hydro	$0	$0	$0	$0	$0
Total Company Generation	**$111,316,951**	**$130.269.082**	**$120,798,378**	**$120,794,804**	**$131,822,689**
MWh	[TRADE SECRET DATA HAS BEEN EXCISED]				
Total Company Owned Generation per MWh					

The Department considered Minnesota Power's owned generation assumptions to be reasonable, despite the Company's 2025 forecast calls for increased power generation costs for 2025 compared to 2023 actuals and the three-year average.

The Department considered Minnesota Power's 2025 owned generation forecast reasonable for the purposes of setting initial FCA rates in this proceeding, subject to the subsequent true-up.

4. Purchased Energy – Long Term PPAS

As summarized in Table 8, Minnesota Power's Petition[11] provided details of purchase costs: 2021-

[10] Department Comments at 9.

[11] Attachment 1, pages 21 and 22.

2023 actuals, the three-year average and 2025 forecasted costs.

Table 8: Purchased Energy – Long-Term PPAs for 2021 to 2023 Actuals, 2021 to 2023 Three-Year Average, and 2025 Forecast[12]

Purchased Energy	2021 Actuals	2022 Actuals	2023 Actuals	2021-2023 Average	2025 Forecast
Coal – Square Butte	$33,604,104	$30,080,957	$36,731,373	$33,472,145	$37,998,456
Hydro – MHEB	$102,549,433	$115,956,880	$115,566,245	$111,357,519	$103,054,756
Wind	$27,678,338	$32,536,121	$28,378,595	$29,531,018	$28,970,428
Solar	$1,367	$137,350	$1,576,111	$571,609	$2,808,734
Market	$138,947,245	$84,156,541	$72,897,968	$100,137,211	$56,047,904
Total	**$302,780,486**	**$262,867,849**	**$255,150,291**	**$275,069,502**	**$228,880,278**

Based on its review of MP's assumptions and contract information for purchased energy, the Department considered the information to be reasonable. Solar is up due to higher forecasted generation and increased price increases due to contract price increases. Coal is also higher due to increased fuel costs. The Department noted that, when compared to 2021 through 2023 actuals and the three-year average, the 2025 forecast has lower market purchases and appears reasonable. The Department therefore recommended Minnesota Power's purchased energy forecast be approved for setting initial FCA rates in this proceeding, subject to subsequent true-up.

5. MISO Energy Market (MISO Day 2) and Ancillary Services Market

As shown in Table 9, MP's 2025 forecasted MISO Market Charges are $ $39,304,154; however, net of sales, total MISO charges are ($11,412,543)[13]. The table as also provides allocation of MISO charges between retail and municipal sales on a per-MWh basis.

Table 9: 2025 Forecasted Net MISO Charges[14]

Total Net MISO Charges		
MISO Market Purchases		$27,073,437
MISO Cost – Other than Energy		$39,304,154
MISO Costs Recovered through Inter-System Sales (Market Sales)		($4,957,940)
MISO Costs Recovered through Inter-System Sales (Customer Sales)		($39,160,281)
MISO Market Sales		($33,671,913)
Net Total MISO Charges		**($11,412,543)**
Allocation of Net MISO Charges		

12 Department Comments at 10.

13 Petition, Page 6.

14 Department Comments at 11.

Retail Sales (in MWh)	7,619,018	($9,663,629)
Municipal Sales (in MWh)	1,378,882	($1,748,914)
Total FCA Sales	8,997,900	($11,412,543)

Minnesota Power's 2025 $11.4 million revenue credit forecast is higher than its 2024 MISO charges forecast was a $6.8 million revenue credit which was lower due to lower expected MISO market sales.[15]. The Department explained that the $4.65 million difference[16] is primarily due to a $14.2 million decrease in MISO Market charges, even though 2025 market purchases rose by $7.15 million.

The Department concluded the Company's MISO Day 2 and ASM costs and revenues included in the 2025 forecast appear reasonable and recommended acceptance of Minnesota Power's MISO Day 2 and ASM costs and revenues included in the 2025 forecast in this proceeding, subject to a subsequent True-up.

6. Asset-Based Margins

The Department noted that Minnesota Power stated that "for 2025, no asset based bilateral sales to a counterparty have been forecasted." The Company forecasted $0 in non-MISO asset-based costs[17] And forecasted $33,671,913 in MISO Market Sale. The Department reviewed Minnesota Power's RTSim inputs and outputs and found the assumptions to be reasonable. Therefore, the Department concluded the Company's 2025 forecasted asset-based margins appear reasonable and recommended the forecast, for the purpose of setting initial FCA rates in this proceeding and subject to subsequent true-up, be approved.

7. Outage Costs – Forced and Planned

The Department noted that MP's Attachment No 5 explained the Company's planned and unplanned outage methodology. For Boswell Units 3 and 4, planned outages are based on Original Equipment Manufacturer (OEM) guidelines. For unplanned outages, the Company wrote:

> Minnesota Power utilizes the average of the previous ten years of the NERC [North American Electric Reliability Corporation] Generating Availability Data System ("GADS") Equivalent Unplanned Outage Factor ("EUOF") to calculated [sic] unplanned outages. The EUOF is the percent of hours during the year (given period) the unit was in an unplanned outage. The ten-year average ensures one good or bad year does not over or under-state forecasted unit performance.[18]

Table10 summarizes Minnesota Power's 2021-2023 historical forecasted and actual outage costs and forecasted 2025 (trade secret) costs.

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[15] Docket No. E-015/AA-23-180, Department Comments dated June 30, 2023, p. 12.

[16] $11.4 million minus$6.8 million = $4.65 million.

[17] Petition, Attachment 1, Page 9.

[18] Petition, Attachment 5, Page 3.

Table 10: Comparison of Actual Forced and Planned Outage Costs for 2021 to 2023 Fuel Forecasts with 2025 Forecast (all figures in $)

Outage Incremental Costs	2021		2022		2023		2021-2023 Average		2025 Forecast
	Forecasted	Actual	Forecasted	Actual	Forecasted	Actual	Forecasted	Actual	
Planned Outage	(2,869,832)	6,415,192	(1,635,238)	2,697,271	2,843,515	425,645	(553,852)	3,179,369	[TRADE SECRET DATA HAS BEEN EXCISED]
Forced Outage	(633,962)	3,384,320	(842,438)	9,598,118	7,514,340	6,352,244	2,012,647	6,444,984	
Total	(3,503,794)	9,799,512	(2,477,676)	12,295,389	10,357,855	6,777,889	1,458,795	9,624,263	

Table 11 compares the Company's 2021 through 2023 forecasted to actual costs for planned outages.

Table 11: Comparison of Forecast and Actual Planned Outage Incremental Costs

Incremental Costs	2021	2022	2023
Forecasted	($2,869,832)	($1,635,238)	$2,843,515
Actual	$6,415,192	$2,697,271	$425,645
Difference	$9,285,024	$4,332,509	$(2,417,870)

Table 12 summarizes Minnesota Power's 2025 forecasted unplanned outages (MWhs). Minnesota Power explained the main (trade secret) differences between 2021-2023 actuals and the 2025 forecast are due to Boswell 4 outages in 2022 and 2023 related to a Turbine Generator Bearing Repair and a Turbine/Generator trip repair outage, respectively.

Table 12: Unplanned Outages[19]

Generation Specifications			
	Econ Min	Econ Max	EUOF[20]
Boswell Unit 3	75 MW	350 MW	7.4%
Boswell Unit 4	185 MW	580 MW	8.5%

The Department recommended the Commission accept the Company's 2025 forecast for planned and forced outage costs, subject to a subsequent true-up.

[19] Petition, Attachment 5, Page 7.

[20] The Equivalent Unplanned Outage Factor ("EUOF") is based on a 10-year average.

8. MISO Planning Resource Auction Revenues

The Department stated that the Company's Petition did not include MISO Planning Resource Auction (PRA). Therefore, Department requested the Company this information in its Reply Comments.

9. Proposed Forecasted Rates and Tariff

Minnesota Power proposed the following monthly forecasted rates to be implemented January 1, 2025 are shown in Table 13.

Table 13: proposed Monthly Forecasted Rates (cents/kWh)

Jan.	Feb.	March	April	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
3.262	3.105	2.821	2.817	2.804	2.722	3.019	3.192	2.952	2.811	2.773	3.186

The Department recommended the Commission approve the proposed monthly forecasted rates and require Minnesota Power to make a compliance filing with redlined and clean versions of the Fuel and Purchased Energy Rider Tariff sheet with supporting calculations, within 10 days of the date of the Order for implementation effective January 1, 2025.

10. Recommendations

For Minnesota Power's Annual Forecast of Automatic Adjustment Charges for the period of January 2025 through December 2025, the Department recommended the Commission accept Minnesota Power's filing, subject to a subsequent true-up, pending Minnesota Power providing in Reply Comments the results of the MISO Planning Resource Auction and its impact, if any, on the 2025 FPE Forecast.

The Department further recommended the Commission approve the proposed monthly forecasted rates and require Minnesota Power to make a compliance filing with redlined and clean versions of the Fuel and Purchased Energy Rider Tariff sheet with supporting calculations, within 10 days of the date of the Order for implementation effective January 1, 2025.

C. Minnesota Power – Reply Comments

Minnesota Power responded to the Department's requested information.

1. Results of the MISO Planning Resource Auction

MP stated that this year's MISO Planning Resource Auction capacity prices cleared lower than forecast. For 2025, the Company forecasted PRA results to be $190,477, but the lower January – May 2025 auction actuals reduced the 2025 forecasted revenues to $89,445. The biggest difference falls in January and February of 2025, where Minnesota Power forecasted $55,000 in revenue per month, and the actual results were closer to $4,000 per month. Because of the lower actual PRA results, an increase of around $0.06 and $0.07 will be seen for those months. The June – December 2025 PRA remained unchanged as it is still a forecast. Overall, the actual PRA results from January – May 2025 increased the 2025 average FPE rate by $0.01, which the Company considered

immaterial, not needing an update to the 2025 FPE Forecast.

D. Department Letter

The Department was satisfied with Minnesota Power's Reply Comments and recommended the Commission approve Minnesota Power's 2025 Fuel Forecast, subject to a subsequent true-up.

E. Staff Comments

Staff notes that the Department initially recommended approval of Minnesota Power's Petition of the Annual Forecast of Automatic Adjustment Charges, subject to a subsequent true-up, pending results of the MISO Planning Resource Auction. The Company provided the requested information. Staff therefore concurs with the Department and Minnesota Power that the Company's Annual Forecasted Fuel and Purchased Energy Rates for 2025, subject to a subsequent true-up be approved.

F. Decision Options

1. Approve Minnesota Power's Annual Forecast of Automatic Adjustment Charges for the period: January, 2025 through December, 2025, subject to a subsequent true-up. (Minnesota Power, Department)

2. Require Minnesota Power to make a compliance filing with redlined and clean versions of the Fuel and Purchased Energy Rider Tariff sheet with supporting calculations, within 10 days of the date of the Order for implementation effective January 1, 2025. (Department)