

June 30, 2023

PUBLIC DOCUMENT

Will Seuffert
Executive Secretary
Minnesota Public Utilities Commission
121 7th Place East, Suite 350
St. Paul, Minnesota 55101-2147

RE: **PUBLIC Comments of the Minnesota Department of Commerce, Division of Energy Resources**
Docket No. E015/AA-23-180

Dear Mr. Seuffert:

Attached are the **PUBLIC** comments of the Minnesota Department of Commerce, Division of Energy Resources (Department) in the following matter:

Minnesota Power's Petition for Approval of the Annual Forecasted Fuel and Purchased Energy Rates for the Calendar Year 2024

Hillary A. Creurer, Regulatory Compliance Administrator for Minnesota Power, filed the Petition on May 1, 2023.

The Department recommends the Minnesota Public Utilities Commission (Commission) **approve Minnesota Power's 2024 Fuel Forecast, subject to a subsequent true-up, pending additional information provided by Minnesota Power in Reply Comments.** The Department requests Minnesota Power provide the following in its Reply Comments:

1. Results of the MISO Planning Resource Auction and updates to the 2024 FPE Forecast
2. Adjusted 2024 FPE Forecast and information supporting all changes
3. The reasons for the \$20.5 million decrease in MISO Market sales between its 2023 and 2024 forecast

The Department is available to answer any questions the Commission may have.

Sincerely,

/s/ ANDREW GOLDEN
Financial Analyst

AG/ja
Attachment



Before the Minnesota Public Utilities Commission

PUBLIC Comments of the Minnesota Department of Commerce Division of Energy Resources

Docket No. E015/AA-23-180

I. INTRODUCTION

On May 1, 2023, Minnesota Power (MP or the Company) filed its 2024 *Annual Forecasted Fuel and Purchased Energy Rates* (Fuel Report) for the calendar year 2024. Minnesota Power made its Fuel Report to comply with the decisions the Minnesota Public Utilities Commission (Commission) rendered in its June 12, 2019 [Order](#) in Docket No. E999/CI-03-802 and in compliance with [Minnesota Rules](#) 7825.2800 to 2825.2840 governing Automatic Adjustment of Charges.

II. BACKGROUND

[Minnesota Statutes § 216B.16](#), subd. 7, authorizes the Commission to allow a public utility to automatically adjust charges for the cost of fuel.

On May 2, 2022, Minnesota Power filed its [2023 Forecasted Fuel and Purchased Energy Report](#) for approval of 2023 fuel rates in Docket No. E015/AA-22-218. On December 8, 2022, the Commission issued its [Order](#) approving the following:

1. Authorized Minnesota Power to implement its Revised 2023 FCA forecast, based on forecasted sales of 8,815,400 kWh and forecasted fuel costs of \$294,446,791.
2. Required 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 this for implementation effective January 1, 2023.
3. Delegated authority to the Executive Secretary to approve the contents of any subsequent customer notice and rate schedule in this proceeding.
4. Ordered Minnesota Power to file a revised 2023 forecast that incorporates 2023/2024 MISO Planning Resource Auction credit/revenue, if applicable, once results are known, and incorporate them into rates the first of the month following the revised 2023 forecast filing, waving the 30-day notice under a significant event filing.

In its June 30, 2020 [Order](#), the Commission approved Minnesota Power's April 23, 2020 [Petition](#) and proposal in Docket No. E015/M-20-429. The Commission's June 30, 2020 [Order](#) resolved Minnesota Power's 2019 Rate Case by recalculating base rates based on costs established in the 2016 rate case, except for asset-based margins that were moved to the FCA.

For additional background on Minnesota Power's Annual Forecasted Fuel and Purchased Energy Rates filings, see Department Attachment 1.

III. ANNUAL COMPLIANCE/REPORTING REQUIREMENTS

The Department identified the following five compliance filings (parts A to E below) and four Minnesota Rule Requirements (part F below) applicable to Minnesota Power. Three of the compliance filings were addressed in Minnesota Power's Forecast Report (with some additional information to be provided in Minnesota Power's True-Up Report) and the other two compliance filings will be addressed in Minnesota Power's True-Up Report. The Department notes the Commission's June 12, 2019 [Order](#) in Docket No. E999/CI-03-802, ordering point 7, approved reporting requirements for Minnesota Power of the Forecast and True-Up Reports as provided in Attachment 1 of the Department's March 1, 2019 [Joint Comments](#). Minnesota Power provided the applicable Attachment 1 reporting requirements information in its Forecasting Report.

A. Plant Outages Contingency Plans: In the Matter of the Review of the 2008 Annual Automatic Adjustment Reports for All Electric Utilities, Docket No. E999/AA-08-995

Minnesota Power provided its Outage Methodology and Forecasted Planned and Forced Outage Costs (Attachment No. 5 of the Company's 2024 Fuel Forecast Report) but will supply its Contingency Plans discussion with the True-Up Filing as it relates to outage delays, reasons for the delays, and lessons learned which are all based on actual outages.

B. Sharing Lessons Learned Regarding Forced Outages: In the Matter of the Review of the 2009-2010 Annual Automatic Adjustment Reports for All Electric Utilities, Docket No. E999/AA-10-884

Minnesota Power provided Outage Methodology and Forecasted Planned and Forced Outage Costs (Attachment No. 5 of the Company's 2024 Fuel Forecast Report) but will supply actual forced outage costs, descriptions of outages, and lessons learned with its True-Up Filing, which will be based on actuals.

C. In the Matter of a Petition by Minnesota Power for Approval of a Power Purchase Agreement with Manitoba Hydro, Report on Purchased Power Agreement (PPA) with Manitoba Hydro, Docket No. E015/M-10-961

Minnesota Power will provide a "Report Addressing the Purchase Power Agreement with Manitoba Hydro" in the True-Up Filing as it relates to Manitoba Hydro short-term products and when those products are offered to Minnesota Power.

D. Self-Scheduling Reporting for Xcel, Minnesota Power, and Otter Tail Power as required by the Commission's February 7, 2019 Order in Docket No. E999/AA-17-492

Minnesota Power will provide a "Self-Scheduling Reporting" in the True-Up filing as it relates to the offering of units and actuals.

E. MISO Day 2 Charges and Allocations & Auction Revenue Rights (AAR) Process and forecasted Information

Minnesota Power provided the MISO [Midcontinent Independent System Operator] Day 2 and ARR Information as required by Docket No. E999/AA-07-1130 and Docket No. E015/M-05-277, respectfully, in Attachment Nos. 3 and 4 of Minnesota Power's 2024 Fuel Forecast Report.

F. Minnesota Rule Requirements:

1. Fuel and Energy Source Procurement and Energy Dispatching Policies ([Minnesota Rules 7825.2800](#)):

Attachment No. 2 of Minnesota Power's 2024 Fuel Forecast Report.

2. Forecast of Annual Automatic Adjustment Charges ([Minnesota Rules 7825.2810](#)):

Minnesota Power provided the forecasted annual automatic adjustment charges for the period January to December 2024. Included is a breakdown by energy type as required in Docket No. E,G999/AA-04-1279, Commission [Order](#) Dated December 7, 2005. See Attachment No. 1 of Minnesota Power's Fuel Forecast Report.

3. Annual Five-Year Projection of Fuel Costs ([Minnesota Rules 7825.2830](#)):

Attachment No. 6 of Minnesota Power's 2024 Fuel Forecast Report.

4. Annual Notice of Reports Availability ([Minnesota Rules 7825.2840](#)):

Attachment No. 7 of Minnesota Power's 2024 Fuel Forecast Report.

The Department recommends the Commission accept Minnesota Power's compliance filings and reporting requirements.

IV. SALES FORECAST FOR 2024

The following table compares Minnesota Power’s Approved 2023 Sales (MWh)¹ and 2024 Forecasted Sales (MWh)².

Table 1: 2023 and 2024 Forecasted Sales (MWh)

	Approved 2023	2024 Forecast	Change in MWh	Percent Change
Total Sales of Electricity	13,594,358	12,397,514	(1,196,844)	-8.80%
Residential	1,036,816	1,045,140	8,324	0.80%
Commercial	1,195,779	1,230,613	34,834	2.91%
LP Taconite	4,231,901	3,794,988	(436,913)	-10.32%
LP Paper and Pulp	600,104	599,802	(302)	-0.05%
LP Pipeline	309,481	310,455	974	0.31%
Other Misc.	334,745	333,861	(884)	-0.26%
Municipals	1,326,588	1,313,471	(13,117)	-0.99%
Inter System Sales	4,558,944	3,769,185	(789,759)	-17.32%
Less: Inter System Sales	4,558,944	3,769,185	(789,759)	-17.32%
Customer Inter System Sales	844,414	940,132	95,718	11.34%
Market Sales	3,712,057	2,826,652	(885,405)	-23.85%
Station Generation Service	2,473	2,401	(72)	-2.91%
Sales due to Retail Loss of Load	-	-	-	-
Less: Solar Generation & Purchases	57,323	55,492	(1,831)	-3.19%
Total Fuel Clause Sales	8,978,091	8,572,838	(405,253)	-4.51%

Minnesota Power’s total sales forecast for 2024 compared to 2023 shows lower total sales forecasted for 2024, which is largely driven by lower Large Power Taconite Sales and lower Inter System Sales. This also results in the Company forecasting lower Total Fuel Clause Sales for 2024 compared to 2023. Minnesota Power explained that 2024 forecasted Large Power Taconite Sales are nearly 437,000 lower for than the 2023 forecast due to 2024 forecasted production of Minnesota taconite being approximately 2 million tons lower than the Company’s 2023 forecast.³

Minnesota Power reported it continues to use the RTSim production cost model for budgeting and planning purposes and, in this proceeding, to estimate the monthly fuel costs. According to the Company:

¹ Attachment 2 of Minnesota Power's December 15, 2022 [Compliance Filing](#) in Docket No. E015/AA-22-216.

² Petition, page 6.

³ Department Attachment 2.

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.⁴

For forward energy prices, Minnesota Power uses the forward energy price outlook. The 2024 energy price outlook is based on a 10-business-day average of forward market energy price at close from February 7, 2023 through February 21, 2023. For 2024, the on-peak average was [**TRADE SECRET DATA HAS BEEN EXCISED**] while the off-peak average was [**TRADE SECRET DATA HAS BEEN EXCISED**].⁵

The Department asked Minnesota Power to provide all inputs and outputs for the RTSim Production Costs Model used for Minnesota Power's 2024 Fuel Forecast.⁶ Based on a review of Minnesota Power's response, the Department did not identify any issues of concern.

As part of its review, the Department compared Minnesota Power's 2024 sales forecast to 2020 to 2022 actual sales (three most recent years of actuals) and three-year average for 2020 to 2022 as provided in Minnesota Power's response to Information Request No. 1 in Department Attachment 4 and included in Table 2.

⁴ Petition, Attachment No. 1, page 2.

⁵ Petition, Attachment No. 1, page 2.

⁶ Department Attachment 3. Note: Attachments to Information Request No. 6 were not included due to their size but are available upon request.

Table 2: Minnesota Power’s 2020 to 2022 Actual Sales Compared to 2024 Sales Forecast per MWh⁷

	2020 Actuals	2021 Actuals	2022 Actuals	2020-2022 Average	2024 Forecast
Total Sales of Electricity	12,868,727	14,566,917	12,948,280	13,461,308	12,397,514
Residential	1,046,011	1,043,665	1,063,695	1,051,124	1,045,140
Commercial	1,134,254	1,174,413	1,181,292	1,163,320	1,230,613
LP Taconite	4,295,593	4,428,819	4,297,541	4,340,651	3,794,988
LP Paper and Pulp	752,072	489,259	490,030	577,120	599,802
LP Pipeline	348,130	341,031	305,030	331,397	310,455
Other Misc.	316,907	341,353	341,716	333,325	333,861
Municipals	1,340,290	1,393,315	1,299,049	1,344,218	1,313,471
Inter System Sales	3,635,470	5,355,063	3,969,927	4,320,153	3,769,185
Less: Inter System Sales	4,415,869	5,355,063	3,969,927	4,580,286	3,769,185
Customer Inter System Sales	780,399	1,067,722	820,924	889,682	940,132
Market Sales	3,112,893	3,412,055	3,140,614	3,221,854	2,826,652
Station Generation Service	4,521	6,126	8,390	6,346	2,401
Sales due to Retail Loss of Load	518,056	869,160	-	462,405	-
Less: Solar Generation & Purchases	16,165	17,215	16,112	16,497	55,492
Total Fuel Clause Sales	8,436,693	9,194,640	8,962,240	8,864,524	8,572,838

Minnesota Power provided its customer sales assumptions in Petition Attachment No. 1, pages 3 and 4. Based on the Department’s review of the Company’s actual sales for 2020 through 2022 and the three-year average from 2020 through 2022 and 2024 sales assumptions, the Department notes Minnesota Power’s 2024 sales forecast for retail sales are close but slightly lower compared to the most recent 2022 actuals and three-year average for 2020 through 2022, apart from lower Large Power Taconite Sales and lower Inter System Sales , which were discussed above.

Overall, the Department recommends the Commission accept Minnesota Power’s 2024 sales forecast to set FCA rates for 2024, as total fuel clause sales are close but slightly lower compared to 2022 actuals and the three-year average for 2020 through 2022, and the forecasted lower sales were explained by the Company. The Department notes Minnesota Power’s FCA revenues and costs are subject to true-up in the 2024 True-Up Report. The Department also notes our recommendation in this docket should not be used in Minnesota Power’s rate cases or other rate proceedings, where a more thorough review of the Company’s sales forecast will occur.

⁷ Department Attachment No. 4.

V. FORECASTED AUTOMATIC ADJUSTMENT CHARGES FOR 2024

Minnesota Power provided its Forecasted Fuel Cost Summary on page 6 of its Petition and more detailed information in Petition, Attachment No. 1, p. 10. Table 3 provides Minnesota Power’s 2024 Forecasted Fuel Cost Summary,⁸ which includes wholesale asset-based margins, and excludes fuel costs for inter system sales.

Table 3: 2024 Forecast Fuel Cost Summary (\$)

	2024 Forecast
Company’s Generating Stations	\$116,773,811
Plus: Purchased Energy	223,751,172
Plus: MISO Charges	53,475,047
Less: MISO Sch. 16, 17, and 24	(211,024)
Less: Cost Recovered through Inter System Sales	129,639,147
Less: Costs Related to Solar	2,474,436
Plus: Time of Generation and Solar Energy Adjustment	1,527,833
Total Cost of Fuel (\$)	\$263,625,304
Total Fuel Clause Sales (MWh)	8,572,838
Average Cost of Fuel (¢/kWh)	3.069

The Department asked Minnesota Power to provide 2020 to 2022 actuals, by year, a three-year average of 2020 to 2022 actuals, and 2024 forecast for Minnesota Power’s Fuel Forecast Summary information. Table 4 provides this information. The Department also asked Minnesota Power to compare the three-year average for 2020 to 2022 to the 2024 forecast and explain any fluctuations of 5% or more.⁹

⁸ Petition, Page 6.

⁹ Department Attachment No. 4.

Table 4: 2020 to 2022 Actuals and 2020-2022 Three Year Average Compared to 2024 Forecasted Fuel Cost Summary per \$/MWh

	2020 Actuals	2021 Actuals	2022 Actuals	2020-2022 Average	2024 Forecast
Company's Generating Stations	\$76,291,181	\$111,316,951	\$130,269,082	\$105,959,071	\$116,773,811
Plus: Purchased Energy	\$193,346,296	\$302,780,486	\$262,867,849	\$252,998,211	\$223,751,172
Plus: MISO Charges	\$16,466,491	64,223,807	\$59,750,884	\$46,813,728	\$53,475,047
Less: MISO Sch. 16, 17, and 24	(\$164,843)	(\$79,627)	(\$406,916)	(\$217,129)	(\$211,024)
Less: Cost Recovered through Inter System Sales	\$97,823,379	\$160,780,204	\$167,749,176	\$142,117,586	\$129,639,147
Less: Costs Related to Solar	\$70	\$1,366	\$83	\$506	\$2,474,436
Plus: Time of Generation and Solar Energy Adjustment	\$432,548	\$386,358	\$440,270	\$419,725	\$1,527,833
Total Cost of Fuel	\$188,877,910	\$318,005,659	\$285,985,742	\$264,289,771	\$263,625,304
Total Fuel Clause Sales (MWh)	8,436,693	9,194,640	8,962,240	8,864,524	8,572,838
Average Cost of Fuel	\$22.39	\$34.59	\$31.91	\$29.81	\$30.75

The Company's 2024 forecasted cost of fuel is very close to the three-year 2020 to 2022 average, though some differences are present throughout different categories. The Company forecasts [TRADE SECRET DATA HAS BEEN EXCISED] Company owned generation in 2024 than the three-year average while price per MWh remains nearly the same, resulting in higher generation costs.¹⁰ Additionally, as shown in Table 5 below, forecasted gas generation costs are down significantly compared to the three-year average, which was skewed by price spikes in 2021 due to extreme weather events and market volatility in 2022.¹¹

Purchased energy costs are down as a whole from the 2020-2022 three-year average as the Company forecasts [TRADE SECRET DATA HAS BEEN EXCISED] of purchases in 2024 compared to both 2022 and the three-year average. Relatedly, the large increase of costs related to Solar are due to a new Solar Energy Standard 20 MW purchase that was not present in the 2022 actuals.¹²

¹⁰ Department Attachment No. 4.

¹¹ Department Attachment No. 5.

¹² Department Attachment No. 4.

The Department asked Minnesota Power if it included any wind curtailment costs in its 2024 Fuel Forecast and to provide supporting information for the wind curtailment costs. Minnesota Power explained it did not include any curtailment costs in its 2024 Fuel Forecast.¹³

Table 4 shows the average cost of fuel for the 2024 is 3.17% higher than the three-year average for 2020 through 2022 actuals, and 3.64% lower than 2022 actuals. Overall, based on the additional information Minnesota Power provided, the Department considers Minnesota Power's 2024 fuel forecast to be reasonable.

The Department recommends the Commission approve Minnesota Power's 2024 Fuel and Purchased Energy Forecast for setting initial FCA rates in this proceeding, subject to a true-up.

VI. FORECASTED COMPANY OWNED GENERATION BY FUEL TYPE AND LOCATION

The Department asked Minnesota Power to provide company-owned generation costs, by facility, for 2020 through 2022, a three-year average of 2020-2022, and the 2024 forecast. The Department compiled this information in Table 5.

¹³ Department Attachment No. 6.

Table 5: Company Owned Generation – 2020 to 2022 Actuals, 2020 to 2022 Three-Year Average, and 2024 Forecast¹⁴

Company Owned Generation	2020 Actuals	2021 Actuals	2022 Actuals	2020-2022 Average	2024 Forecast
Coal					
Boswell 3	\$31,525,708	\$46,778,306	\$52,242,979	\$43,515,664	\$40,951,276
Boswell 4	\$43,172,017	\$53,449,013	\$57,234,785	\$51,285,272	\$68,167,952
Gas					
Laskin 1	\$295,310	\$3,542,131	\$6,306,886	\$3,381,442	\$848,299
Laskin 2	\$289,307	\$3,287,399	\$6,961,890	\$3,512,865	\$614,902
Biofuel					
Hibbard	\$1,088,837	\$4,260,102	\$7,522,542	\$4,263,827	\$6,191,381
Wind					
Bison	\$0	\$0	\$0	\$0	\$0
Tac Ridge	\$0	\$0	\$0	\$0	\$0
Hydro					
Hydro	\$0	\$0	\$0	\$0	\$0
Total Company Generation	\$76,291,179	\$111,316,951	\$130,269,082	\$105,959,071	\$116,773,811
MWh	[TRADE SECRET DATA HAS BEEN EXCISED]				
Total Company Owned Generation per MWh					

Minnesota Power’s assumptions for its Company-owned generation are found in Attachment 1, pages 4 through 6. Based on the Department’s review of Minnesota Power’s owned generation assumptions, we consider the Company’s assumptions to be reasonable. The Department notes the Company’s 2024 forecast is fairly consistent with 2022 actuals, except for significantly lower gas costs. The Company explained this change as being due to “significant price volatility in the power market” over the past few years including COVID-19 lowering prices, extreme weather events in 2021 raising prices, and significant market volatility in 2022. This resulted in more frequent and longer dispatch of the Laskin facility by MISO. Minnesota Power’s forecast for 2024 is thus more in line with historic levels.¹⁵

The Department considers Minnesota Power’s 2023 owned generation forecast reasonable for the purposes of setting initial FCA rates in this proceeding, subject to the subsequent true-up.

¹⁴ Department Attachment No. 7.

¹⁵ Department Attachment No. 5.

VII. PURCHASED ENERGY – LONG TERM PPAS

Minnesota Power forecasted purchased energy of \$223,751,172 for 2024.¹⁶ The Company provided details of purchase costs in Petition, Attachment No. 1, pages 6 and 7. The following table provides purchased energy for 2020 through 2022, the 2020-2022 three-year average received in response to Department Information Request 7,¹⁷ and the 2024 forecast.

Table 6: Purchased Energy – Long-Term PPAs for 2020 to 2022 Actuals, 2020 to 2022 Three-Year Average, and 2024 Forecast

Purchased Energy	2020 Actuals	2021 Actuals	2022 Actuals	2020-2022 Average	2024 Forecast ¹⁸
Coal – Square Butte	\$30,559,753	\$33,604,104	\$30,080,957	\$31,414,938	\$37,483,750
Hydro – MHEB	\$81,808,261	\$102,549,433	\$115,956,880	\$100,104,858	\$107,963,075
Gas – GREM	\$12,458	\$0	\$0	\$4,153	\$0
Wind	\$15,267,492	\$27,678,338	\$32,536,121	\$25,160,651	\$29,698,656
Solar	\$70	\$1,367	\$137,350	\$46,262	\$2,664,609
Market	\$65,698,262	\$138,947,245	\$84,156,541	\$96,267,349	\$45,941,081
Total	\$193,346,296	\$302,780,486	\$262,867,849	\$252,998,211	\$223,751,172

Minnesota Power’s assumptions and contract information for purchased energy costs are found in Petition Attachment 1, pages 6 and 7. Based on the Department’s review of Minnesota Power’s assumptions and contract information for purchased energy, we consider this information to be reasonable. The Department notes the Company’s 2024 forecast has lower market purchases and appears reasonable, when compared to 2020 through 2022 actuals, and the 2020 through 2022 three-year average.

The Department recommends the Commission accept Minnesota Power’s purchased energy forecast for setting initial FCA rates in this proceeding, subject to the subsequent true-up.

VIII. MISO ENERGY MARKET (MISO DAY 2) AND ANCILLARY SERVICES MARKET

Minnesota Power forecasts MISO Market Charges of \$53,475,047 for 2024.¹⁹ Minnesota Power provides MISO Day 2 Charges and Allocations in Petition, Attachment No. 3. The following table summarizes the Total Net MISO Charges (MISO Day 2 and ASM) included in Minnesota Power’s 2024

¹⁶ Petition, Attachment 1, Page 15.

¹⁷ Department Attachment 8.

¹⁸ Petition, Attachment 1, Pages 14-15.

¹⁹ Petition, Attachment 1, Page 10.

Fuel and Purchased Energy Forecast. The table also provides the allocation of MISO charges between retail and municipal sales on a per-MWh basis.

Table 7: 2024 Forecasted Net MISO Charges

Total Net MISO Charges		
MISO Market Purchases ²⁰		\$19,926,132
MISO Cost – Other than Energy ²¹		\$53,475,047
MISO Costs Recovered through Inter-System Sales (Market Sales) ²²		(\$8,286,184)
MISO Costs Recovered through Inter-System Sales (Customer Sales) ²³		(\$35,634,440)
MISO Market Sales ²⁴		(\$36,239,777)
Net Total MISO Charges		(\$6,759,222)
Allocation of Net MISO Charges		
Retail Sales (in MWh) ²⁵	7,263,558	(\$5,724,127)
Municipal Sales (in MWh) ²⁶	1,313,471	(\$1,035,095)
Total FCA Sales	8,577,029	(\$6,759,222)

Minnesota Power’s Net MISO charges for its 2023 forecast was a \$19.1 million revenue credit due to higher expected intersystem sales and higher expected MISO market sales.²⁷ The Company’s Net Miso Charges for the 2024 forecast is a \$6.8 million revenue credit, which is a \$12.3 million lower revenue credit compared to the 2023 forecast. The lower MISO revenue credit in 2024 forecast compared to 2023 forecast is primarily due to a \$20.5 million decrease in MISO Market sales, from a \$56.7 million credit in the 2023 forecast to a \$36.2 million credit in the 2024 forecast. The Department requests Minnesota Power explain in Reply Comments the reasons for the \$20.5 million decrease in MISO Market sales between the 2023 and 2024 forecast.

The Department concludes the Company’s MISO Day 2 and ASM costs and revenues included in the 2024 forecast appear reasonable. The Department recommends the Commission accept Minnesota Power’s MISO Day 2 and ASM costs and revenues included in the 2024 forecast for the purpose of setting initial FCA rates in this proceeding, subject to a subsequent true-up.

²⁰ Petition, Attachment 1, Page 12 under “Market Purchase” Total.
²¹ Petition, Attachment 1, Page 10 under “Plus: MISO Charges” Total.
²² Petition, Attachment 1, Page 10 under “MISO Costs” Total.
²³ Petition, Attachment 1, Page 10 under “Customer Inter-System Sales” Total.
²⁴ Petition, Attachment 1, Page 16 under “Miso Market Sales” Total.
²⁵ Petition, Attachment 3, Page 28 under FPE Retail Mwh Grand Total.
²⁶ Petition, Attachment 3, Page 28 under FAC Resale Mwh Grand Total
²⁷ Docket No. E015/AA-22-216, [Department Comments](#) dated June 30, 2022, p. 11.

IX. ASSET-BASED MARGINS

The Commission approved Minnesota Power's petition to move asset-based margins from base rates in the rate case to the fuel clause adjustment in Docket Nos. E015/GR-19-442 and E015/M-20-429 in its [Order](#) dated June 12, 2020. As provided by Minnesota Power:

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 – 2024 FAC Forecast Calculation) per the Rate Case Resolution Docket Nos. E015/GR-19-442 and E015/M-20-429. The margin from the Municipal Incremental Sale is also included in the Asset Based Sales Margins.²⁸

For 2024, Minnesota Power forecasted \$0 in non-MISO asset-based costs.²⁹ As provided in Minnesota Power's Petition Attachment No. 1, p. 8 of 18 in Minnesota Power's assumptions, "for 2024, no asset based bilateral sales to a counterparty have been forecasted."

For 2024, Minnesota Power forecasted \$36,239,777 in MISO Market Sales, which assumes **[TRADE SECRET DATA HAS BEEN EXCISED]**.³⁰ Minnesota Power uses the RTSim production cost model to determine the volume and cost for MISO market sales. The Company states, "when excess energy is available and it's economical, the model will sell the excess energy into the MISO market."³¹ The Department reviewed Minnesota Power's inputs and outputs for the RTSim and found the assumptions to be reasonable.

In response to Department inquiry regarding return of asset-based sales margins to ratepayers, the Company wrote:

The FAC calculation in its simplest form is generation and purchase costs less fuel costs allocated to intersystem sales. Intersystem sales MWhs and costs are considered non FAC and that is why they are removed (or in other words, reduce fuel and purchased power remaining in the FAC) from the Minnesota Power's FAC Forecast calculation for 2023.

Asset Based Sales have always been considered an Intersystem sale which reduces the sales and costs in the Retail FAC calculation. The Asset Based Sales margins refunded to customers are included in the 2024 FAC Forecast, Docket No. AA-23-180, Attachment No. 1, Page 10 of 18 under

²⁸ Petition, Attachment 1, Page 9.

²⁹ Petition, Attachment 1, Page 16.

³⁰ Petition, Attachment 1, Page 16.

³¹ Petition, Attachment 1, Page 8.

the detail of line 5 “Less: Cost Recovered through Inter-System Sales” which increases fuel costs recovered through Intersystem sales and in return reduces fuel costs remaining in the FAC which benefits customers.³²

The Department concludes the company’s asset-based margins in the 2024 forecast appear reasonable. The Department recommends the Commission accept Minnesota Power’s asset-based margins in the 2024 forecast for the purpose of setting initial FCA rates in this proceeding, subject to a subsequent true-up.

X. OUTAGE COSTS – FORCED AND PLANNED

Minnesota Power’s Attachment No. 5 explains 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:

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.³³

Minnesota Power provided a forecast and actual outage costs, shown in the following table.

Table 8: Comparison of Forced and Planned Outage Incremental Costs for 2020 to 2022 and 2024 Fuel Forecasts

Forecasted Incremental Costs	2020	2021	2022	2020-2022 Average	2024 ³⁴
Planned Outage ³⁵	\$3,441,487	(\$2,869,832)	(\$1,635,238)	(\$354,528)	[TRADE SECRET DATA HAS BEEN EXCISED]
Forced Outage ³⁶	\$1,021,843	(\$633,962)	(\$842,438)	(\$151,519)	
Total	\$4,463,330	(\$3,503,794)	(\$2,477,676)	(\$506,047)	

³² Department Attachment No. 9.

³³ Petition, Attachment 5, Page 3.

³⁴ Petition, Attachment 5, Page 8.

³⁵ Department Attachment 10.

³⁶ Department Attachment 11.

The following table compares the Company’s forecast to actual incremental costs for planned outages in 2020 through 2022.

**Table 9: Comparison of Forecast and Actual
 Planned Outage Incremental Costs**

Incremental Costs	2020	2021	2022
Forecasted	\$3,441,487	(\$2,869,832)	(\$1,635,238)
Actual	(\$293,246)	\$6,415,192	\$2,697,271
Difference	(\$3,734,733)	\$9,285,024	\$4,332,509

In response to Department inquiry, Minnesota Power explained the difference between the actual and forecasted planned outage incremental costs for these years and compared to the 2024 forecast as follows:

[TRADE SECRET DATA HAS BEEN EXCISED]³⁷

Minnesota Power included planned outages, based on its long-term planned outage schedule, shown in the following table:

Table 10: Planned Outages 2024³⁸

Unit	Start Time	End Time	Duration (Days)	MISO #	Reason
Boswell 3	[TRADE SECRET DATA HAS BEEN EXCISED]				
Boswell 4					
Boswell 3					
Boswell 4					

³⁷ Department Attachment 10.

³⁸ Petition, Attachment 5, Page 6.

The following table shows the unplanned outage information Minnesota Power provided.

Table 11: Unplanned Outages³⁹

Generation Specifications			
	Econ Min	Econ Max	EUOF ⁴⁰
Boswell Unit 3	75 MW	350 MW	7.4%
Boswell Unit 4	185 MW	580 MW	8.5%

Minnesota Power's 2024 forecast is **[TRADE SECRET DATA HAS BEEN EXCISED]** lower than 2022 actual unplanned outage (MWhs). The Company's 2024 forecast of unplanned outages (MWhs) is **[TRADE SECRET DATA HAS BEEN EXCISED]** less than the 2020 – 2022 average of actual unplanned outages (MWhs). Minnesota Power explained the difference is due to **[TRADE SECRET DATA HAS BEEN EXCISED]**.⁴¹ The Company provided additional explanation about the outage in Attachment 5, Page 16 of its [2022 True Up Filing](#) in Docket No. E015/AA-21-312.

Generally, the Department considers the information supportive to Minnesota Power's 2024 forecast for planned and forced outage costs. The Department recommends the Commission accept the Company's 2024 forecast for planned and forced outage costs, subject to a subsequent true-up, pending additional information provided by Minnesota Power in Reply Comments.

XI. MISO PLANNING RESOURCE AUCTION REVENUES

At the time the Company submitted its filing, the MISO Planning Resource Auction (PRA) results were unavailable. MP wrote on page 7 of its petition:

Due to the delay and the continued uncertainty in the MISO Planning Resource Auction ("PRA") results, Minnesota Power did not include any capacity revenue for the January through December 2024 time period. The uncertainty comes from the new seasonal construct and Seasonal Adjusted Capacity methodology. The Company will provide an update during the Reply Comment period and adjust the 2024 FPE Forecast when the 2023/2024 PRA for the January through May 2024 time period are known, so long as the results are a net revenue position.

³⁹ Petition, Attachment 5, Page 7.

⁴⁰ The Equivalent Unplanned Outage Factor ("EUOF") is based on a 10-year average.

⁴¹ Department Attachment 12.

As of the submission of the instant Comments, the PRA results should now be available. The Department looks forward to reviewing the PRA information and resulting update to the 2024 FPE Forecast in the Company's Reply Comments.

XII. RECOMMENDATIONS

For most of Minnesota Power's Annual Forecast of Automatic Adjustment Charges for the period of January 2024 through December 2024, the Department recommends the Commission accept Minnesota Power's filing, subject to a subsequent true-up, with one exception. The Department requests Minnesota Power provide additional information in Reply Comments regarding:

1. Results of the MISO Planning Resource Auction and updates to the 2024 FPE Forecast
2. Adjusted 2024 FPE Forecast and information supporting all changes
3. The reasons for the \$20.5 million decrease in MISO Market sales between its 2023 and 2024 forecast

Outages Costs – Forced and Planned:

Generally, the Department considers the information supportive to Minnesota Power's 2024 forecast for planned and forced outage costs. The Department recommends the Commission accept the Company's 2023 forecast for planned and forced outage costs, subject to a subsequent true-up, pending additional information provided by Minnesota Power in Reply Comments.

Annual Compliance/Reporting Requirements:

The Department recommends the Commission accept Minnesota Power's compliance filings and reporting requirements.

2024 Sales Forecast:

The Department recommends the Commission accept Minnesota Power's 2024 sales forecast to set FCA rates for 2024 as they are close to the three-year average of 2020 to 2022. The Department notes Minnesota Power's FCA revenues and costs are subject to true-up in the 2023 True-up Report.

2024 Forecasted Automatic Adjustment Charges Summary:

The Department recommends the Commission approve Minnesota Power's 2024 Fuel and Purchased Energy Forecast for setting initial FCA rates in this proceeding, subject to a true-up.

Forecasted Company Owned Generation by Fuel Type and Location:

The Department considers Minnesota Power's 2024 forecasted generation reasonable. The Department recommends the Commission accept Minnesota Power's Forecasted Company Owned Generation by Fuel Type and Location.

Purchased Energy – Long-term PPAs:

The Department considers Minnesota Power's purchased energy 2024 forecast reasonable. The Department recommends the Commission accept Minnesota Power's Purchased Energy 2024 forecast.

MISO Energy Market (MISO Day 2) and Ancillary Services Market (ASM):

The Department requests Minnesota Power explain in Reply Comments the reasons for the \$20.5 million decrease in MISO Market sales between its 2023 and 2024 forecast. The Department otherwise concludes the Company's MISO Day 2 and ASM costs and revenues included in the 2024 forecast appear reasonable. The Department recommends the Commission accept Minnesota Power's MISO Day 2 and ASM costs and revenues included in the 2024 forecast for the purpose of setting initial FCA rates in this proceeding, subject to a subsequent true-up.

Asset-Based Margins:

The Department considers Minnesota Power's forecast for asset-based margins reasonable. The Department recommends the Commission accept the Minnesota Power's asset-based margins in the 2024 forecast for the purpose of setting initial FCA rates in this proceeding, subject to a subsequent true-up.

[Minnesota Statutes § 216B.16](#), subd. 7, authorizes the Commission to allow a public utility to automatically adjust charges for the cost of fuel. Prior to 2020, utilities would (1) adjust their FCA rates monthly to reflect, on a per kWh basis, deviations from the base cost of energy established in the utility's most recent general rate case and (2) file monthly and annual reports to be reviewed for accuracy and prudence.

In 2003, the Commission initiated an investigation (Docket No. E999/CI-03-802) to explore possible changes to the FCA and invited stakeholders to comment on the purpose, structure, rationale, and relevance of the FCA. The Commission's December 19, 2017 [Order](#) in Docket No. E999/CI-03-802 approved certain reforms to the FCA mechanism. Specifically, Point 1 of the *Order* approved the Department's FCA reform proposals as follows:

- a. The Commission will set recovery of the Utility's fuel, power purchase agreements, and other related cost (fuel rates) in a rate case or an annual fuel clause adjustment filing unless a utility can show a significant unforeseen impact.
- b. Each electric utility will publish the monthly fuel rates in advance of each year to give customers notice of the next year's monthly electric fuel rates.
- c. The monthly fuel clause adjustment will not operate – each electric utility will charge an approved monthly rate.
- d. Utilities will be allowed to track any changes in \$/MWh fuel costs that occur over the year and there will be no carrying charge on the tracker.
- e. Annually, each electric utility will report actual \$/MWH fuel costs in each month by fuel type (including identification of costs from specific power purchase agreements) and compare the annual revenue based on the fuel rates set by the Commission with annual revenues based on actual costs for the year.
- f. Each electric utility will refund any over-collections and show prudence of costs before allowing recovery of under-collections. If

annual revenues collected (\$/MWh) are higher than total actual costs, the utility must refund the over-collection through a true-up mechanism. If annual revenues collected are lower than total actual costs), the utility must show why it is reasonable to charge the higher costs (under-collections) to ratepayers through a true-up mechanism.

The Commission's December 12, 2018 [Order](#) in Docket No. E999/CI-03-802 modified certain aspects of and added to the FCA reform previously approved in the Commission's December 19, 2017 *Order* in the same docket. In particular, the December 12, 2018 *Order*:

- Established a January 1, 2020 implementation date for the FCA reform.
- Required utilities, following the implementation of the FCA reform, to file an annual true-up by March 1 of each year following the relevant calendar year.
- Discontinued the requirement for utilities to submit monthly automatic adjustment filings.
- Granted the relevant utilities a variance to Minnesota Rules 7825.2600, subp. 3, which requires the FCA to be applied to base recovery of fuel costs on a monthly basis. Under the new FCA process, the monthly FCA would be irrelevant, because, instead, the Commission would use an annual forecast of fuel costs to adjust base fuel rates annually.

The Commission's June 12, 2019 [Order](#) in Docket No. E999/CI-03-802 provided additional details to finalize the FCA reform. Specifically, the *Order* approved, among other things:

- Variances to Minnesota Rules 7825.2800 through 7825.2840 to accommodate the new FCA process by modifying the filing deadlines contained in these rules.
- A procedural schedule, shown in Appendix A of the *Order*.
- A threshold of plus or minus five percent of all FCA costs and revenues to determine whether an even qualifies as significant, unforeseen impact that may justify an adjustment to the approved fuel rates. Utilities are permitted to implement revised rates following a 30-day notice period, subject to a full refund, if no party objects to the revised rates.
- Tracking under or over-recovered FCA costs as regulatory assets or liabilities, respectively, using FERC Account 182.3.

- Information requirements for the annual forecast and true-up filings for all electric utilities, including the reporting requirement changes outlined in Attachments 1, 2, and 3 of the March 1, 2019 [joint comments](#)¹ in Docket No. E999/CI-03-802 and the requirement that the annual true-up filings include a complete analysis and discussion of the consequences of self-commitment and self-scheduling of their generators, including the annual difference between production costs and corresponding prevailing market prices.
- Tariff changes reflected in Attachments 4, 5, and 6 of the March 1, 2019 joint comments in Docket No. E999/CI-03-802.
- Discontinuation of Xcel's reporting of Part H, Section 4 narrative and Schedule 1 (transformers); Part I (MISO Day 1); Part J, Section 5, Schedules 1, 3-6 (MISO Day 2); Part K, Section 5, Schedule 3 (transformer maintenance); Part K, Section 4, Schedule 3 (designated resource planning for MISO).

On May 3, 2021, Minnesota Power filed its [2022 Forecasted Fuel and Purchased Energy Report](#) for approval of fuel rates for 2022 in Docket No. E015/AA-21-312. On December 2, 2021, the Commission issued its [Order](#) approving the following for Minnesota Power:

1. Authorized Minnesota Power to implement its 2022 Fuel Clause Adjustment (FCA) forecast, based on forecasted sales of 8,763,862 megawatt-hours (MWh) and forecasted fuel costs of \$229,065,935.
2. Required Minnesota Power to submit a compliance filing with revised tariff sheets and supporting calculations within 10 days of the Commission's Order in Docket No. E015/AA-21-312 for implementation effective January 1, 2022.
3. Required Minnesota Power to file a request to modify the approved fuel rate as soon as practicable, if during 2022 Minnesota Power experiences an impact on all FCA costs and revenues of plus or minus 5% or larger. Minnesota Power will then be required to implement the revised rates, subject to a full refund, following a 30-day notice period, if no party objects to the revised rate.

¹ In the March 1, 2019 joint comments, Attachment 1 corresponds to Minnesota Power.

On May 2, 2022, Minnesota Power filed its [2023 Forecasted Fuel and Purchased Energy Report](#) for approval of fuel rates for 2023 in Docket No. E015/AA-22-216. On December 8, 2022, the Commission issued its [Order](#) approving the following for Minnesota Power:

1. Authorized Minnesota Power to implement its Revised 2023 FCA forecast, based on forecasted sales of 8,815,400 kWh and forecasted fuel costs of \$294,446,791.
2. Required 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 this for implementation effective January 1, 2023.
3. Delegated authority to the Executive Secretary to approve the contents of any subsequent customer notice and rate schedule in this proceeding.
4. Ordered Minnesota Power to file a revised 2023 forecast that incorporates 2023/2024 MISO Planning Resource Auction credit/revenue, if applicable, once results are known, and incorporate them into rates the first of the month following the revised 2023 forecast filing, waving the 30-day notice under a significant event filing.



Minnesota Department of Commerce
85 7th Place East | Suite 280 | St. Paul, MN 55101
Information Request

Docket Number: E015/AA-23-180
Requested From: Minnesota Power
Type of Inquiry: Financial

Nonpublic Public
Date of Request: 5/15/2023
Response Due: 5/25/2023

SEND RESPONSE VIA EMAIL TO: Utility.Discovery@state.mn.us as well as the assigned analyst(s).

Assigned Analyst(s): Andrew Golden
Email Address(es): andrew.golden@state.mn.us
Phone Number(s): 651-539-1819

ADDITIONAL INSTRUCTIONS:

Each response must be submitted as a text searchable PDF, unless otherwise directed. Please include the docket number, request number, and respondent name and title on the answers. If your response contains Trade Secret data, please include a public copy.

Request Number: 3
Topic: MP's 2022 Sales Forecast for Large Power Taconite
Reference(s): Attachment 1, "FAC Calculation"

Request:

- a) MP's 2024 sales forecast for Large Power Taconite is approximately 437,000 MWh lower sales than the 2023 forecast. Please explain and provide detailed support for the 437,000 MWh lower sales.

RESPONSE:

- a) MP's 2024 sales forecast for Large Power Taconite is lower than the 2023 forecast as it includes approximately 33 million wet long tons (approximately 32 million dry taxable tons) of Minnesota taconite production. This is approximately 2 million tons lower than MP's 2023 forecast. MP's 2024 sales forecast for Large Power Taconite includes production levels that are similar to 2022 actuals of approximately 32 million dry taxable tons, as reported by the Minnesota Department of Revenue.¹

¹ <https://www.revenue.state.mn.us/sites/default/files/2023-03/2022%20Taxable%20Production%20and%20Tax%20by%20Mine%20%283-29-2023%29.xlsx>

To be completed by responder

Response Date: 5/25/2023
Response by: Tim Beddow
Email Address: tbeddow@mnpower.com
Phone Number: 218-355-3391



Docket No. E015/AA-23-180
Attachment 3
Page 1 of 1

**Minnesota Department of Commerce
85 7th Place East | Suite 280 | St. Paul, MN 55101
Information Request**

Docket Number: E015/AA-23-180
Requested From: Minnesota Power
Type of Inquiry: Financial

Nonpublic Public
Date of Request: 5/15/2023
Response Due: 5/25/2023

SEND RESPONSE VIA EMAIL TO: Utility.Discovery@state.mn.us as well as the assigned analyst(s).

Assigned Analyst(s): Andrew Golden
Email Address(es): andrew.golden@state.mn.us
Phone Number(s): 651-539-1819

ADDITIONAL INSTRUCTIONS:

Each response must be submitted as a text searchable PDF, unless otherwise directed. Please include the docket number, request number, and respondent name and title on the answers. If your response contains Trade Secret data, please include a public copy.

Request Number: 6
Topic: Company-owned generation
Reference(s): N/A

Request:

- a) Please provide the amount of company-owned generation, by facility (separated by total costs by fuel type and location), for 2020-2022 actuals, 2020-2022 three-year average, and 2024 forecast in a table.

RESPONSE:

- a) A table showing company-owned generation by facility and fuel type for 2020-2022 actuals, 2020-2022 three-year average, and the 2024 forecast is provided in AA-23-180 DOC IR 06 Attachment 1.

To be completed by responder

Response Date: 5/25/2023
Response by: Taylor Murphy
Email Address: tmurphy@mnpower.com
Phone Number: 218-355-3591

Thermal Generation		2024 Forecast	2020 Actuals	2021 Actuals	2022 Actuals	3 Year Average
Generation - Coal		[TRADESECRET DATA BEGINS]				
Boswell 3	MWh					
	Average Cost					
	Total Cost	\$ 40,951,276	\$ 31,525,708	\$ 46,778,306	\$ 52,242,979	\$ 43,515,664
		[TRADESECRET DATA BEGINS]				
Boswell 4	MWh					
	Average Cost					
	Total Cost	\$ 68,167,952	\$ 43,172,017	\$ 53,449,013	\$ 57,234,785	\$ 51,285,272
		[TRADESECRET DATA BEGINS]				
Total Generation Coal \$		\$ 109,119,229	\$ 74,697,725	\$ 100,227,319	\$ 109,477,764	\$ 94,800,936
Generation - Gas		[TRADESECRET DATA BEGINS]				
Laskin 1	MWh					
	Average Cost					
	Total Cost	\$ 848,299	\$ 295,310	\$ 3,542,131	\$ 6,306,886	\$ 3,381,442
		[TRADESECRET DATA BEGINS]				
Laskin 2	MWh					
	Average Cost					
	Total Cost	\$ 614,902	\$ 289,307	\$ 3,287,399	\$ 6,961,890	\$ 3,512,865
		[TRADESECRET DATA BEGINS]				
Total Generation Gas \$		\$ 1,463,201	\$ 584,617	\$ 6,829,530	\$ 13,268,776	\$ 6,894,308
Generation - Biofuel		[TRADESECRET DATA BEGINS]				
Hibbard	MWh					
	Average Cost					
	Total Cost	\$ 6,191,381	\$ 1,008,837	\$ 4,260,102	\$ 7,522,542	\$ 4,263,827
		[TRADESECRET DATA BEGINS]				
Total Generation Biofuel \$		\$ 6,191,381	\$ 1,008,837	\$ 4,260,102	\$ 7,522,542	\$ 4,263,827
Total Thermal Generation \$		\$ 116,773,811	\$ 76,291,179	\$ 111,316,951	\$ 130,269,082	\$ 105,959,071

Wind Generation		2024 Forecast	2020 Actuals	2021 Actuals	2022 Actuals	3 Year Average
		[TRADESECRET DATA BEGINS]				
Bison	MWh					
	Average Cost					
	Total Cost	\$ -	\$ -	\$ -	\$ -	\$ -
		[TRADESECRET DATA BEGINS]				
Tac Ridge	MWh					
	Average Cost					
	Total Cost	\$ -	\$ -	\$ -	\$ -	\$ -
		[TRADESECRET DATA BEGINS]				
Total Wind Generation \$		\$ -	\$ -	\$ -	\$ -	\$ -

Hydro Generation		2024 Forecast	2020 Actuals	2021 Actuals	2022 Actuals	3 Year Average
		[TRADESECRET DATA BEGINS]				
Hydro	MWh					
	Average Cost					
	Total Cost	\$ -	\$ -	\$ -	\$ -	\$ -
		[TRADESECRET DATA BEGINS]				
Total Hydro Generation \$		\$ -	\$ -	\$ -	\$ -	\$ -

Total Company Generation		2024 Forecast	2020 Actuals	2021 Actuals	2022 Actuals	3 Year Average
		\$ 116,773,811	\$ 76,291,179	\$ 111,316,951	\$ 130,269,082	\$ 105,959,071

Thermal Generation		2024 Forecast	2020 Actuals	2021 Actuals	2022 Actuals	3 Year Average
Generation - Coal		TRADE SECRET DATA BEGINS				
Boswell 3	MWh					
	Average Cost					
	Total Cost	\$ 40,951,276	\$ 31,525,708	\$ 46,778,306	\$ 52,242,979	\$ 43,515,664
		TRADE SECRET DATA BEGINS				
Boswell 4	MWh					
	Average Cost					
	Total Cost	\$ 68,167,952	\$ 43,172,017	\$ 53,449,013	\$ 57,234,785	\$ 51,285,272
Total Generation Coal \$		\$ 109,119,229	\$ 74,697,725	\$ 100,227,319	\$ 109,477,764	\$ 94,800,936
Generation - Gas		TRADE SECRET DATA BEGINS				
Laskin 1	MWh					
	Average Cost					
	Total Cost	\$ 848,299	\$ 295,310	\$ 3,542,131	\$ 6,306,886	\$ 3,381,442
		TRADE SECRET DATA BEGINS				
Laskin 2	MWh					
	Average Cost					
	Total Cost	\$ 614,902	\$ 289,307	\$ 3,287,399	\$ 6,961,890	\$ 3,512,865
Total Generation Gas \$		\$ 1,463,201	\$ 584,617	\$ 6,829,530	\$ 13,268,776	\$ 6,894,308
Generation - Biofuel		TRADE SECRET DATA BEGINS				
Hibbard	MWh					
	Average Cost					
	Total Cost	\$ 6,191,381	\$ 1,008,837	\$ 4,260,102	\$ 7,522,542	\$ 4,263,827
Total Generation Biofuel \$		\$ 6,191,381	\$ 1,008,837	\$ 4,260,102	\$ 7,522,542	\$ 4,263,827
Total Thermal Generation \$		\$ 116,773,811	\$ 76,291,179	\$ 111,316,951	\$ 130,269,082	\$ 105,959,071

Wind Generation		2024 Forecast	2020 Actuals	2021 Actuals	2022 Actuals	3 Year Average
		TRADE SECRET DATA BEGINS				
Bison	MWh					
	Average Cost					
	Total Cost	\$ -	\$ -	\$ -	\$ -	\$ -
		TRADE SECRET DATA BEGINS				
Tac Ridge	MWh					
	Average Cost					
	Total Cost	\$ -	\$ -	\$ -	\$ -	\$ -
Total Wind Generation \$		\$ -	\$ -	\$ -	\$ -	\$ -

Hydro Generation		2024 Forecast	2020 Actuals	2021 Actuals	2022 Actuals	3 Year Average
		TRADE SECRET DATA BEGINS				
Hydro	MWh					
	Average Cost					
	Total Cost	\$ -	\$ -	\$ -	\$ -	\$ -
Total Hydro Generation \$		\$ -	\$ -	\$ -	\$ -	\$ -

2024 Forecast		2020 Actuals	2021 Actuals	2022 Actuals	3 Year Average
Total Company Generation	\$ 116,773,811	\$ 76,291,179	\$ 111,316,951	\$ 130,269,082	\$ 105,959,071



Minnesota Department of Commerce
85 7th Place East | Suite 280 | St. Paul, MN 55101
Information Request

Docket Number: E015/AA-23-180
Requested From: Minnesota Power
Type of Inquiry: Financial

Nonpublic Public
Date of Request: 5/15/2023
Response Due: 5/25/2023

SEND RESPONSE VIA EMAIL TO: Utility.Discovery@state.mn.us as well as the assigned analyst(s).

Assigned Analyst(s): Andrew Golden
Email Address(es): andrew.golden@state.mn.us
Phone Number(s): 651-539-1819

ADDITIONAL INSTRUCTIONS:

Each response must be submitted as a text searchable PDF, unless otherwise directed. Please include the docket number, request number, and respondent name and title on the answers. If your response contains Trade Secret data, please include a public copy.

Request Number: 1
Topic: Actuals for 2020 to 2022
Reference(s): Attachment 1, "FAC Calculation"

Request:

- a) In the same format as Attachment 1 p. 10 of 18, titled "FAC Calculation", under the "Total" 2023 column, please provide 2024 forecast, 2020 actuals, 2021 actuals, and 2022 actuals, and three-year average for 2020 to 2022, yearly information on a live spreadsheet with all links and formulas included. In addition, please add additional rows necessary to show the annual MWh's associated with each cost type and the resulting \$/MWh.
- b) For any difference of 5 percent or more when comparing 2024 forecast \$/MWh's to 2022 actuals \$/MWh's, please explain reasons for the deviation.
- c) For any difference of 5 percent or more when comparing 2024 forecast \$/MWh's to the three-year average of 2020 to 2022, please explain reasons for deviation.

RESPONSE:

- a) AA-23-180 DOC IR 01 Attachment 1 contains the "FAC Calculation" for the 2024 forecast, 2020 actuals, 2021 actuals, 2022 actuals, and the three-year average for 2020 to 2022. Rows were also added to show the annual MWh's and \$/MWh associated with each cost type.
- b) AA-23-180 DOC IR 01 Attachment 1 shows the comparison of the 2024 Forecast \$/MWh to the 2022 actuals \$/MWh. Explanations are provided in the attachment explaining differences of 5 percent or

To be completed by responder

Response Date: 5/25/2023
Response by: Taylor Murphy
Email Address: tmurphy@mnpower.com
Phone Number: 218-355-3591



Docket No. E015/AA-23-180
Attachment 4
Page 2 of 2

**Minnesota Department of Commerce
85 7th Place East | Suite 280 | St. Paul, MN 55101
Information Request**

Docket Number: E015/AA-23-180
Requested From: Minnesota Power
Type of Inquiry: Financial

Nonpublic Public
Date of Request: 5/15/2023
Response Due: 5/25/2023

SEND RESPONSE VIA EMAIL TO: Utility.Discovery@state.mn.us as well as the assigned analyst(s).

Assigned Analyst(s): Andrew Golden
Email Address(es): andrew.golden@state.mn.us
Phone Number(s): 651-539-1819

ADDITIONAL INSTRUCTIONS:

Each response must be submitted as a text searchable PDF, unless otherwise directed. Please include the docket number, request number, and respondent name and title on the answers. If your response contains Trade Secret data, please include a public copy.

more.

- c) AA-23-180 DOC IR 01 Attachment 1 shows the comparison of the 2024 Forecast \$/MWh to the three-year average \$/MWh for 2020-2022 actuals. The reasons for deviations of 5 percent or greater are explained in the attachment.

To be completed by responder

Response Date: 5/25/2023
Response by: Taylor Murphy
Email Address: tmurphy@mnpower.com
Phone Number: 218-355-3591

E105/AA-23-180
DOC IR 1

Line No.	Year	Total 2024 Forecast	\$/MWh 2024 Forecast	Total 2020 Actuals	\$/MWh 2020 Actuals	Total 2021 Actuals	\$/MWh 2021 Actuals	Total 2022 Actuals	\$/MWh 2022 Actuals	3 Year Average 2020 - 2022	3 Year Average \$/MWh
	Cost of Fuel										
1	Company's Generating Stations	\$116,773,811		\$76,291,181		\$111,316,951		\$130,269,082		\$105,959,071	
		[TRADE SECRET DATA BEGINS]									
	Thermal <i>Thermal MWh</i>										
	Wind <i>Wind MWh</i>										
	Hydro <i>Hydro MWh</i>										
2	Plus: Purchased Energy	\$223,751,172		\$193,346,296		\$302,780,486		\$262,867,849		\$252,998,211	
		[TRADE SECRET DATA BEGINS]									
	Market <i>Market MWh</i>										
	Wind <i>Wind MWh</i>										
	Solar <i>Solar MWh</i>										
	Square Butte <i>Square Butte MWh</i>										
3	Plus: MISO Charges	\$53,475,047		\$16,466,491		\$64,223,807		\$59,750,684		\$46,813,728	
4	Less: MISO Schedules 16 & 17 & 24	(\$211,024)		(\$164,843)		(\$79,627)		(\$406,916)		(\$217,129)	
	Schedule 16	\$1,291,940		\$1,449,109		\$1,449,028		\$1,534,966		\$1,477,701	
	Schedule 17	\$225,037		\$31,342		\$29,463		\$35,351		\$32,052	
	Schedule 24	(\$1,728,000)		(\$1,645,294)		(\$1,558,118)		(\$1,977,233)		(\$1,726,881)	
5	Less: Fuel Cost Recovered Through Inter-System Sales	\$129,639,147		\$97,823,379		\$160,780,204		\$167,749,176		\$142,117,586	
		[TRADE SECRET DATA BEGINS]									
	Customer Inter-System Sales <i>Customer Inter-System Sales MWh</i>										
	Market Sales <i>Market Sales MWh</i>										
	Station Service <i>Station Service MWh</i>										
	MISO Costs 1/ Sales due to Retail Loss of Load <i>Sales due to Retail Loss of Load MWh</i>	\$8,286,184		\$1,780,984		\$8,513,787		\$6,881,946		\$5,725,572	
	Asset Based Sale Margins	\$14,510,424		\$3,671,735		\$5,260,590		\$25,458,189		\$11,463,505	
						\$4,485,903		\$3,969,927			
6	Less: Costs Related to Solar	\$2,474,436		\$70		\$1,366		\$83		\$506	
7	Plus: Time of Generation and Solar Energy Adjustment	\$1,527,833		\$432,548		\$386,358		\$440,270		\$419,725	
8	Total Monthly Cost of Fuel	\$263,625,304		\$188,877,910		\$318,005,659		\$285,985,742		\$264,289,771	
		<u>2024 Forecast</u>		<u>2020 Actuals</u>		<u>2021 Actuals</u>		<u>2022 Actuals</u>		<u>3 Year Average</u>	
9	MWh Sales										
	Total Sales of Electricity	12,397,514		12,868,727		14,566,917		12,948,280		13,461,308	
	Residential	1,045,140		1,046,011		1,043,665		1,063,695		1,051,124	
	Commercial	1,230,613		1,134,254		1,174,413		1,181,292		1,163,320	
	LP Taconite	3,794,988		4,295,593		4,428,819		4,297,541		4,340,651	
	LP Paper and Pulp	599,802		752,072		489,259		490,030		577,120	
	LP Pipeline	310,455		348,130		341,031		305,030		331,397	
	Other Misc.	333,861		316,907		341,353		341,716		333,325	
	Municipals	1,313,471		1,340,290		1,393,315		1,299,049		1,344,218	
	Inter System Sales	3,769,185		3,635,470		5,355,063		3,969,927		4,320,153	
10	Less: Inter-System Sales	3,769,185		4,415,869		5,355,063		3,969,927		4,580,286	
	Customer Inter-System Sales	940,132		780,399		1,067,722		820,924		880,682	
	Market Sales	2,826,652		3,112,893		3,412,055		3,140,614		3,221,854	
	Station Service	2,401		4,521		6,126		8,390		6,346	
	Sales due to Retail and Resale Loss of Load	0		518,056		869,160		0		462,405	
11	Less: Solar Generation and Purchased kWh	55,492		16,165		17,215		16,112		16,497	
12	Total Monthly kWh Sales	8,572,838		8,436,693		9,194,640		8,962,240		8,864,524	

1/ No MWhs associated with MISO Costs

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DOC IR 1

Docket No. E015/AA-23-180
Attachment 4.01
Page 2 of 3

Line No.	Year	Total 2024 Forecast	\$/MWh 2024 Forecast	Total 2022 Actuals	\$/MWh 2022 Actuals	\$/MWh Variance	Explanation
1	Cost of Fuel						
	Company's Generating Stations	\$116,773,811		\$130,269,082			
		[TRADE SECRET DATA BEGINS]					
	Thermal <i>Thermal MWh</i>					-11.23%	With higher market prices we saw Hibbard and Laskin run more than forecasted in 2022. They have a higher fuel cost which increased the \$/MWh for 2022 actuals.
	Wind <i>Wind MWh</i>					0.00%	
	Hydro <i>Hydro MWh</i>					0.00%	
2	Plus: Purchased Energy	\$223,751,172		\$262,867,849			
		[TRADE SECRET DATA BEGINS]					
	Market <i>Market MWh</i>					-7.97%	The actual LMPs were higher in 2022 than what was forecasted in 2024. We expect the LMPs to be lower in the 2024 forecast which would reduce the market price per MWh.
	Wind <i>Wind MWh</i>					0.36%	
	Solar <i>Solar MWh</i>					9.42%	In the 2024 forecast we include a new SES 20 MW purchase that was not present in the 2022 actuals.
	Square Butte <i>Square Butte MWh</i>					5.30%	Budget received from MPC forecasted Square Butte fuel to be slightly higher in 2024 compared to 2022 actuals
3	Plus: MISO Charges	\$53,475,047		\$59,750,884			
4	Less: MISO Schedules 16 & 17 & 24	(\$211,024)		(\$406,916)			
	Schedule 16	\$1,291,940		\$1,534,966			
	Schedule 17	\$225,037		\$35,351			
	Schedule 24	(\$1,728,000)		(\$1,977,233)			
5	Less: Fuel Cost Recovered Through Inter-System Sales	\$129,639,147		\$167,749,176			
		[TRADE SECRET DATA BEGINS]					
	Customer Inter-System Sales <i>Customer Inter-System Sales MWh</i>					-21.84%	Most customer intersystem sales are sourced from the market which is expected to be lower in 2024 compared to 2022 actuals.
	Market Sales <i>Market Sales MWh</i>					-17.00%	With the reduced market prices and reduced fuel cost from company generation forecasted in 2024, MP forecasted a lower average fuel cost for market sales than 2022 actuals.
	Station Service <i>Station Service MWh</i>					0.32%	
	MISO Costs 1/ Sales due to Retail Loss of Load <i>Sales due to Retail Loss of Load MWh</i>	\$8,286,184		\$6,881,946			
	Asset Based Sale Margins	\$14,510,424		\$25,458,189		0.00%	
6	Less: Costs Related to Solar	\$2,474,436		\$83			
7	Plus: Time of Generation and Solar Energy Adjustment	\$1,527,833		\$440,270			
8	Total Monthly Cost of Fuel	\$263,625,304		\$285,985,742			

E105/AA-23-180
DOC IR 1

Docket No. E015/AA-23-180
Attachment 4.01
Page 3 of 3

Line No.	Year	Total 2024 Forecast	\$/MWh 2024 Forecast	3 Year Average 2020 - 2022 Actuals	3 Year Average \$/MWh	\$/MWh Variance	Explanation
1	Cost of Fuel						
	Company's Generating Stations	\$116,773,811		\$105,959,071			
		[TRADE SECRET DATA BEGINS]					
	Thermal <i>Thermal MWh</i>					0.15%	
	Wind <i>Wind MWh</i>					0.00%	
	Hydro <i>Hydro MWh</i>					0.00%	
2	Plus: Purchased Energy	\$223,751,172		\$252,998,211			
		[TRADE SECRET DATA BEGINS]					
	Market <i>Market MWh</i>					22.72%	The 3 year averages include 2020 actuals, which were significantly lower market prices. This is driving the 3 year \$/MWh down. We expect the market \$/MWh to be closer to the 2021 and 2022 actuals.
	Wind <i>Wind MWh</i>					-1.19%	
	Solar <i>Solar MWh</i>					8.98%	In the 2024 forecast we include a new SES 20 MW purchase that was not present in the 2020-2022 actuals.
	Square Butte <i>Square Butte MWh</i>					16.90%	Budget received from MPC forecasted Square Butte fuel to be slightly higher in 2024 compared to 2020-2022 actuals
3	Plus: MISO Charges	\$53,475,047		\$46,813,728			
4	Plus: MISO Schedules 16 & 17 & 24	(\$211,024)		(\$217,129)			
	Schedule 16	\$1,291,940		\$1,477,701			
	Schedule 17	\$225,037		\$32,052			
	Schedule 24	(\$1,728,000)		(\$1,726,881)			
5	Less: Fuel Cost Recovered Through Inter-System Sales	\$129,639,147		\$142,117,586			
		[TRADE SECRET DATA BEGINS]					
	Customer Inter-System Sales <i>Customer Inter-System Sales MWh</i>					5.61%	Most customer intersystem sales are sourced from the market which is expected to be higher in 2024 compared to the 3 year average for 2020-2022 actuals. This is mainly due to the low market prices that were seen in 2020 which drives the 3 year average down.
	Market Sales <i>Market Sales MWh</i>					2.50%	
	Station Service <i>Station Service MWh</i>					36.86%	The 2024 forecast uses previous years actual dollar per MWh rate (2022), which is higher than 2020 and 2021 actuals.
	MISO Costs 1/ Sales due to Retail Loss of Load <i>Sales due to Retail Loss of Load MWh</i>	\$8,286,184		\$5,725,572		-100.00%	No sale due to Retail Loss of Load forecasted for 2024.
	Asset Based Sale Margins	\$14,510,424		\$11,463,505			
6	Less: Costs Related to Solar	\$2,474,436		\$506			
7	Plus: Time of Generation and Solar Energy Adjustment	\$1,527,833		\$419,725			
8	Total Monthly Cost of Fuel	\$263,625,304		\$264,289,771			

9

10

11



Minnesota Department of Commerce
85 7th Place East | Suite 280 | St. Paul, MN 55101
Information Request

Docket Number: E015/AA-23-180
Requested From: Minnesota Power
Type of Inquiry: Financial

Nonpublic Public
Date of Request: 6/9/2023
Response Due: 6/20/2023

SEND RESPONSE VIA EMAIL TO: Utility.Discovery@state.mn.us as well as the assigned analyst(s).

Assigned Analyst(s): Andrew Golden
Email Address(es): andrew.golden@state.mn.us
Phone Number(s): 651-539-1819

ADDITIONAL INSTRUCTIONS:

Each response must be submitted as a text searchable PDF, unless otherwise directed. Please include the docket number, request number, and respondent name and title on the answers. If your response contains Trade Secret data, please include a public copy.

Request Number: 11
Topic: Gas Generation
Reference(s): MP IR Response 06, Attachment 1

Request:

- a) Please explain the change in gas generation at the Laskin Station forecasted for 2024 compared to 2021 and 2022 actuals.

RESPONSE:

- a) Over the past few years there has been significant price volatility in the power market. In 2020 market prices were low mainly due to the COVID-19 global pandemic. During 2021 extreme weather events like the polar vortex, as well as significant heat and drought conditions, in addition to concerns over coal supply and a global energy crunch, resulted in a significant increase in power market prices. Power market prices increased by about 120 percent at MP.MP compared to 2020. The market volatility continued into 2022 with the continuation of coal supply concerns due to the anticipated rail strike, and a changing grid which created unpredictability across the energy market. With higher power market prices seen in 2021 and 2022, Laskin was dispatched by MISO more frequently and for longer durations than forecast for reliability runs.

Another factor is the change in market dynamic from less baseload generation to more renewable resource generation. Generation from renewable resources is less predictable, and as more renewable generation is added to the grid, Laskin is dispatched more often for reliability purposes.

To be completed by responder

Response Date: 6/20/2023
Response by: Ryan LaCoursiere
Email Address: rlacoursiere@mnpower.com
Phone Number: 218-355-3678



Minnesota Department of Commerce
85 7th Place East | Suite 280 | St. Paul, MN 55101
Information Request

Docket Number: E015/AA-23-180
Requested From: Minnesota Power
Type of Inquiry: Financial

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Assigned Analyst(s): Andrew Golden
Email Address(es): andrew.golden@state.mn.us
Phone Number(s): 651-539-1819

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With Laskin being a peaking generation resource and at times called to generate for reliability, its historical energy generation has varied year to year. For the 2024 FAC forecast the Laskin generation was targeted to reflect historical levels of generation with operation during peak times in the energy market.

To be completed by responder

Response Date: 6/20/2023
Response by: Ryan LaCoursiere
Email Address: rlacoursiere@mnpower.com
Phone Number: 218-355-3678



Minnesota Department of Commerce
85 7th Place East | Suite 280 | St. Paul, MN 55101
Information Request

Docket Number: E015/AA-23-180
Requested From: Minnesota Power
Type of Inquiry: Financial

Nonpublic Public
Date of Request: 5/15/2023
Response Due: 5/25/2023

SEND RESPONSE VIA EMAIL TO: Utility.Discovery@state.mn.us as well as the assigned analyst(s).

Assigned Analyst(s): Andrew Golden
Email Address(es): andrew.golden@state.mn.us
Phone Number(s): 651-539-1819

ADDITIONAL INSTRUCTIONS:

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Request Number: 5
Topic: Wind Curtailment Costs
Reference(s): Petition, Table 1

Request:

- a) Did Minnesota Power include any wind curtailment costs in its 2024 Fuel Forecast? If yes, please provide supporting information and calculations for wind curtailment costs.

RESPONSE:

- a) No, Minnesota Power did not include any curtailment costs in the 2024 Fuel Forecast.

To be completed by responder

Response Date: 5/25/2023
Response by: Ryan LaCoursiere
Email Address: rlacoursiere@mnpower.com
Phone Number: 218-355-3678



Docket No. E015/AA-23-180
Attachment 7
Page 1 of 1

**Minnesota Department of Commerce
85 7th Place East | Suite 280 | St. Paul, MN 55101
Information Request**

Docket Number: E015/AA-23-180
Requested From: Minnesota Power
Type of Inquiry: Financial

Nonpublic Public
Date of Request: 5/15/2023
Response Due: 5/25/2023

SEND RESPONSE VIA EMAIL TO: Utility.Discovery@state.mn.us as well as the assigned analyst(s).

Assigned Analyst(s): Andrew Golden
Email Address(es): andrew.golden@state.mn.us
Phone Number(s): 651-539-1819

ADDITIONAL INSTRUCTIONS:

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Request Number: 6
Topic: Company-owned generation
Reference(s): N/A

Request:

- a) Please provide the amount of company-owned generation, by facility (separated by total costs by fuel type and location), for 2020-2022 actuals, 2020-2022 three-year average, and 2024 forecast in a table.

RESPONSE:

- a) A table showing company-owned generation by facility and fuel type for 2020-2022 actuals, 2020-2022 three-year average, and the 2024 forecast is provided in AA-23-180 DOC IR 06 Attachment 1.

To be completed by responder

Response Date: 5/25/2023
Response by: Taylor Murphy
Email Address: tmurphy@mnpower.com
Phone Number: 218-355-3591

Thermal Generation		2024 Forecast	2020 Actuals	2021 Actuals	2022 Actuals	3 Year Average
Generation - Coal		[TRADESECRET DATA BEGINS]				
Boswell 3	MWh					
	Average Cost					
	Total Cost	\$ 40,951,276	\$ 31,525,708	\$ 46,778,306	\$ 52,242,979	\$ 43,515,664
		[TRADESECRET DATA BEGINS]				
Boswell 4	MWh					
	Average Cost					
	Total Cost	\$ 68,167,952	\$ 43,172,017	\$ 53,449,013	\$ 57,234,785	\$ 51,285,272
		[TRADESECRET DATA BEGINS]				
Total Generation Coal \$		\$ 109,119,229	\$ 74,697,725	\$ 100,227,319	\$ 109,477,764	\$ 94,800,936
Generation - Gas		[TRADESECRET DATA BEGINS]				
Laskin 1	MWh					
	Average Cost					
	Total Cost	\$ 848,299	\$ 295,310	\$ 3,542,131	\$ 6,306,886	\$ 3,381,442
		[TRADESECRET DATA BEGINS]				
Laskin 2	MWh					
	Average Cost					
	Total Cost	\$ 614,902	\$ 289,307	\$ 3,287,399	\$ 6,961,890	\$ 3,512,865
		[TRADESECRET DATA BEGINS]				
Total Generation Gas \$		\$ 1,463,201	\$ 584,617	\$ 6,829,530	\$ 13,268,776	\$ 6,894,308
Generation - Biofuel		[TRADESECRET DATA BEGINS]				
Hibbard	MWh					
	Average Cost					
	Total Cost	\$ 6,191,381	\$ 1,008,837	\$ 4,260,102	\$ 7,522,542	\$ 4,263,827
		[TRADESECRET DATA BEGINS]				
Total Generation Biofuel \$		\$ 6,191,381	\$ 1,008,837	\$ 4,260,102	\$ 7,522,542	\$ 4,263,827
Total Thermal Generation \$		\$ 116,773,811	\$ 76,291,179	\$ 111,316,951	\$ 130,269,082	\$ 105,959,071

Wind Generation		2024 Forecast	2020 Actuals	2021 Actuals	2022 Actuals	3 Year Average
		[TRADESECRET DATA BEGINS]				
Bison	MWh					
	Average Cost					
	Total Cost	\$ -	\$ -	\$ -	\$ -	\$ -
		[TRADESECRET DATA BEGINS]				
Tac Ridge	MWh					
	Average Cost					
	Total Cost	\$ -	\$ -	\$ -	\$ -	\$ -
		[TRADESECRET DATA BEGINS]				
Total Wind Generation \$		\$ -	\$ -	\$ -	\$ -	\$ -

Hydro Generation		2024 Forecast	2020 Actuals	2021 Actuals	2022 Actuals	3 Year Average
		[TRADESECRET DATA BEGINS]				
Hydro	MWh					
	Average Cost					
	Total Cost	\$ -	\$ -	\$ -	\$ -	\$ -
		[TRADESECRET DATA BEGINS]				
Total Hydro Generation \$		\$ -	\$ -	\$ -	\$ -	\$ -

Total Company Generation		2024 Forecast	2020 Actuals	2021 Actuals	2022 Actuals	3 Year Average
		\$ 116,773,811	\$ 76,291,179	\$ 111,316,951	\$ 130,269,082	\$ 105,959,071

Thermal Generation		2024 Forecast	2020 Actuals	2021 Actuals	2022 Actuals	3 Year Average
Generation - Coal		TRADE SECRET DATA BEGINS				
Boswell 3	MWh					
	Average Cost					
	Total Cost	\$ 40,951,276	\$ 31,525,708	\$ 46,778,306	\$ 52,242,979	\$ 43,515,664
		TRADE SECRET DATA BEGINS				
Boswell 4	MWh					
	Average Cost					
	Total Cost	\$ 68,167,952	\$ 43,172,017	\$ 53,449,013	\$ 57,234,785	\$ 51,285,272
Total Generation Coal \$		\$ 109,119,229	\$ 74,697,725	\$ 100,227,319	\$ 109,477,764	\$ 94,800,936
Generation - Gas		TRADE SECRET DATA BEGINS				
Laskin 1	MWh					
	Average Cost					
	Total Cost	\$ 848,299	\$ 295,310	\$ 3,542,131	\$ 6,306,886	\$ 3,381,442
		TRADE SECRET DATA BEGINS				
Laskin 2	MWh					
	Average Cost					
	Total Cost	\$ 614,902	\$ 289,307	\$ 3,287,399	\$ 6,961,890	\$ 3,512,865
Total Generation Gas \$		\$ 1,463,201	\$ 584,617	\$ 6,829,530	\$ 13,268,776	\$ 6,894,308
Generation - Biofuel		TRADE SECRET DATA BEGINS				
Hibbard	MWh					
	Average Cost					
	Total Cost	\$ 6,191,381	\$ 1,008,837	\$ 4,260,102	\$ 7,522,542	\$ 4,263,827
Total Generation Biofuel \$		\$ 6,191,381	\$ 1,008,837	\$ 4,260,102	\$ 7,522,542	\$ 4,263,827
Total Thermal Generation \$		\$ 116,773,811	\$ 76,291,179	\$ 111,316,951	\$ 130,269,082	\$ 105,959,071

Wind Generation		2024 Forecast	2020 Actuals	2021 Actuals	2022 Actuals	3 Year Average
		TRADE SECRET DATA BEGINS				
Bison	MWh					
	Average Cost					
	Total Cost	\$ -	\$ -	\$ -	\$ -	\$ -
		TRADE SECRET DATA BEGINS				
Tac Ridge	MWh					
	Average Cost					
	Total Cost	\$ -	\$ -	\$ -	\$ -	\$ -
Total Wind Generation \$		\$ -	\$ -	\$ -	\$ -	\$ -

Hydro Generation		2024 Forecast	2020 Actuals	2021 Actuals	2022 Actuals	3 Year Average
		TRADE SECRET DATA BEGINS				
Hydro	MWh					
	Average Cost					
	Total Cost	\$ -	\$ -	\$ -	\$ -	\$ -
Total Hydro Generation \$		\$ -	\$ -	\$ -	\$ -	\$ -

Total Company Generation		2024 Forecast	2020 Actuals	2021 Actuals	2022 Actuals	3 Year Average
		\$ 116,773,811	\$ 76,291,179	\$ 111,316,951	\$ 130,269,082	\$ 105,959,071



Minnesota Department of Commerce
85 7th Place East | Suite 280 | St. Paul, MN 55101
Information Request

Docket No. E015/AA-23-180
Attachment 8
Page 1 of 1

Docket Number: E015/AA-23-180
Requested From: Minnesota Power
Type of Inquiry: Financial

Nonpublic Public
Date of Request: 5/15/2023
Response Due: 5/25/2023

SEND RESPONSE VIA EMAIL TO: Utility.Discovery@state.mn.us as well as the assigned analyst(s).

Assigned Analyst(s): Andrew Golden
Email Address(es): andrew.golden@state.mn.us
Phone Number(s): 651-539-1819

ADDITIONAL INSTRUCTIONS:

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Request Number: 7
Topic: Purchased Energy – Long-term PPAs
Reference(s): N/A

Request:

- a) Please provide purchased energy costs, by type, for 2020, 2021, and 2022 actuals. Also include a column for 2020 – 2022 three-year average and a column for 2024 forecasted.

RESPONSE:

- a) Purchased energy costs, by type, are provided in AA-23-180 DOC IR 07 Attachment 1 for 2020-2022 actuals, the 2020-2022 three-year average, and the 2024 forecast.

To be completed by responder

Response Date: 5/25/2023
Response by: Taylor Murphy
Email Address: tmurphy@mnpower.com
Phone Number: 218-355-3591

docket No. E015/AA-23-180
Attachment 8.01
Page 1 of 4

Purchase Power- Coal		2024 Forecast	2020 Actuals	2021 Actuals	2022 Actuals	3 Year Average 2020 - 2022 Actuals
		Total [TRADE SECRET DATA BEGINS	Total	Total	Total	Total
Square Butte	MWh Average Cost					
	Total Cost	\$ 37,483,750	\$ 30,559,753	\$ 33,604,104	\$ 30,080,957	\$ 31,414,938
Total Purchase Power Coal \$		\$ 37,483,750	\$ 30,559,753	\$ 33,604,104	\$ 30,080,957	\$ 31,414,938

TRADE SECRET DATA ENDS

Purchase Power Biomass		Total	Total	Total	Total
		[TRADE SECRET DATA BEGINS	Total	Total	Total
	MWh Average Cost				
	Total Cost	\$ -	\$ -	\$ -	\$ -
Total Purchase Power Biomass \$		\$ -	\$ -	\$ -	\$ -

TRADE SECRET DATA ENDS

Purchase Power Hydro		Total	Total	Total	Total
		[TRADE SECRET DATA BEGINS	Total	Total	Total
MHEB	MWh Average Cost				
	Total Cost	\$ 107,963,075	\$ 81,808,261	\$ 102,549,433	\$ 115,956,880
Total Purchase Power Hydro \$		\$ 107,963,075	\$ 81,808,261	\$ 102,549,433	\$ 115,956,880

TRADE SECRET DATA ENDS

Purchase Power Gas		Total	Total	Total	Total
		[TRADE SECRET DATA BEGINS	Total	Total	Total
GREM	MWh Average Cost				
	Total Cost	\$ -	\$ 12,458	\$ -	\$ -
Total Purchase Power Gas \$		\$ -	\$ 12,458	\$ -	\$ -

TRADE SECRET DATA ENDS

Purchase Power Wind		Total	Total	Total	Total
		[TRADE SECRET DATA BEGINS	Total	Total	Total
Oliver 1	MWh Average Cost				
	Total Cost	\$ 3,479,483	\$ 3,305,579	\$ 2,919,748	\$ 3,963,874
Oliver 2	MWh Average Cost				
	Total Cost	\$ 5,970,613	\$ 6,267,453	\$ 5,681,911	\$ 7,010,084
Wing River	MWh Average Cost				
	Total Cost	\$ 252,342	\$ 142,654	\$ 72,459	\$ 142,646
Nobles	MWh Average Cost				
	Total Cost	\$ 19,903,883	\$ 5,551,805	\$ 19,004,220	\$ 21,419,518
Minnkota Power Cooperation Renewable Source	MWh Average Cost				
	Total Cost	\$ 92,336	\$ -	\$ -	\$ -
Total Purchase Power Wind \$		\$ 29,698,656	\$ 15,267,492	\$ 27,678,338	\$ 32,536,121

TRADE SECRET DATA ENDS

TRADE SECRET DATA ENDS

TRADE SECRET DATA ENDS

TRADE SECRET DATA ENDS

TRADE SECRET DATA ENDS

docket No. E015/AA-23-180
Attachment 8.01
Page 1 of 4

Purchase Power Diesel		Total				
		[TRADE SECRET DATA BEGINS	Total	Total	Total	Total
MWh	Average Cost					
	Total Cost	\$ -	\$ -	\$ -	\$ -	\$ -
Total Purchase Power Diesel \$		\$ -	\$ -	\$ -	\$ -	\$ -

Purchase Power Solar		Total				
		[TRADE SECRET DATA BEGINS	Total	Total	Total	Total
SES 20MW Solar	MWh					
	Average Cost					
	Total Cost	\$ 2,474,436	\$ -	\$ -	\$ -	\$ -
Purchase to Serve Municipal Solar Energy						
	MWh					
	Average Cost					
	Total Cost	\$ 190,174	\$ -	\$ -	\$ 137,267	\$ 45,756
Solar Subscription Cancellations						
	MWh					
	Average Cost					
	Total Cost	\$ -	\$ 70	\$ 1,367	\$ 83	\$ 506
Total Purchase Power Solar \$		\$ 2,664,609	\$ 70	\$ 1,367	\$ 137,350	\$ 46,262

Purchase Power Unknown		Total				
		[TRADE SECRET DATA BEGINS	Total	Total	Total	Total
Market Purchase	MWh					
	Average Cost					
	Total Cost	\$ 19,926,132	\$ 48,717,311	\$ 94,942,309	\$ 58,340,567	\$ 67,333,396
MPC- Station Service						
	MWh					
	Average Cost					
	Total Cost	\$ 562,290	\$ 257,212	\$ 507,516	\$ 553,127	\$ 439,285
Purchase to Serve Non-Firm Retail Customer						
	MWh					
	Average Cost					
	Total Cost	\$ 25,452,659	\$ -	\$ -	\$ -	\$ -
Minnkota Power						
	MWh					
	Average Cost					
	Total Cost	\$ -	\$ 7,752,000	\$ 544,800	\$ -	\$ 2,765,600
IMO (Ontario Market Operator)						
	MWh					
	Average Cost					
	Total Cost	\$ -	\$ 8,209	\$ 36,407	\$ 134,144	\$ 59,587
AEP Energy Partners						
	MWh					
	Average Cost					
	Total Cost	\$ -	\$ 3,627,000	\$ 5,579,300	\$ 200,700	\$ 3,135,667
Shell Energy North America						
	MWh					
	Average Cost					
	Total Cost	\$ -	\$ 460,350	\$ 7,632,060	\$ 13,701,400	\$ 7,264,603
NextEra Energy						
	MWh					
	Average Cost					
	Total Cost	\$ -	\$ 3,082,620	\$ 23,297,399	\$ 2,077,260	\$ 9,485,760
Other Purchases						
	MWh					
	Average Cost					
	Total Cost	\$ -	\$ 1,793,559	\$ 1,359,714	\$ 7,384,043	\$ 3,512,439
MacQuarie Energy						
	MWh					
	Average Cost					
	Total Cost	\$ -	\$ -	\$ 4,994,940	\$ 1,765,300	\$ 2,253,413
The Energy Authority						
	MWh					
	Average Cost					
	Total Cost	\$ -	\$ -	\$ 52,800	\$ -	\$ 17,600
Transalta Energy Marketing						
	MWh					
	Average Cost					
	Total Cost	\$ -	\$ -	\$ -	\$ -	\$ -
Total Purchase Power Unknown \$		\$ 45,941,081	\$ 65,698,262	\$ 138,947,245	\$ 84,156,541	\$ 96,267,349

Total Company Purchase Power		Total				
		[TRADE SECRET DATA BEGINS	Total	Total	Total	Total
	Total Cost	\$ 223,751,172	\$ 193,346,296	\$ 302,780,486	\$ 262,867,849	\$ 252,998,211

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 Attachment 8.01
 Page 1 of 4

Purchase Power- Coal		2024 Forecast	2020 Actuals	2021 Actuals	2022 Actuals	3 Year Average 2020 - 2022 Actuals
		Total [TRADE SECRET DATA BEGINS	Total	Total	Total	Total
Square Butte	MWh Average Cost					
	Total Cost	\$ 37,483,750	\$ 30,559,753	\$ 33,604,104	\$ 30,080,957	\$ 31,414,938
Total Purchase Power Coal \$		\$ 37,483,750	\$ 30,559,753	\$ 33,604,104	\$ 30,080,957	\$ 31,414,938

TRADE SECRET DATA ENDS

Purchase Power Biomass		Total [TRADE SECRET DATA BEGINS	Total	Total	Total	Total
	MWh Average Cost					
	Total Cost	\$ -	\$ -	\$ -	\$ -	\$ -
Total Purchase Power Biomass \$		\$ -	\$ -	\$ -	\$ -	\$ -

TRADE SECRET DATA ENDS

Purchase Power Hydro		Total [TRADE SECRET DATA BEGINS	Total	Total	Total	Total
	MWh Average Cost					
MHEB	Total Cost	\$ 107,963,075	\$ 81,808,261	\$ 102,549,433	\$ 115,956,880	\$ 100,104,858
Total Purchase Power Hydro \$		\$ 107,963,075	\$ 81,808,261	\$ 102,549,433	\$ 115,956,880	\$ 100,104,858

TRADE SECRET DATA ENDS

Purchase Power Gas		Total [TRADE SECRET DATA BEGINS	Total	Total	Total	Total
	MWh Average Cost					
GREM	Total Cost	\$ -	\$ 12,458	\$ -	\$ -	\$ 4,153
Total Purchase Power Gas \$		\$ -	\$ 12,458	\$ -	\$ -	\$ 4,153

TRADE SECRET DATA ENDS

Purchase Power Wind		Total [TRADE SECRET DATA BEGINS	Total	Total	Total	Total
	MWh Average Cost					
Oliver 1	Total Cost	\$ 3,479,483	\$ 3,305,579	\$ 2,919,748	\$ 3,963,874	\$ 3,396,400
		[TRADE SECRET DATA BEGINS				
Oliver 2	Total Cost	\$ 5,970,613	\$ 6,267,453	\$ 5,681,911	\$ 7,010,084	\$ 6,319,816
		[TRADE SECRET DATA BEGINS				
Wing River	Total Cost	\$ 252,342	\$ 142,654	\$ 72,459	\$ 142,646	\$ 119,253
		[TRADE SECRET DATA BEGINS				
Nobles	Total Cost	\$ 19,903,883	\$ 5,551,805	\$ 19,004,220	\$ 21,419,518	\$ 15,325,181
		[TRADE SECRET DATA BEGINS				
Minnkota Power Cooperation Renewable Source	Total Cost	\$ 92,336	\$ -	\$ -	\$ -	\$ -
Total Purchase Power Wind \$		\$ 29,698,656	\$ 15,267,492	\$ 27,678,338	\$ 32,536,121	\$ 25,160,651

TRADE SECRET DATA ENDS

TRADE SECRET DATA ENDS

TRADE SECRET DATA ENDS

TRADE SECRET DATA ENDS

TRADE SECRET DATA ENDS

docket No. E015/AA-23-180
Attachment 8.01
Page 1 of 4

Purchase Power Diesel		Total				
		[TRADE SECRET DATA BEGINS	Total	Total	Total	Total
MWh	Average Cost					
	Total Cost	\$ -	\$ -	\$ -	\$ -	\$ -
Total Purchase Power Diesel \$		\$ -	\$ -	\$ -	\$ -	\$ -

TRADE SECRET DATA ENDS

Purchase Power Solar		Total				
		[TRADE SECRET DATA BEGINS	Total	Total	Total	Total
SES 20MW Solar	MWh					
	Average Cost					
	Total Cost	\$ 2,474,436	\$ -	\$ -	\$ -	\$ -
Purchase to Serve Municipal Solar Energy						
	MWh					
	Average Cost					
	Total Cost	\$ 190,174	\$ -	\$ -	\$ 137,267	\$ 45,756
Solar Subscription Cancellations						
	MWh					
	Average Cost					
	Total Cost	\$ -	\$ 70	\$ 1,367	\$ 83	\$ 506
Total Purchase Power Solar \$		\$ 2,664,609	\$ 70	\$ 1,367	\$ 137,350	\$ 46,262

TRADE SECRET DATA ENDS

TRADE SECRET DATA ENDS

TRADE SECRET DATA ENDS

Purchase Power Unknown		Total				
		[TRADE SECRET DATA BEGINS	Total	Total	Total	Total
Market Purchase	MWh					
	Average Cost					
	Total Cost	\$ 19,926,132	\$ 48,717,311	\$ 94,942,309	\$ 58,340,567	\$ 67,333,396
MPC- Station Service						
	MWh					
	Average Cost					
	Total Cost	\$ 562,290	\$ 257,212	\$ 507,516	\$ 553,127	\$ 439,285
Purchase to Serve Non-Firm Retail Customer						
	MWh					
	Average Cost					
	Total Cost	\$ 25,452,659	\$ -	\$ -	\$ -	\$ -
Minnkota Power						
	MWh					
	Average Cost					
	Total Cost	\$ -	\$ 7,752,000	\$ 544,800	\$ -	\$ 2,765,600
IMO (Ontario Market Operator)						
	MWh					
	Average Cost					
	Total Cost	\$ -	\$ 8,209	\$ 36,407	\$ 134,144	\$ 59,587
AEP Energy Partners						
	MWh					
	Average Cost					
	Total Cost	\$ -	\$ 3,627,000	\$ 5,579,300	\$ 200,700	\$ 3,135,667
Shell Energy North America						
	MWh					
	Average Cost					
	Total Cost	\$ -	\$ 460,350	\$ 7,632,060	\$ 13,701,400	\$ 7,264,603
NextEra Energy						
	MWh					
	Average Cost					
	Total Cost	\$ -	\$ 3,082,620	\$ 23,297,399	\$ 2,077,260	\$ 9,485,760
Other Purchases						
	MWh					
	Average Cost					
	Total Cost	\$ -	\$ 1,793,559	\$ 1,359,714	\$ 7,384,043	\$ 3,512,439
MacQuarie Energy						
	MWh					
	Average Cost					
	Total Cost	\$ -	\$ -	\$ 4,994,940	\$ 1,765,300	\$ 2,253,413
The Energy Authority						
	MWh					
	Average Cost					
	Total Cost	\$ -	\$ -	\$ 52,800	\$ -	\$ 17,600
Transalta Energy Marketing						
	MWh					
	Average Cost					
	Total Cost	\$ -	\$ -	\$ -	\$ -	\$ -
Total Purchase Power Unknown \$		\$ 45,941,081	\$ 65,698,262	\$ 138,947,245	\$ 84,156,541	\$ 96,267,349

TRADE SECRET DATA ENDS

TRADE SECRET DATA ENDS

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TRADE SECRET DATA ENDS

TRADE SECRET DATA ENDS

Total Company Purchase Power		Total				
		[TRADE SECRET DATA BEGINS	Total	Total	Total	Total
	Total Cost	\$ 223,751,172	\$ 193,346,296	\$ 302,780,486	\$ 262,867,849	\$ 252,998,211



Minnesota Department of Commerce
85 7th Place East | Suite 280 | St. Paul, MN 55101
Information Request

Docket Number: E015/AA-23-180
Requested From: Minnesota Power
Type of Inquiry: Financial

Nonpublic Public
Date of Request: 6/9/2023
Response Due: 6/20/2023

SEND RESPONSE VIA EMAIL TO: Utility.Discovery@state.mn.us as well as the assigned analyst(s).

Assigned Analyst(s): Andrew Golden
Email Address(es): andrew.golden@state.mn.us
Phone Number(s): 651-539-1819

ADDITIONAL INSTRUCTIONS:

Each response must be submitted as a text searchable PDF, unless otherwise directed. Please include the docket number, request number, and respondent name and title on the answers. If your response contains Trade Secret data, please include a public copy.

Request Number: 10
Topic: Asset-Based Sales
Reference(s): Petition, Attachment No. 1

Request:

- a) The Department notes asset-based margins are included as part of Minnesota Power's Intersystem Sales, yet Intersystem Sales are excluded from Minnesota Power's forecasted fuel costs for 2024. Please explain how the asset-based margins are given back to ratepayers.

RESPONSE:

- a) The FAC calculation in its simplest form is generation and purchase costs less fuel costs allocated to intersystem sales. Intersystem sales MWhs and costs are considered non FAC and that is why they are removed (or in other words, reduce fuel and purchased power remaining in the FAC) from the Minnesota Power's FAC Forecast calculation for 2023.

Asset Based Sales have always been considered an Intersystem sale which reduces the sales and costs in the Retail FAC calculation. The Asset Based Sales margins refunded to customers are included in the 2024 FAC Forecast, Docket No. AA-23-180, Attachment No. 1, Page 10 of 18 under the detail of line 5 "Less: Cost Recovered through Inter-System Sales" which increases fuel costs recovered through Intersystem sales and in return reduces fuel costs remaining in the FAC which benefits customers.

Also, please refer to Docket No. AA-19-302, DOC IR 11, response C and D for discussion on Asset Based Margins.

To be completed by responder

Response Date: 6/20/2023
Response by: Ryan LaCoursiere
Email Address: rlacoursiere@mnpower.com
Phone Number: 218-355-3678



Minnesota Department of Commerce
85 7th Place East | Suite 280 | St. Paul, MN 55101
Information Request

Docket No. E015/AA-23-180
Attachment 10
Page 1 of 2

Docket Number: E015/AA-23-180
Requested From: Minnesota Power
Type of Inquiry: Financial

Nonpublic Public
Date of Request: 5/15/2023
Response Due: 5/25/2023

SEND RESPONSE VIA EMAIL TO: Utility.Discovery@state.mn.us as well as the assigned analyst(s).

Assigned Analyst(s): Andrew Golden
Email Address(es): andrew.golden@state.mn.us
Phone Number(s): 651-539-1819

ADDITIONAL INSTRUCTIONS:

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Request Number: 8
Topic: Planned Outages
Reference(s): Report Attachment 5

Request:

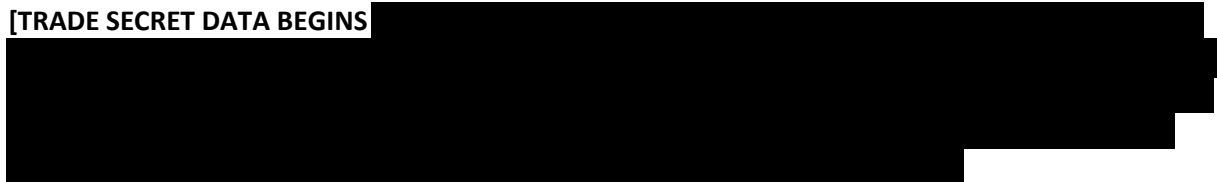
- a) Please provide forecasted planned outage costs for 2020, 2021, and 2022; the three-year average of 2020 – 2022, and the actual planned outage costs for the same time periods. Please explain any material differences compared to the 2023 forecast planned outage costs

RESPONSE:

- a) Minnesota Power believes the DOC was looking for differences compared to the 2024 forecast planned outage costs instead of the 2023 forecast planned outage costs requested above.

AA-22-216 DOC IR 08 Attachment 1 contains the planned outage costs for the 2020-2022 forecast, 2020-2022 actuals, the three-year average for 2020-2022 forecast and actuals, and the 2024 forecast planned outage costs.

[TRADE SECRET DATA BEGINS



To be completed by responder

Response Date: 5/25/2023
Response by: Ryan LaCoursiere
Email Address: rlacoursiere@mnpower.com
Phone Number: 218-355-3678



Docket No. E015/AA-23-180
Attachment 10
Page 2 of 2

Minnesota Department of Commerce
85 7th Place East | Suite 280 | St. Paul, MN 55101
Information Request

Docket Number: E015/AA-23-180
Requested From: Minnesota Power
Type of Inquiry: Financial

Nonpublic Public
Date of Request: 5/15/2023
Response Due: 5/25/2023

SEND RESPONSE VIA EMAIL TO: Utility.Discovery@state.mn.us as well as the assigned analyst(s).

Assigned Analyst(s): Andrew Golden
Email Address(es): andrew.golden@state.mn.us
Phone Number(s): 651-539-1819

ADDITIONAL INSTRUCTIONS:

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[REDACTED]

[REDACTED]

[REDACTED]

SECRET DATA ENDS]

TRADE

To be completed by responder

Response Date: 5/25/2023
Response by: Ryan LaCoursiere
Email Address: rlacoursiere@mnpower.com
Phone Number: 218-355-3678

Planned Outage Costs- Forecast					
Unit	2024 Forecast Total	2022 Forecast Total	2021 Forecast Total	2020 Forecast Total	3 Year Forecast Average
<u>Boswell 3</u>	[TRADE SECRET DATA BEGINS]				
Total Costs	[REDACTED]				
Incremental Costs	[REDACTED]				
		(\$867,254.50)	(\$875,766.32)	\$432,372.97	(\$436,882.62)
<u>Boswell 4</u>	[REDACTED]				
Total Costs	[REDACTED]				
Incremental Costs	[REDACTED]				
		(\$767,983.54)	(\$1,994,066.10)	\$3,009,114.38	\$82,354.92
<u>Boswell 3 and 4 Total</u>	[REDACTED]				
Total Costs	[REDACTED]				
Total Incremental Costs	[REDACTED]				
		(\$1,635,238.04)	(\$2,869,832.41)	\$3,441,487.35	(\$354,527.70)
[TRADE SECRET DATA ENDS]					
				2024 Forecast vs. 2022 Forecast	2024 Forecast vs. 2020-2022 Forecast
[TRADE SECRET DATA BEGINS]					
				Total Costs	[REDACTED]
				Total Incremental Costs	[REDACTED]
[TRADE SECRET DATA ENDS]					
Percent Change					
[TRADE SECRET DATA BEGINS]					
				Total Costs	[REDACTED]
				Total Incremental Costs	[REDACTED]
[TRADE SECRET DATA ENDS]					

Planned Outage Costs- Actual					
Unit	2024 Forecast Total	2022 Actual Total	2021 Actual Total	2020 Actual Total	3 Year Actual Average
<u>Boswell 3</u>	[TRADE SECRET DATA BEGINS]				
Total Costs	[REDACTED]				
Incremental Costs	[REDACTED]				
		\$1,526,577.24	\$3,234,507.79	(\$132,813.92)	\$1,542,757.04
<u>Boswell 4</u>	[REDACTED]				
Total Costs	[REDACTED]				
Incremental Costs	[REDACTED]				
		\$1,170,694.14	\$3,180,684.46	(\$160,432.13)	\$1,396,982.16
<u>Boswell 3 and 4 Total</u>	[REDACTED]				
Total Costs	[REDACTED]				
Total Incremental Costs	[REDACTED]				
		\$2,697,271.39	\$6,415,192.24	(\$293,246.05)	\$2,939,739.19
[TRADE SECRET DATA ENDS]					
				2024 Forecast vs. 2022 Actuals	2024 Forecast vs. 2020-2022 Actuals
[TRADE SECRET DATA BEGINS]					
				Total Costs	[REDACTED]
				Total Incremental Costs	[REDACTED]
[TRADE SECRET DATA ENDS]					
Percent Change					
[TRADE SECRET DATA BEGINS]					
				Total Costs	[REDACTED]
				Total Incremental Costs	[REDACTED]
[TRADE SECRET DATA ENDS]					

Planned Outage Costs- Forecast					
Unit	2024 Forecast Total	2022 Forecast Total	2021 Forecast Total	2020 Forecast Total	3 Year Forecast Average
<u>Boswell 3</u>	[TRADE SECRET DATA BEGINS]				
Total Costs	[REDACTED]				
Incremental Costs	[REDACTED]	(\$867,254.50)	(\$875,766.32)	\$432,372.97	(\$436,882.62)
<u>Boswell 4</u>	[REDACTED]				
Total Costs	[REDACTED]				
Incremental Costs	[REDACTED]	(\$767,983.54)	(\$1,994,066.10)	\$3,009,114.38	\$82,354.92
<u>Boswell 3 and 4 Total</u>	[REDACTED]				
Total Costs	[REDACTED]				
Total Incremental Costs	[REDACTED]	(\$1,635,238.04)	(\$2,869,832.41)	\$3,441,487.35	(\$354,527.70)
[TRADE SECRET DATA ENDS]					
				2024 Forecast vs. 2022 Forecast	2024 Forecast vs. 2020-2022 Forecast
[TRADE SECRET DATA BEGINS]					
				Total Costs	[REDACTED]
				Total Incremental Costs	[REDACTED]
[TRADE SECRET DATA ENDS]					
Percent Change					
[TRADE SECRET DATA BEGINS]					
				Total Costs	[REDACTED]
				Total Incremental Costs	[REDACTED]
[TRADE SECRET DATA ENDS]					

Planned Outage Costs- Actual					
Unit	2024 Forecast Total	2022 Actual Total	2021 Actual Total	2020 Actual Total	3 Year Actual Average
<u>Boswell 3</u>	[TRADE SECRET DATA BEGINS]				
Total Costs	[REDACTED]				
Incremental Costs	[REDACTED]	\$1,526,577.24	\$3,234,507.79	(\$132,813.92)	\$1,542,757.04
<u>Boswell 4</u>	[REDACTED]				
Total Costs	[REDACTED]				
Incremental Costs	[REDACTED]	\$1,170,694.14	\$3,180,684.46	(\$160,432.13)	\$1,396,982.16
<u>Boswell 3 and 4 Total</u>	[REDACTED]				
Total Costs	[REDACTED]				
Total Incremental Costs	[REDACTED]	\$2,697,271.39	\$6,415,192.24	(\$293,246.05)	\$2,939,739.19
[TRADE SECRET DATA ENDS]					
				2024 Forecast vs. 2022 Actuals	2024 Forecast vs. 2020-2022 Actuals
[TRADE SECRET DATA BEGINS]					
				Total Costs	[REDACTED]
				Total Incremental Costs	[REDACTED]
[TRADE SECRET DATA ENDS]					
Percent Change					
[TRADE SECRET DATA BEGINS]					
				Total Costs	[REDACTED]
				Total Incremental Costs	[REDACTED]
[TRADE SECRET DATA ENDS]					



Docket No. E015/AA-23-180
Attachment 11
Page 1 of 2

**Minnesota Department of Commerce
85 7th Place East | Suite 280 | St. Paul, MN 55101
Information Request**

Docket Number: E015/AA-23-180
Requested From: Minnesota Power
Type of Inquiry: Financial

Nonpublic Public
Date of Request: 6/9/2023
Response Due: 6/20/2023

SEND RESPONSE VIA EMAIL TO: Utility.Discovery@state.mn.us as well as the assigned analyst(s).

Assigned Analyst(s): Andrew Golden
Email Address(es): andrew.golden@state.mn.us
Phone Number(s): 651-539-1819

ADDITIONAL INSTRUCTIONS:

Each response must be submitted as a text searchable PDF, unless otherwise directed. Please include the docket number, request number, and respondent name and title on the answers. If your response contains Trade Secret data, please include a public copy.

Request Number: 9
Topic: Forced Outage Costs
Reference(s): Report Attachment 5

Request:

- a) Please provide forecasted forced outage costs for 2020, 2021, and 2022; the three-year average of 2020 – 2022, and the actual forced outage costs for the same time periods. Please explain any material differences compared to the 2023 forecast forced outage costs and the three-year average.

RESPONSE:

- a) Minnesota Power believes the DOC was looking for differences compared to the 2024 forecast forced outage costs instead of the 2023 forecast forced outage costs requested above.

AA-23-180 DOC IR 09 Attachment 1 contains the forced outage costs for the 2020-2022 forecast, 2020-2022 actuals, the three-year average for 2020-2022 forecast and actuals, and the 2024 forecast.

[TRADE SECRET DATA BEGINS]



To be completed by responder

Response Date: 6/20/2023
Response by: Ryan LaCoursiere
Email Address: rlacoursiere@mnpower.com
Phone Number: 218-355-3678



Docket No. E015/AA-23-180
Attachment 11
Page 2 of 2

**Minnesota Department of Commerce
85 7th Place East | Suite 280 | St. Paul, MN 55101
Information Request**

Docket Number: E015/AA-23-180
Requested From: Minnesota Power
Type of Inquiry: Financial

Nonpublic Public
Date of Request: 6/9/2023
Response Due: 6/20/2023

SEND RESPONSE VIA EMAIL TO: Utility.Discovery@state.mn.us as well as the assigned analyst(s).

Assigned Analyst(s): Andrew Golden
Email Address(es): andrew.golden@state.mn.us
Phone Number(s): 651-539-1819

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[REDACTED]

TRADE SECRET DATA ENDS]

To be completed by responder

Response Date: 6/20/2023
Response by: Ryan LaCoursiere
Email Address: rlacoursiere@mnpower.com
Phone Number: 218-355-3678

Forced Outage Incremental Costs		
	Forecasted Incremental Costs	Actual Incremental Costs
Year		
2020	\$1,021,843.22	(\$1,378,104.54)
2021	(\$633,961.53)	\$3,384,320.17
2022	(\$842,437.51)	\$9,598,117.88
3 Year Average	(\$151,518.61)	\$3,868,111.17
2024	[TRADE SECRET DATA BEGINS ██████████]	

Docket No. E015/AA-23-180
Attachment 11.01
Page 1 of 1

TRADE SECRET
DATA ENDS]

2024 Forecast vs. 2020-2022 Forecast	2024 Forecast vs. 2020-2022 Actual
Difference	
[TRADE SECRET DATA BEGINS ██████████ ██████████]	

TRADE SECRET
DATA ENDS]



Minnesota Department of Commerce
85 7th Place East | Suite 280 | St. Paul, MN 55101
Information Request

Docket No. E015/AA-23-180
Attachment 12
Page 1 of 2

Docket Number: E015/AA-23-180
Requested From: Minnesota Power
Type of Inquiry: Financial

Nonpublic Public
Date of Request: 5/15/2023
Response Due: 5/25/2023

SEND RESPONSE VIA EMAIL TO: Utility.Discovery@state.mn.us as well as the assigned analyst(s).

Assigned Analyst(s): Andrew Golden
Email Address(es): andrew.golden@state.mn.us
Phone Number(s): 651-539-1819

ADDITIONAL INSTRUCTIONS:

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Request Number: 2
Topic: Minnesota Power's Actual 2020 -2022 and Forecasted 2024 Unplanned Outages (MWh)
Reference(s): Report Attachment 5

Request:

- a) Please provide on a live spreadsheet, with all links and formulas included, Minnesota Power's MWhs of unplanned outages (forced outages of less than 24 hours, forced outages of more than 24 hours and derates), including its corresponding breakdown by plant expected to be in service in 2024 for 2024 forecast, 2020 to 2022 actuals by year, and three-year average of 2020 to 2022.
- b) For any differences of 5 percent or more when comparing 2024 forecast to 2022 actuals, please explain reasons for deviation.
- c) For any differences of 5 percent or more when comparing 2024 forecast to three-year average of 2020 to 2022, please explain reasons for deviation.

RESPONSE:

- a) AA-23-180 DOC IR 02 Attachment 1 contains the unplanned outage MWhs (forced outages of less than 24 hours and forced outages of more than 24 hours) for the 2024 forecast, 2020-2022 actuals, and the three-year average for 2020-2022. Minnesota Power has not tracked and reported on derates since November 2013 as they are not considered outages.
- b) The 2024 forecast unplanned outage MWh are [TRADE SECRET DATA BEGINS ██████████] **TRADE SECRET DATA ENDS**] than 2022 actuals. The driver of the difference is that Boswell 4

To be completed by responder

Response Date: 5/25/2023
Response by: Ryan LaCoursiere
Email Address: rlacoursiere@mnpower.com
Phone Number: 218-355-3678



Minnesota Department of Commerce
85 7th Place East | Suite 280 | St. Paul, MN 55101
Information Request

Docket No. E015/AA-23-180
Attachment 12
Page 2 of 2

Docket Number: E015/AA-23-180
Requested From: Minnesota Power
Type of Inquiry: Financial

Nonpublic Public
Date of Request: 5/15/2023
Response Due: 5/25/2023

SEND RESPONSE VIA EMAIL TO: Utility.Discovery@state.mn.us as well as the assigned analyst(s).

Assigned Analyst(s): Andrew Golden
Email Address(es): andrew.golden@state.mn.us
Phone Number(s): 651-539-1819

ADDITIONAL INSTRUCTIONS:

Each response must be submitted as a text searchable PDF, unless otherwise directed. Please include the docket number, request number, and respondent name and title on the answers. If your response contains Trade Secret data, please include a public copy.

had a Turbine Generator Bearing Repair outage from the end of April 2022 through the end of June 2022, which equated to 60 days of outage or 602,000 MWhs. Please see Minnesota Power's 2022 True Up Filing in Docket AA-21-312, Attachment 5, page 16 of 22 for an explanation of the Turbine Generator Bearing Repair Outage. Minnesota Power uses a 10-year average to calculate a forecasted outage rate which reduces the impact of anomaly outages like the one observed in 2022.

- c) The 2024 forecast unplanned outage MWhs is [TRADE SECRET DATA BEGINS ██████████
██████████ TRADE SECRET DATA ENDS] than the three-year average of 2020-2022 actuals. Again, the main driver of the difference is due to the Boswell 4 Turbine Generator Bearing Repair outage from the end of April 2022 through the end of June 2022, which equated to 60 days of outage or 602,000 MWhs and increased the three-year average of 2020 to 2022 of unplanned outage MWhs. Since Minnesota Power uses a 10-year average to calculate a forecasted outage rate, the 2024 forecasted forced outage MWhs is lower than the three-year average of 2020 to 2022 actual forced outage MWhs.

To be completed by responder

Response Date: 5/25/2023
Response by: Ryan LaCoursiere
Email Address: rlacoursiere@mnpower.com
Phone Number: 218-355-3678

**PUBLIC DOCUMENT
NON-PUBLIC DATA EXCISED**

Unplanned Outage MWhs													
Unit	2024 Forecast Total [TRADE SECRET DATA BEGINS	2022 Actuals Total	2021 Actuals Total	2020 Actuals Total	3 Year Actuals Average								
Boswell 3	[REDACTED]	214,213	96,552	86,029	132,265								
Boswell 4		728,101	214,650	405,924	449,559								
Total		942,315	311,202	491,953	581,823								
Boswell 3 less than 24 hours		0	0	0	0								
Boswell 3 more than 24 hours		214,213	96,552	86,029	132,265								
Total		214,213	96,552	86,029	132,265								
Boswell 4 less than 24 hours		0	16,797	0	5,599								
Boswell 4 more than 24 hours		728,101	197,853	405,924	443,959								
Total		728,101	214,650	405,924	449,559								
Grand Total		942,315	311,202	491,953	581,823								
[TRADE SECRET DATA BEGINS] TRADE SECRET DATA ENDS]													
				<table border="1"> <tr> <th>2024 Forcast vs. 2022 Actuals</th> <th>2024 Forcast vs. 2020-2022 Actuals</th> </tr> <tr> <td colspan="2" style="text-align: center;">[REDACTED]</td> </tr> <tr> <td colspan="2" style="text-align: center;">Percent Change</td> </tr> <tr> <td colspan="2" style="text-align: center;">[REDACTED]</td> </tr> </table>	2024 Forcast vs. 2022 Actuals	2024 Forcast vs. 2020-2022 Actuals	[REDACTED]		Percent Change		[REDACTED]		[TRADE SECRET DATA ENDS]
2024 Forcast vs. 2022 Actuals	2024 Forcast vs. 2020-2022 Actuals												
[REDACTED]													
Percent Change													
[REDACTED]													
[TRADE SECRET DATA BEGINS] TRADE SECRET DATA ENDS]													

Docket No. E015/AA-23-180
Attachment 12.01
Page 1 of 2

**PUBLIC DOCUMENT
NON-PUBLIC DATA EXCISED**

Unplanned Outage MWhs					
Unit	2024 Forecast Total [TRADE SECRET DATA BEGINS	2022 Actuals Total	2021 Actuals Total	2020 Actuals Total	3 Year Actuals Average
Boswell 3	[REDACTED]	214,213	96,552	86,029	132,265
Boswell 4		728,101	214,650	405,924	449,559
Total		942,315	311,202	491,953	581,823
Boswell 3 less than 24 hours		0	0	0	0
Boswell 3 more than 24 hours		214,213	96,552	86,029	132,265
Total		214,213	96,552	86,029	132,265
Boswell 4 less than 24 hours		0	16,797	0	5,599
Boswell 4 more than 24 hours		728,101	197,853	405,924	443,959
Total		728,101	214,650	405,924	449,559
Grand Total		942,315	311,202	491,953	581,823
	TRADE SECRET DATA ENDS]				
		[TRADE SECRET DATA BEGINS		2024 Forecast vs. 2022 Actuals	2024 Forecast vs. 2020-2022 Actuals
				Percent Change	
		[TRADE SECRET DATA BEGINS			TRADE SECRET DATA ENDS]

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Attachment 12.01
Page 2 of 2

TRADE SECRET DATA ENDS]
TRADE SECRET DATA ENDS]
TRADE SECRET DATA ENDS]

CERTIFICATE OF SERVICE

I, Sharon Ferguson, hereby certify that I have this day, served copies of the following document on the attached list of persons by electronic filing, certified mail, e-mail, or by depositing a true and correct copy thereof properly enveloped with postage paid in the United States Mail at St. Paul, Minnesota.

**Minnesota Department of Commerce
Public Comments**

Docket No. E015/AA-23-180

Dated this **30th** day of **June 2023**

/s/Sharon Ferguson

First Name	Last Name	Email	Company Name	Address	Delivery Method	View Trade Secret	Service List Name
Kevin	Adams	kadams@caprw.org	Community Action Partnership of Ramsey & Washington Counties	450 Syndicate St N Ste 35 Saint Paul, MN 55104	Electronic Service	No	OFF_SL_23-180_AA-23-180
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Lori	Andresen	info@sosbluewater.org	Save Our Sky Blue Waters	P.O. Box 3661 Duluth, Minnesota 55803	Electronic Service	No	OFF_SL_23-180_AA-23-180
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First Name	Last Name	Email	Company Name	Address	Delivery Method	View Trade Secret	Service List Name
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First Name	Last Name	Email	Company Name	Address	Delivery Method	View Trade Secret	Service List Name
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Max	Peters	maxp@cohasset-mn.com	City of Cohasset	305 NW First Ave Cohasset, MN 55721	Electronic Service	No	OFF_SL_23-180_AA-23-180
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Generic Notice	Residential Utilities Division	residential.utilities@ag.state.mn.us	Office of the Attorney General-RUD	1400 BRM Tower 445 Minnesota St St. Paul, MN 551012131	Electronic Service	Yes	OFF_SL_23-180_AA-23-180
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