

June 30, 2022

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-22-216

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 2023.

Hillary A. Creurer, Regulatory Compliance Administrator for Minnesota Power, filed the Petition on May 2, 2022.

The Department recommends the Minnesota Public Utilities Commission (Commission) **approve Minnesota Power's 2023 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. Address the differences between forecasted and actual Planned Outage incremental costs; and
2. Provide an estimate of the planning resource auction revenues it expects to receive during its 2023 FCA forecast period which covers January 2023 through December 2023.

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

Sincerely,

/s/ HOLLY SODERBECK
Financial Analyst

/s/ NANCY CAMPBELL
Financial Analyst Coordinator

HS/NC/ja
Attachment



Before the Minnesota Public Utilities Commission

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

Docket No. E015/AA-22-216

I SUMMARY

On May 2, 2022, Minnesota Power (the Company) filed its *Annual Forecasted Fuel and Purchased Energy Rates* (Fuel Report) for the calendar year 2023. 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 7825.2840 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 3, 2021, Minnesota Power filed its [2022 Forecasted Fuel and Purchased Energy Report](#) for approval of 2022 fuel rates in Docket No. E015/AA-21-312. On December 2, 2021, the Commission issued its [Order](#) approving the following:

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.

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. As noted above, 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 2023 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 2023 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 2023 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 2023 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 2023. 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 2023 Fuel Forecast Report.

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

Attachment No. 7 of Minnesota Power's 2023 Fuel Forecast Report.

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

IV. SALES FORECAST FOR 2023

The following table compares Minnesota Power's 2022 Forecasted Sales (MWh)¹ and 2023 Forecasted Sales (MWh)².

¹ Minnesota Power's [Petition](#), p. 5 in Docket No. E015/AA-21-312.

² Petition, pp. 7-8.

Table 1: 2022 and 2023 Forecasted Sales (MWh)

	2023 Forecast	2022 Forecast	Change in MWh	Percent Change
Total Sales of Electricity	13,594,358	11,917,313	1,677,045	14.07%
Residential	1,036,816	1,033,882	2,934	0.28%
Commercial	1,195,779	1,188,275	7,504	0.63%
LP Taconite	4,231,901	3,925,163	306,738	7.81%
LP Paper and Pulp	600,104	485,003	115,101	23.73%
LP Pipeline	309,481	316,335	(6,854)	-2.17%
Other Misc.	334,745	332,806	1,939	0.58%
Municipals	1,326,588	1,498,638	(172,050)	-11.48%
Inter System Sales	4,558,944	3,137,211	1,421,733	45.32%
Less: Inter System Sales	4,558,944	3,137,211	1,421,733	45.32%
Customer Inter System Sales	844,414	872,711	(28,297)	-3.24%
Market Sales	3,712,057	2,260,131	1,451,926	64.24%
Station Generation Service	2,473	4,369	(1,896)	-43.40%
Sales due to Retail Loss of Load	-	-	-	-
Less: Solar Generation & Purchases	57,323	16,240	41,083	252.97%
Total Fuel Clause Sales	8,978,091	8,763,862	214,229	2.44%

Minnesota Power's total sales forecasts for 2023 compared to 2022 show higher total sales forecasted for 2023, which is largely the result of higher Large Power Taconite sales, higher Large Power Paper and Pulp sales, and higher intersystem sales forecasted in 2023. As a result of higher Large Power Taconite and Large Power Paper and Pulp sales, Minnesota Power also forecasts higher Total Fuel Clause Sales in 2023 compared to 2022.

Minnesota Power reported it uses the RTSim production cost model for budgeting and planning purposes and, in this proceeding, to estimate the monthly fuel costs. According to Minnesota Power, 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 energy and costs for thermal generation, hydro generation, wind generation, bilateral contracts, and MISO market purchases and sales.³

³ Petition, Attachment No. 1, p. 2.

For forward energy prices, Minnesota Power uses the forward market energy price outlook. The 2023 energy price outlook is based on a 10-business day average of forward market energy price at close from January 24, 2022 through February 2, 2022. For 2023, the on-peak average was **[TRADE SECRET DATA HAS BEEN EXCISED]** while the off-peak average was **[TRADE SECRET DATA HAS BEEN EXCISED]**.⁴ According to Minnesota Power, the model uses market prices to estimate generation dispatch and MISO market purchase costs or MISO market sales revenues. Minnesota Power stated it has experienced more volatile energy prices as the economy recovered from the economic impacts caused by COVID related shutdowns. Minnesota Power also stated the assumptions represent a snapshot in time and will likely change, potentially significantly, between when the forecast was created and when the FCA forecast period starts 11 months later.⁵

In Information Request No. 6, the Department asked Minnesota Power to provide all inputs and outputs for the RTSim Production Costs Model used for Minnesota Power's 2023 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 2023 sales forecast to 2019 to 2021 actual sales (three most recent years of actuals) and three-year average for 2019 to 2021 as provided in Minnesota Power's response to Information Request No. 1 in Department Attachment 3 and included in Table 2.

⁴ Petition, Attachment No 1. p. 2.

⁵ Petition, Attachment No 1, p. 2.

⁶ Department Attachment 2. Note: Attachments to Information Request No. 6 were not included due to their size but are available upon request.

Table 2: Minnesota Power's 2019 to 2021 Actual Sales Compared to 2023 Sales Forecast per MWh⁷

(MWh)	2019 Actuals	2020 Actuals	2021 Actuals	2019-2021 Average	2023 Forecast
Total Sales of Electricity	13,667,492	12,868,727	14,566,917	13,701,046	13,594,358
Residential	1,042,353	1,046,011	1,043,665	1,044,010	1,036,816
Commercial	1,201,898	1,134,254	1,174,413	1,170,188	1,195,779
LP Taconite	4,468,614	4,295,593	4,428,819	4,397,675	4,231,901
LP Paper and Pulp	900,207	752,072	489,259	713,846	600,104
LP Pipeline	359,548	348,130	341,031	349,570	309,481
Other Misc.	355,789	316,907	341,353	338,017	334,745
Municipals	1,466,430	1,340,290	1,393,315	1,400,011	1,326,588
Inter System Sales	3,872,653	3,635,470	5,355,063	4,287,728	4,558,944
Less: Inter System Sales	3,872,653	4,415,869	5,355,063	4,547,862	4,558,944
Customer Inter System Sales	687,809	780,399	1,067,722	845,310	844,414
Market Sales	2,947,679	3,112,893	3,412,055	3,157,542	3,712,057
Station Generation Service	6,403	4,521	6,126	5,683	2,473
Sales due to Retail Loss of Load	230,762	518,056	869,160	539,326	-
Less: Solar Generation & Purchases	14,028	16,165	17,215	15,803	57,323
Total Fuel Clause Sales	9,780,811	8,436,693	9,194,640	9,137,381	8,978,091

Minnesota Power provided its customer sales assumptions in Petition, Attachment No. 1, pp. 4 – 5 of 18. Based on the Department's review of Minnesota Power's actual sales for 2019 to 2021 and three-year average for 2019 to 2021 and 2023 sales assumptions, the Department notes Minnesota Power's 2023 sales forecast for retail sales and wholesale intersystem sales are close to the most recent 2021 actuals and three-year average for 2019 to 2021. Minnesota Power does not expect Retail Loss of Load in 2023 as customers are expected to be near full load.

Overall, the Department recommends the Commission accept Minnesota Power's 2023 sales forecast to set FCA rates for 2023 as they are close to 2021 actuals and three-year average of 2019 to 2021 with an expected increase in market price for 2023. The Department notes Minnesota Power's FCA revenues and costs are subject to true-up in the 2023 True-up Report. The Department also notes our recommendation in this docket should not be used in Minnesota Power's rate cases⁸ or other rate proceedings, where a more thorough review of Minnesota Power's sales forecast will occur.

⁷ Department Attachment 3, p. 3.

⁸ Minnesota Power currently has an open rate case, Docket No. E015/GR-21-335.

V. FORECASTED AUTOMATIC ADJUSTMENT CHARGES SUMMARY FOR 2023

Minnesota Power provided its Forecasted Fuel Cost Summary on p. 7 of its Petition and more detailed information in Petition, Attachment No. 1, p. 10. Table 3 provides Minnesota Power's 2023 Forecasted Fuel Cost Summary,⁹ which includes wholesale asset-based margins, and excludes fuel costs for inter system sales.

Table 3: 2023 Forecast Fuel Cost Summary \$/MWh

	2023 Forecast
Company's Generating Stations	148,359,504
Plus: Purchased Energy	224,480,219
Plus: MISO Charges	48,576,079
Less: MISO Sch 16, 17, and 24	(289,240)
Less: Cost Recovered through Inter System Sales	154,774,719
Less: Costs Related to Solar	2,522,315
Plus: Time of Generation and Solar Energy Adjustment	1,344,170
Total Cost of Fuel	265,752,178
Total Fuel Clause Sales (MWh)	8,978.1
Average Cost of Fuel (¢/kWh)	2.9600

In Information Request No. 1, the Department asked Minnesota Power to provide 2019 to 2021 actuals, by year, a three-year average of 2019 to 2021 actuals, and 2023 forecast for Minnesota Power's Fuel Forecast Summary information.¹⁰ Table 4 provides this information. The Department also asked Minnesota Power to compare the three-year average for 2019 to 2021 to the 2023 forecast and explain any fluctuations of 5% or more.

⁹ Petition, p. 7.

¹⁰ Department Attachment 3, p. 4.

**Table 4: 2019 to 2021 Actuals and 2019-2021 Three-Year Average
Compared to 2023 Forecasted Fuel Cost Summary per \$/MWh**

	2019 Actuals	2020 Actuals	2021 Actuals	2019-2021 Average	2023 Forecast
Generating Stations	88,109,180	76,291,181	111,316,951	91,905,771	148,359,504
Plus: Purchased Energy	215,257,410	193,346,296	302,780,486	237,128,064	224,480,219
Plus: MISO Charges (energy not included)	13,164,287	16,466,491	64,223,807	31,284,862	48,576,079
Plus: MISO Sch. 16, 17, & 24	(346,563)	(164,843)	(79,627)	(197,011)	(289,240)
Less: Fuel Costs for Intersystem Sales	90,393,877	97,823,379	160,780,204	116,332,487	154,774,719
Less: Costs Related to Solar	1,654	70	1,366	1,030	2,522,315
Plus: Time of Generation & Solar Energy	412,926	432,548	386,358	410,611	1,344,170
Total Cost of Fuel	226,894,835	188,877,910	318,005,659	244,592,801	265,752,178
Total Fuel Clause Sales	9,780,811	8,436,693	9,194,640	9,137,381	8,978,091
Average Cost of Fuel	23.20	22.39	34.59	26.77	29.60

In Response to Department Information Request No. 1, and as shown in Table 4, Minnesota Power explained for the Company's Generation Stations costs the three-year average is higher than the 2023 forecast largely due to **[TRADE SECRET DATA HAS BEEN EXCISED]**. Minnesota Power explained, **[TRADE SECRET DATA HAS BEEN EXCISED]**.¹¹

In Information Request No. 12, the Department asked Minnesota Power if it included any wind curtailment costs in its 2023 Fuel Forecast and to provide supporting information for the wind curtailment costs. Minnesota Power explained it has never included wind curtailment costs as part of the forecast or budget process. Curtailments are hard to forecast and are only included when actual curtailments happen.¹² The Department notes past year's wind curtailment costs were very small and only in the thousands of dollars.

Table 4 shows the average cost of fuel for the 2023 forecast is higher than the three-year average for 2019 to 2021 actuals, and lower than the 2021 actuals. Overall, based on the additional information Minnesota Power provided, the Department considers Minnesota Power's 2023 fuel forecast reasonable.

The Department recommends the Commission approve Minnesota Power's 2023 Fuel and Purchased Energy Forecast for setting initial FCA rates in this proceeding, subject to a true-up.

¹¹ Department Attachment 3, p. 5.

¹² Department Attachment 4, p. 1.

VI. FORECASTED COMPANY OWNED GENERATION BY FUEL TYPE AND LOCATION

The Department asked Minnesota Power to provide company-owned generation costs, by facility, for 2019 – 2021, a three-year average of 2019-2021, and the 2023 forecast. The Department compiled this information in Table 5.

Table 5: Company Owned Generation – 2019 to 2021 Actuals, 2019 to 2021 Three-Year Average, and 2023 Forecast¹³

Company Owned Generation	2019 Actuals	2020 Actuals	2021 Actuals	2019-2021 Three-Year Average	2023 Forecast
Coal					
Boswell 3	\$32,447,426	\$31,525,708	\$46,778,306	\$36,917,147	\$62,104,926
Boswell 4	\$53,693,916	\$43,172,017	\$53,449,013	\$50,104,982	\$80,020,521
Gas					
Laskin 1	\$597,966	\$295,310	\$3,542,131	\$1,478,469	\$314,420
Laskin 2	\$350,696	\$289,307	\$3,287,399	\$1,309,134	\$314,420
Biofuel					
Hibbard	\$1,019,178	\$1,008,837	\$4,260,102	\$2,096,039	\$5,605,217
Wind					
Bison	\$0	\$0	\$0	\$0	\$0
Tac Ridge	\$0	\$0	\$0	\$0	\$0
Hydro					
Hydro	\$0	\$0	\$0	\$0	\$0
Total Company Generation	\$88,109,182	\$76,291,179	\$111,316,951	\$91,905,771	\$148,359,504
MWh	[TRADE SECRET DATA HAS BEEN EXCISED]				
Total Company Owned Generation per MWh					

Minnesota Power's assumptions for its Company owned generation are on Attachment 1, pp. 5 - 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 2023 forecast is fairly consistent with the Company's 2021 actuals, except for higher coal costs as discussed above. The

¹³ Department Attachment 5, p. 2.

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.

VII. PURCHASED ENERGY – LONG TERM PPAS

Minnesota Power forecasted purchased energy of \$224,480,219 for 2023.¹⁴ The Company provided details of purchase costs in Petition, Attachment No. 1, pp. 6 – 7. The following table provides purchased energy for 2019 – 2021, the 2019-2021 three-year average, and the 2023 forecast.

Table 6: Purchased Energy – Long-Term PPAs for 2019 to 2021 Actuals, 2019 to 2021 Three-Year Average, and 2023 Forecast¹⁵

Purchased Energy	2019 Actuals	2020 Actuals	2021 Actuals	2019-2021 Average	2023 Forecast
Coal - Square Butte	31,164,341	30,559,753	33,604,104	31,776,066	36,856,900
Hydro – MHEB	15,917,909	81,808,261	102,549,433	66,758,534	102,592,828
Gas – GREM	528,087	12,458	-	180,182	-
Wind	10,540,053	15,267,492	27,678,338	17,828,628	30,428,960
Solar	1,654	70	1,367	1,030	2,711,324
Market	157,105,367	65,698,262	138,947,245	120,583,624	51,890,208
Total	215,257,410	193,346,296	302,780,486	237,128,064	224,480,219

Minnesota Power's assumptions and contract information for purchased energy costs are on Attachment 1 pp. 6 - 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 2023 forecast has lower market purchases and appears reasonable, when compared to 2019 – 2021 actuals, and the 2019-2021 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.

¹⁴ Petition, Attachment 1, p. 15 of 18.

¹⁵ Department Attachment 6, pp. 2 – 5.

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

Minnesota Power forecasts MISO Market Charges of \$48,576,079 for 2023.¹⁶ 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 2023 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: 2023 Forecasted Net MISO Charges

Total Net MISO Charges		
MISO Market Purchases ¹⁷		\$30,027,034
MISO Cost - other than energy ¹⁸		\$48,576,079
MISO Costs recovered through Inter-System Sales (Market Sales) ¹⁹		\$(11,039,265)
MISO Costs recovered through Inter-System Sales (Customer Sales) ²⁰		\$(29,920,442)
MISO Market Sales ²¹		\$(56,706,435)
Net Total MISO Charges		\$(19,063,029)
Allocation of Net MISO Charges		
Retail Sales (in MWh) ²²	7,651,503	\$(16,246,307)
Municipal Sales (in MWh) ²³	1,326,588	\$(2,816,722)
Total FCA Sales	8,978,091	\$(19,063,029)

Minnesota Power forecasted Net MISO Charges of \$15.6 million for 2022.²⁴ The Company's Net MISO Charges for the 2023 forecast is a \$19.1 million revenue credit (due to higher expected intersystem sales and higher expected MISO market sales) and is much lower than the 2022 forecast.

The Department concludes the Company's MISO Day 2 and ASM costs and revenues included in the 2023 forecast appear reasonable. The Department recommends the Commission accept Minnesota Power's MISO Day 2 and ASM costs and revenues included in the 2023 forecast for the purpose of setting initial FCA rates in this proceeding, subject to a subsequent true-up.

¹⁶ Petition, Attachment No. 1, p. 10 of 18.

¹⁷ Petition, Attachment No. 1, p. 12 of 18.

¹⁸ Petition, Attachment No. 1, p. 10 of 18.

¹⁹ Petition, Attachment No. 1, p. 17 of 18.

²⁰ Petition, Attachment No. 1, p. 10 of 18.

²¹ Petition, Attachment No. 1, p. 16 of 18.

²² Petition, Attachment No. 3, p. 28 of 29.

²³ Petition, Attachment No. 3, p. 28 of 29.

²⁴ Docket No. E015/AA-21-312, [Department Reply Comments](#) dated August 30, 2021, p. 6.

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 the 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) per the Rate Case Resolution Docket Nos. E015/GR-19-442 and E015/M-20-429. The margin from the Municipal Incremental Sales is also included in the Asset Based Sales Margin.²⁵

For 2023, Minnesota Power forecasted \$0 in non-MISO asset-based costs.²⁶ As provided in Minnesota Power's Petition Attachment No. 1, p. 8 of 18 in Minnesota Power's assumptions, "for 2023, no asset based bilateral sales to a counterparty have been forecasted."

For 2023, Minnesota Power forecasted \$56,706,435 in MISO Market Sales, which assumes **[TRADE SECRET DATA HAS BEEN EXCISED]**.²⁷ Minnesota Power uses the RTSim production cost model to determine the volume and cost for MISO market sales. Minnesota Power states, "when excess energy is available and its economical, the model will sell the excess energy into the MISO market."²⁸ The Department reviewed Minnesota Power's inputs and outputs for the RTSim and found the assumptions to be reasonable.

The Company's asset-based sales margins are refunded to customers in the 2023 forecast because the margins increase fuel costs recovered through intersystem sales and in return, reduce fuel costs remaining in the forecast.²⁹

The Department concludes the Company's asset-based margins in the 2023 forecast appear reasonable. The Department recommends the Commission accept Minnesota Power's asset-based margins in the 2023 forecast for the purpose of setting initial FCA rates in this proceeding, subject to a subsequent true-up.

²⁵ Petition, Attachment No. 1, p. 9 of 18.

²⁶ Petition, Attachment No. 1, p. 16 of 18.

²⁷ Petition, Attachment No. 1, p. 16 of 18.

²⁸ Petition, Attachment No. 1, p. 8 of 18.

²⁹ Department Attachment Nos. 7 and 8.

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 calculate [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.

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

Table 8: Comparison of Forced and Planned Outage Costs for 2021 to 2023 Fuel Forecasts³⁰

Forecasted Incremental Costs	2020	2021	2020-2021 Avg.	2023
Planned Outage	\$3,441,487	\$(2,869,832)	\$285,827	[TRADE SECRET DATA HAS BEEN EXCISED]
Forced Outage	\$1,021,843	\$(633,962)	\$193,941	
Total	\$4,463,331	\$(3,503,794)	\$479,768	

The following table compares the Company’s forecast to actual incremental costs for planned outages in 2020 and 2021.

Table 9: Comparison of Forecast and Actual Planned Outage Incremental Costs³¹

Incremental Costs	2020	2021
Forecasted	\$3,441,487	\$(2,869,832)
Actual	\$(293,246)	\$6,415,192
Difference	\$3,734,733	\$(9,285,025)

The Department believes the main reason for differences between forecasted and actual Planned Outage incremental costs is the change in forecasted location marginal price (LMP) when comparing forecasted to actual incremental costs. The Department requests Minnesota Power address the differences between forecasted and actual Planned Outage incremental costs further in their reply comments.

³⁰ Department Attachment No. 9, p. 2.

³¹ Department Attachment No. 9, p. 2.

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

Table 10: Planned Outages 2023³²

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

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

Table 11: Unplanned Outages

Generation Specifications			
	Econ Min	Econ Max	EUOF ³³
Boswell Unit 3	75 MW	350 MW	7.2%
Boswell Unit 4	185 MW	580 MW	6.8%

Minnesota Power's 2023 forecast is **[TRADE SECRET DATA HAS BEEN EXCISED]** greater than 2021 actual unplanned outage (MWhs). The Company's 2023 forecast of unplanned outages (MWhs) is **[TRADE SECRET DATA HAS BEEN EXCISED]** less than the 2019 – 2021 average of actual unplanned outages (MWhs).³⁴

Generally, the Department considers the information supportive to Minnesota Power's 2023 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.

XI. MISO PLANNING RESOURCE AUCTION REVENUES

Each Spring, MISO operates an annual planning resource auction (PRA)³⁵ which covers the period from June through May of the following year. The annual PRA allows utilities to purchase needed capacity

³² Petition, Attachment No. 5, p. 6.

³³ The Equivalent Unplanned Outage Factor (EUOF) is based on a 10-year average.

³⁴ Department Attachment No. 10, pp. 1-2.

³⁵ One of MISO's key functions is to facilitate the availability of adequate resources to reliably meet the peak demand in the MISO region. MISO's Resource Adequacy construct complements the jurisdiction that regulatory authorities have in determining the necessary level of adequacy and works in concert with Load Serving Entities ("LSEs") that provide demand forecasts that help drive the development of local and regional requirements. The planning resources auction (PRA) is a

or sell excess capacity for the upcoming planning year. Historically, the prices paid or received under the annual PRA have been minimal. For example, in MISO's 2020-2021 PRA, the capacity auction clearing prices totaled approximately \$5 per megawatt-day.³⁶

On April 14, 2022, MISO issued the results of its 2022-2023 Planning Resource Auction which covers the period from June 2022 through May 2023. As shown in the April 14, 2022 MISO Resource Adequacy presentation, the capacity auction clearing prices totaled approximately \$237 per megawatt-day.³⁷ As a result, the Department asked Minnesota Power, Otter Tail Power, and Xcel Energy several questions regarding their 2022-2023 PRA results. According to Minnesota Power, it **[TRADE SECRET DATA HAS BEEN EXCISED]** for June 2022 through December 2022³⁸ and it **[TRADE SECRET DATA HAS BEEN EXCISED]** for January 2023 through May 2023 in the 2022-2023 PRA.³⁹

The Department also asked Minnesota Power how and where it planned to return these PRA revenues to ratepayers. Minnesota Power replied:⁴⁰

Now that asset-based margins and capacity revenues are allowed to be included in the FAC, anticipated revenues are included in the FAC forecast, and trued up to actuals when the annual FAC true up filing is completed. Capacity expenses are forecast during a rate case and included in base rates.

The Department notes the importance of returning these PRA revenues to ratepayers who pay for capacity cost (utilities plant costs and purchased capacity) through base rates and in FCA's when capacity costs cannot be identified in purchase power agreements that combine energy and capacity. The Department notes Minnesota Power provides both capacity and energy revenues back to ratepayers via the FCA consistent with their rate case settlement that was approved in the Commission's June 30, 2020 [Order](#) in Docket Nos. E015/GR-19-442 and E015/M-20-429. Given the significant increase in recent fuel clause adjustment (FCA) costs due to congestion and curtailment issues which utilities are requesting recover of from ratepayers, the Department recommends that utilities refund these PRA revenues to ratepayers in their FCA's to provide immediate relief.

voluntary annual capacity auction provides a way for Market Participants to meet resource adequacy requirements. The location-specific approach of the PRA encourages resources to be available when needed in the right locations in an economic and efficient manner. <https://www.misoenergy.org/planning/resource-adequacy/#t=10&p=0&s=FileName&sd=desc>

³⁶ Per MISO's 2020-2021 PRA results: <https://cdn.misoenergy.org/2020-2021%20PRA%20Results442333.pdf>

³⁷ Per MISO's 2022-2023 PRA results: <https://cdn.misoenergy.org/2022%20PRA%20Results624053.pdf>

³⁸ Per Minnesota Power's Response to Department Information Request No. 24 in Docket No. E002/AA-20-463 (Department Attachment No. 11). The Department expects Minnesota Power to include the June 2022 through December 2022 MISO PRA revenues in its 2022 FCA True-up filing, filed on March 1, 2023.

³⁹ Per Minnesota Power's Response to Department Information Request No. 24 in Docket No. E002/AA-20-463. A complete copy of Minnesota Power's response is provided in Department Attachment No. 11.

⁴⁰ Department Attachment No. 11, p. 3 of 4.

The Department understands that capacity prices in PRA's are likely to remain elevated for the foreseeable future. As a result, the Department recommends that Minnesota Power provide in reply comments an estimate of PRA revenues, and recalculated FCA/EAR rates, it expects to receive during its 2023 FCA forecast period which covers January 2023 through December of 2023.

XII. RECOMMENDATIONS

For most of Minnesota Power's Annual Forecast of Automatic Adjustment Charges for the period of January 2023 through December 2023, 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. The 2023 forecast for planned and forced outage costs; and
2. An estimate of the planning resource auction revenues, and recalculated FCA/EAR rates, it expects to receive during its 2023 FCA forecast period which covers January 2023 through December 2023.

Planning Resource Auction (PRA) Revenues:

Given the significant increase in recent fuel clause adjustment (FCA) costs due to congestion and curtailment issues which utilities are requesting recover of from ratepayers, the Department recommends the Commission require Minnesota Power to refund these PRA revenues to ratepayers in its FCA to provide immediate relief. The Department recommends Minnesota Power provide in reply comments an estimate of PRA revenues, and recalculated FCA/EAR rates, it expects to receive during its 2023 FCA forecast period which covers January 2023 through December of 2023.

Outages Costs – Forced and Planned:

Generally, the Department considers the information supportive to Minnesota Power's 2023 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.

2023 Sales Forecast:

The Department recommends the Commission accept Minnesota Power's 2023 sales forecast to set FCA rates for 2023 as they are close to 2021 actuals and three-year average of 2019 to 2021 with an expected increase in market price for 2023. The Department notes Minnesota Power's FCA revenues and costs are subject to true-up in the 2023 True-up Report. The Department also notes our

recommendation in this docket should not be used in Minnesota Power's rate cases⁴¹ or other rate proceedings, where a more thorough review of Minnesota Power's sales forecast will occur.

2023 Forecasted Automatic Adjustment Charges Summary:

The Department recommends the Commission approve Minnesota Power's 2023 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 2023 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 2023 forecast reasonable. The Department recommends the Commission accept Minnesota Power's Purchased Energy 2023 forecast.

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

The Department concludes the Company's MISO Day 2 and ASM costs and revenues included in the 2023 forecast appear reasonable. The Department recommends the Commission accept Minnesota Power's MISO Day 2 and ASM costs and revenues included in the 2023 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 2023 forecast for the purpose of setting initial FCA rates in this proceeding, subject to a subsequent true-up.

⁴¹ Minnesota Power currently has an open rate case, Docket No. E015/GR-21-335.

[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.



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

Docket Number: E015/AA-22-216
Requested From: Minnesota Power
Type of Inquiry: Financial

☒ Nonpublic ☐ Public
Date of Request: 5/17/22
Response Due: 5/27/22

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

Assigned Analyst(s): Holly Soderbeck
Email Address(es): holly.soderbeck@state.mn.us
Phone Number(s): 651-539-1849

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: RTSim Production Cost Model for Market Purchases and Asset Based Margins
Reference(s): No Specific Reference

Request:

- A. Please provide all inputs, outputs, assumptions and information included in the RTSim production cost model for market purchases and asset-based wholesale sales. Please provide any supporting data and documents that support the informant included in Minnesota Power's RTSim production cost model for market purchases and asset-based wholesale sales.
- B. Please describe the RTSim production cost model.
- C. Please explain how Minnesota Power's system interacts with the MISO prices in the RTSim model.
- D. Please provide sensitivities used in the RTSim production cost model.
- E. Please provide a copy of the third-party study that determined the monthly MISO market sales price for the 2023 Fuel Forecast.

RESPONSE:

- a. Accompanying this response are two output files from the RTSim production cost model used in the 2023 FAC Forecast. **DOC IR 06.01 Attach PUB** is a production cost monthly summary. **DOC IR 06.02 Attach PUB** is the detailed hourly output. The hourly or monthly model output includes the assumptions Minnesota Power was able to export from the RTSim production cost model.

To be completed by responder

Response Date: June 3, 2022
Response by: Logan Foerst
Email Address: lfoerst@mnpower.com
Phone Number: 218-355-3089



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

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

There are limits on what assumptions can be exported from the model. Please let Minnesota Power know if there are additional assumptions that were not included in the outputs that the Department would like included and Minnesota Power will do our best to try to provide the additional assumptions.

Note that included in **DOC IR 06.01 Attach TS** is a table cross referencing the power purchase agreements names used in the RTSim production cost model with Minnesota Power's other DOC IR responses.

- b. Minnesota Power uses the RTSim production cost model for the budgeting of fuel, purchased power costs, energy sale revenues, and estimating the energy cost to serve customers. The key inputs that inform the model are customer loads, power purchase agreements, forecasted MISO energy prices, contract energy sales, fuel costs, and renewable energy hourly profiles. An overview of the key inputs is provided below. The outputs from the model runs are used to forecast the energy costs to serve customers and the potential wholesale sale margins. Minnesota Power also uses RTSim to prepare information for other regulatory filings, such as the Company's recently filed Fuel Clause Forecast, Cogeneration and Small Power Production Tariff, and the CIP Triennial.

Key Input Overview:

Customer Load – The forecasted customer demand is from the annual 2023 FAC Forecast, which is compiled by Minnesota Power load forecasters. RTSim will simulate the allocation of available energy to load for each hour in a year and then estimate the cost of that energy. Available energy includes renewables, thermal generation, power purchase agreements, and MISO market energy purchases.

Energy Purchases – This includes all power purchase agreements and energy purchased by Minnesota Power from the MISO market. We only include power purchases agreements that have signed bilateral contracts. The model will simulate MISO market energy purchases during periods Minnesota Power is short energy (e.g., due to low renewable production) or it is economical to purchase energy from the market instead of dispatching Minnesota Power's generation fleet. The MISO energy prices are used to determine the cost of energy purchased.

Energy Sales – All bilateral energy sales are included in the model. The model will simulate MISO market energy sales during periods Minnesota Power is long on energy (i.e. due to high renewable

To be completed by responder

Response Date: June 3, 2022
Response by: Logan Foerst
Email Address: lfoerst@mnpower.com
Phone Number: 218-355-3089



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production) or it is economical to dispatch Minnesota Power's generation fleet to create an energy sale. The energy sale created from dispatching Minnesota Power's generation fleet only occurs if the additional energy is not needed to serve customers.

Generation Profiles – In the RTSim model the following generation characteristics are input: maximum generation, minimum generation, ramp rates, fuel cost, planned outages, derates, and forced outage rate. RTSim will simulate how the units are running depending on customer demand and market prices for each hour. For example, during hours of lower market prices, uneconomical generation units will reduce energy production. To offset the lower generation production, RTSim will then simulate economical energy purchases from the market, in order to satisfy load requirements.

Renewable Energy Hourly Profile – In the RTSim model a representative weather profile is used to model energy available from intermittent renewable energy resources (i.e. wind, solar and hydro). For example, representative hourly wind speeds are used to calculate the available wind energy for the Bison wind farms.

- c. The monthly MISO energy prices are inputted into the model as an hourly price profile. The MISO energy price profile is set-up to replicate the energy prices Minnesota Power could see during on-peak and off-peak periods, seasonally, and during period of high and low renewable production. As discussed in Minnesota Power's response to part b above, the hourly MISO energy prices are used to dispatch Minnesota Power's thermal generation and to determine the energy price for MISO market purchases and sales.
- d. For the 2023 FAC forecast, Minnesota Power did not perform any sensitivity analysis in the RTSim production cost model.
- e. For the 2023 FAC forecast, Minnesota Power did not utilize a third-party study to determine monthly MISO market sale prices. The 2023 energy price outlook is based on a 10-business day average of forward market energy prices which is referenced in **DOC IR 05**.

To be completed by responder

Response Date: June 3, 2022
Response by: Logan Foerst
Email Address: lfoerst@mnpower.com
Phone Number: 218-355-3089



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Date of Request: 5/17/22
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SEND RESPONSE VIA EMAIL TO: Utility.Discovery@state.mn.us as well as the assigned analyst(s).

Assigned Analyst(s): Holly Soderbeck
Email Address(es): holly.soderbeck@state.mn.us
Phone Number(s): 651-539-1849

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 2019 to 2021
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 2023 forecast, 2019 actuals, 2020 actuals, 2021 actuals, and three-year average for 2019 to 2021, 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 2023 forecast \$/MWh's to 2021 actuals \$/MWh's, please explain reasons for the deviation.
- C. For any difference of 5 percent or more when comparing 2023 forecast \$/MWh's to the three-year average of 2019 to 2021, please explain reasons for deviation.

Responses:

- A. **DOC IR 01.01 Attach PUB** contains the "FAC Calculation" for the 2023 forecast, 2019 actuals, 2020 actuals, 2021 actuals, and the 3-year average for 2019 to 2021. Rows were also added to show the annual MWh's and \$/MWh associated with each cost type.
- B. **DOC IR 01.01 Attach PUB** shows the comparison of the 2023 Forecast \$/MWh's to the 2021 actuals \$/MWh's. Explanations are provided in the attachment explaining differences of 5 percent or more.

To be completed by responder

Response Date: 6/3/2022
Response by: Taylor Murphy
Email Address: tmurphy@allete.com
Phone Number: 651-380-6492



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

Docket Number: E015/AA-22-216
Requested From: Minnesota Power
Type of Inquiry: Financial

☐ Nonpublic ☒ Public
Date of Request: 5/17/22
Response Due: 5/27/22

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

- C. **DOC IR 01.01 Attach PUB** shows the comparison of the 2023 Forecast \$/MWh's to the 3-year average \$/MWh's for 2019-2021 actuals. The reasons for deviations of 5% or greater are explained in the attachment.

To be completed by responder

Response Date: 6/3/2022
Response by: Taylor Murphy
Email Address: tmurphy@allete.com
Phone Number: 651-380-6492

		Total 2023 Forecast	\$/MWh 2023 Forecast	Total 2019 Actuals	\$/MWh 2019 Actuals	Total 2020 Actuals	\$/MWh 2020 Actuals	Total 2021 Actuals	\$/MWh 2021 Actuals	3 Year Average 2019 - 2021	3 Year Average \$/MWh
Line No.	Year										
1	Cost of Fuel										
	Company's Generating Stations	\$148,359,504		\$88,109,180		\$76,291,181		\$111,316,951		\$91,905,771	
		[TRADE SECRET DATA BEGINS]									
	Thermal										
	Thermal MWh										
	Wind										
	Wind MWh										
	Hydro										
	Hydro MWh										
		[TRADE SECRET DATA ENDS]									
2	Plus: Purchased Energy	\$224,480,219		\$215,257,410		\$193,346,296		\$302,780,486		\$237,128,064	
		[TRADE SECRET DATA BEGINS]									
	Market										
	Market MWh										
	Wind										
	Wind MWh										
	Solar										
	Solar MWh										
	Square Butte										
	Square Butte MWh										
		[TRADE SECRET DATA ENDS]									
3	Plus: MISO Charges	\$48,576,079		\$13,164,287		\$16,466,491		\$64,223,807		\$31,284,862	
4	Less: MISO Schedules 16 & 17 & 24	(\$289,240)		(\$346,563)		(\$164,843)		(\$79,627)		(\$197,011)	
	Schedule 16	\$1,211,981		\$1,194,697		\$1,449,109		\$1,449,028		\$1,364,278	
	Schedule 17	\$202,780		\$209,364		\$31,342		\$29,463		\$90,056	
	Schedule 24	(\$1,704,000)		(\$1,750,624)		(\$1,645,294)		(\$1,558,118)		(\$1,651,345)	
5	Less: Fuel Cost Recovered Through Inter-System Sales	\$154,774,719		\$90,393,877		\$97,823,379		\$160,780,204		\$116,332,487	
		[TRADE SECRET DATA BEGINS]									
	Customer Inter-System Sales										
	Customer Inter-System Sales MWh										
	Market Sales										
	Market Sales MWh										
	Station Service										
	Station Service MWh										
		[TRADE SECRET DATA ENDS]									
	MISO Costs 1/	\$11,039,265		\$2,607,528		\$1,780,984		\$8,513,787		\$4,300,766	
		[TRADE SECRET DATA BEGINS]									
	Sales due to Retail Loss of Load										
	Sales due to Retail Loss of Load MWh										
		[TRADE SECRET DATA ENDS]									
	Asset Based Sale Margins	\$25,680,523		\$0		\$3,671,735		\$5,260,590		\$2,977,442	
		[TRADE SECRET DATA ENDS]									
6	Less: Costs Related to Solar	\$2,522,315		\$1,654		\$70		\$1,366		\$1,030	
7	Plus: Time of Generation and Solar Energy Adjustment	\$1,344,170		\$412,926		\$432,548		\$386,358		\$410,611	
8	Total Monthly Cost of Fuel	\$265,752,178		\$226,894,835		\$188,877,910		\$318,005,659		\$244,592,801	
		[TRADE SECRET DATA BEGINS]									
		[TRADE SECRET DATA ENDS]									
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		[TRADE SECRET DATA ENDS]									
		[TRADE SECRET DATA BEGINS]									
		[TRADE SECRET DATA ENDS]									
		[

Line No.	Year	Total 2023 Forecast	\$/MWh 2023 Forecast	Total 2021 Actuals	\$/MWh 2021 Actuals	\$/MWh Variance	Explanation
Cost of Fuel							
1	Company's Generating Stations	\$148,359,504		\$111,316,951			
		[TRADE SECRET DATA BEGINS]					
	Thermal <i>Thermal MWh</i>					3.73%	
	Wind <i>Wind MWh</i>					0.00%	
	Hydro <i>Hydro MWh</i>					0.00%	
		[TRADE SECRET DATA ENDS]					
2	Plus: Purchased Energy	\$224,480,219		\$302,780,486			
		[TRADE SECRET DATA BEGINS]					
	Market <i>Market MWh</i>					16.22%	MP does not have any long term purchases forecasted in 2023 except for MHEB which increases the \$/MWh. 2021 included lower priced long term purchases and also lower market prices.
	Wind <i>Wind MWh</i>					3.76%	
	Solar <i>Solar MWh</i>					-34.66%	The only solar present in 2021 were solar subscription cancellations. In the 2023 forecast there is a new 20MW solar purchase which lowers the \$/MWh
	Square Butte <i>Square Butte MWh</i>					14.05%	Budget received from MPC forecated Square Butte fuel to be slightly higher in 2023 compared to 2021 actuals.
		[TRADE SECRET DATA ENDS]					
3	Plus: MISO Charges	\$48,576,079		\$64,223,807			
4	Less: MISO Schedules 16 & 17 & 24	(\$289,240)		(\$79,627)			
	Schedule 16	\$1,211,981		\$1,449,028			
	Schedule 17	\$202,780		\$29,463			
	Schedule 24	(\$1,704,000)		(\$1,558,118)			
5	Less: Fuel Cost Recovered Through Inter-System Sales	\$154,774,719		\$160,780,204			
		[TRADE SECRET DATA BEGINS]					
	Customer Inter-System Sales <i>Customer Inter-System Sales MWh</i>					-0.98%	
	Market Sales <i>Market Sales MWh</i>					0.52%	
	Station Service <i>Station Service MWh</i>					-1.24%	
		[TRADE SECRET DATA ENDS]					
	MISO Costs 1/	\$11,039,265		\$8,513,787			
	Sales due to Retail Loss of Load <i>Sales due to Retail Loss of Load MWh</i>	[TRADE SECRET DATA BEGINS]				-100.00%	No Sale due to Retail Loss of Load forecated for 2023. Customers expected to be at full load.
		[TRADE SECRET DATA ENDS]					
	Asset Based Sale Margins	\$25,680,523		\$5,260,590			
6	Less: Costs Related to Solar	\$2,522,315		\$1,366			
7	Plus: Time of Generation and Solar Energy Adjustment	\$1,344,170		\$386,358			
8	Total Monthly Cost of Fuel	\$265,752,178		\$318,005,659			

Line No.	Year	Total 2023 Forecast	\$/MWh 2023 Forecast	3 Year Average 2019 - 2021 Actuals	3 Year Average \$/MWh	\$/MWh Variance	Explanation
1	Cost of Fuel						
	Company's Generating Stations	\$148,359,504		\$91,905,771			
		[TRADE SECRET DATA BEGINS]		[TRADE SECRET DATA BEGINS]			
	Thermal					13.18%	[TRADE SECRET DATA BEGINS]
	Thermal MWh						
	Wind					0.00%	
	Wind MWh						
	Hydro					0.00%	TRADE SECRET DATA ENDS]
	Hydro MWh						
2	Plus: Purchased Energy	\$224,480,219		\$237,128,064			
		[TRADE SECRET DATA BEGINS]		[TRADE SECRET DATA BEGINS]			
	Market					48.27%	MP does not have any long term purchases forecasted in 2023 except for MHEB which increases the \$/MWh. 2019-2021 actuals included lower priced long term purchases and also lower market prices.
	Market MWh					-8.89%	Oliver 1 and 2 repowered in 2020 which lowered the contract price going forward. Also, Nobles 2 commissioned in 2020 which lowers the \$/MWh.
	Wind					-36.17%	The only solar present in 2019-2021 were solar subscription cancellations. In 2023 there is a new 20MW solar purchase which lowers the \$/MWh
	Wind MWh					18.57%	Budget received from MPC forecasted Square Butte fuel to be slightly higher in 2023 compared to 2019 - 2021 actuals.
	Solar						
	Solar MWh						
	Square Butte						
	Square Butte MWh						
		[TRADE SECRET DATA ENDS]		[TRADE SECRET DATA ENDS]			
3	Plus: MISO Charges	\$48,576,079		\$31,284,862			
4	Plus: MISO Schedules 16 & 17 & 24	(\$289,240)		(\$197,011)			
	Schedule 16	\$1,211,981		\$1,364,278			
	Schedule 17	\$202,780		\$90,056			
	Schedule 24	(\$1,704,000)		(\$1,651,345)			
5	Less: Fuel Cost Recovered Through Inter-System Sales	\$154,774,719		\$116,332,487			
		[TRADE SECRET DATA BEGINS]		[TRADE SECRET DATA BEGINS]			
	Customer Inter-System Sales					18.88%	Most Customer Inter-System Sales are sourced from the market which is expected to be higher in 2023 compared to 2019-2021 actuals
	Customer Inter-System Sales MWh					9.74%	Market sales sourced from company generation which increased in 2023 (See above- Thermal Generation).
	Market Sales					23.34%	2023 Forecast uses previous years actual \$/MWh rate (2021) which was higher then 2019 and 2020.
	Market Sales MWh						
	Station Service						
	Station Service MWh						
		[TRADE SECRET DATA ENDS]		[TRADE SECRET DATA ENDS]			
	MISO Costs 1/	\$11,039,265		\$4,300,766			
		[TRADE SECRET DATA BEGINS]		[TRADE SECRET DATA BEGINS]			
	Sales due to Retail Loss of Load					-100.00%	No Sale due to Retail Loss of Load forecasted for 2023. Customers expected to be at full load.
	Sales due to Retail Loss of Load MWh						
		[TRADE SECRET DATA ENDS]		[TRADE SECRET DATA ENDS]			
	Asset Based Sale Margins	\$25,680,523		\$2,977,442			
6	Less: Costs Related to Solar	\$2,522,315		\$1,030			
7	Plus: Time of Generation and Solar Energy Adjustment	\$1,344,170		\$410,611			
8	Total Monthly Cost of Fuel	\$265,752,178		\$244,592,801			



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

Docket Number: E015/AA-22-216
Requested From: Minnesota Power
Type of Inquiry: Financial

☐ Nonpublic ☒ Public
Date of Request: 5/17/22
Response Due: 5/27/22

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

Assigned Analyst(s): Holly Soderbeck
Email Address(es): holly.soderbeck@state.mn.us
Phone Number(s): 651-539-1849

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: 12
Topic: Wind Curtailment Costs
Reference(s): Petition, Table 1

Request:

- A. Did Minnesota Power include any wind curtailment costs in its 2023 Fuel Forecast? If yes, please provide supporting information and calculations for wind curtailment costs.

Response:

- A. No, Minnesota Power has never included any wind curtailment costs as part of the forecast or budget process. It was determined that curtailments are hard to forecast so they are left out and are only included in actuals when curtailments happen.

To be completed by responder

Response Date: 6/3/2022
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-22-216
Requested From: Minnesota Power
Type of Inquiry: Financial

☐ Nonpublic ☒ Public
Date of Request: 5/17/22
Response Due: 5/27/22

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

Assigned Analyst(s): Holly Soderbeck
Email Address(es): holly.soderbeck@state.mn.us
Phone Number(s): 651-539-1849

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:	15
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 2019-2021 actuals, 2019-2021 three-year average, and 2023 forecast in a table.

Response:

- A. A table for company-owned generation by facility and fuel type for 2019-2021 actuals, 2019-2021 3-year average, and the 2023 forecast is outlined in **DOC IR 15.01 Attach PUB**.

To be completed by responder

Response Date: 6/3/2022
Response by: Taylor Murphy
Email Address: tmurphy@mnpower.com
Phone Number: 218-355-3591

Thermal Generation		2019 Actuals	2020 Actuals	2021 Actuals	3 Year Average
Generation - Coal	2023 Forecast				
Boswell 3 MWh	[TRADE SECRET DATA BEGINS]				
Average Cost					
Total Cost	\$ 62,104,926	\$ 32,447,426	\$ 31,525,708	\$ 46,778,306	\$ 36,917,147
Boswell 4 MWh	[TRADE SECRET DATA BEGINS]				
Average Cost					
Total Cost	\$ 80,020,521	\$ 53,693,916	\$ 43,172,017	\$ 53,449,013	\$ 50,104,982
Total Generation Coal \$	\$ 142,125,447	\$ 86,141,342	\$ 74,697,725	\$ 100,227,319	\$ 87,022,129
Generation - Gas	[TRADE SECRET DATA BEGINS]				
Laskin 1 MWh					
Average Cost					
Total Cost	\$ 314,420	\$ 597,966	\$ 295,310	\$ 3,542,131	\$ 1,478,469
Laskin 2 MWh	[TRADE SECRET DATA BEGINS]				
Average Cost					
Total Cost	\$ 314,420	\$ 350,696	\$ 289,307	\$ 3,287,399	\$ 1,309,134
Total Generation Gas \$	\$ 628,840	\$ 948,662	\$ 584,617	\$ 6,829,530	\$ 2,787,603
Generation - Biofuel	[TRADE SECRET DATA BEGINS]				
Hibbard MWh					
Average Cost					
Total Cost	\$ 5,605,217	\$ 1,019,178	\$ 1,008,837	\$ 4,260,102	\$ 2,096,039
Total Generation Biofuel \$	\$ 5,605,217	\$ 1,019,178	\$ 1,008,837	\$ 4,260,102	\$ 2,096,039
Total Thermal Generation \$	\$ 148,359,504	\$ 88,109,182	\$ 76,291,179	\$ 111,316,951	\$ 91,905,771

Wind Generation		2019 Actuals	2020 Actuals	2021 Actuals	3 Year Average
2023 Forecast	[TRADE SECRET DATA BEGINS]				
Bison MWh					
Average Cost					
Total Cost	\$ -	\$ -	\$ -	\$ -	\$ -
Tac Ridge MWh	[TRADE SECRET DATA BEGINS]				
Average Cost					
Total Cost	\$ -	\$ -	\$ -	\$ -	\$ -
Total Wind Generation \$	\$ -	\$ -	\$ -	\$ -	\$ -

Hydro Generation		2019 Actuals	2020 Actuals	2021 Actuals	3 Year Average
2023 Forecast	[TRADE SECRET DATA BEGINS]				
Hydro MWh					
Average Cost					
Total Cost	\$ -	\$ -	\$ -	\$ -	\$ -
Total Hydro Generation \$	\$ -	\$ -	\$ -	\$ -	\$ -

		2019 Actuals	2020 Actuals	2021 Actuals	3 Year Average
Total Company Generation	\$ 148,359,504	\$ 88,109,182	\$ 76,291,179	\$ 111,316,951	\$ 91,905,771



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

Docket Number: E015/AA-22-216
Requested From: Minnesota Power
Type of Inquiry: Financial

☐ Nonpublic ☒ Public
Date of Request: 5/17/22
Response Due: 5/27/22

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

Assigned Analyst(s): Holly Soderbeck
Email Address(es): holly.soderbeck@state.mn.us
Phone Number(s): 651-539-1849

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:	16
Topic:	Purchased Energy – Long-term PPAs
Reference(s):	N/A

Request:

- A. Please provide purchased energy costs, by type, for 2019, 2020, and 2021 actuals. Also include a column for 2019 – 2021 three-year average and a column for 2023 forecasted.

Response:

- A. Purchased energy costs, by type, are provided in **DOC IR 16.01 Attach PUB** for 2019-2021 actuals, the 2023 forecast, and the 2019-2021 3 year average.

To be completed by responder

Response Date: 6/3/2022
Response by: Taylor Murphy
Email Address: tmurphy@mnpower.com
Phone Number: 218-355-3591

3 Year Average 2019 - 2021 Actuals	
Total	
TRADE SECRET DATA ENDS]	
\$	31,776,066
\$	31,776,066

	Total
TRADE SECRET DATA ENDS]	
\$	-
\$	-

	Total
TRADE SECRET DATA ENDS]	
\$	66,758,534
\$	66,758,534

Total	
\$	180,182
\$	180,182

Purchase Power Wind		Total	Total	Total	Total
		Total	Total	Total	Total
		[TRADE SECRET DATA BEGINS]			
Oliver 1	MWh				
	Average Cost				
		[TRADE SECRET DATA BEGINS]			
Total Cost		\$ 3,860,961	\$ 4,358,909	\$ 3,305,579	\$ 2,919,748
		[TRADE SECRET DATA BEGINS]			
Oliver 2	MWh				
	Average Cost				
		[TRADE SECRET DATA BEGINS]			
Total Cost		\$ 6,529,057	\$ 6,048,928	\$ 6,267,453	\$ 5,681,911
		[TRADE SECRET DATA BEGINS]			
Wing River	MWh				
	Average Cost				
		[TRADE SECRET DATA BEGINS]			
Total Cost		\$ 250,729	\$ 132,215	\$ 142,654	\$ 72,459
		[TRADE SECRET DATA BEGINS]			
Nobles	MWh				
	Average Cost				
		[TRADE SECRET DATA BEGINS]			
Total Cost		\$ 19,788,212	\$ -	\$ 5,551,805	\$ 19,004,220
Total Purchase Power Wind		\$ 30,428,960	\$ 10,540,053	\$ 15,267,492	\$ 27,678,338

Total
Total
TRADE SECRET DATA ENDS]
\$ 3,528,079
TRADE SECRET DATA ENDS]
\$ 5,999,431
TRADE SECRET DATA ENDS]
\$ 115,776
TRADE SECRET DATA ENDS]
\$ 8,185,341
\$ 17,828,628

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

Total
Total
TRADE SECRET DATA ENDS]
\$ -
\$ -

Purchase Power Solar		Total	Total	Total	Total
		Total	Total	Total	Total
		[TRADE SECRET DATA BEGINS]			
SES 20MW Solar	MWh				
	Average Cost				
		[TRADE SECRET DATA BEGINS]			
Total Cost		\$ 2,522,315	\$ -	\$ -	\$ -
		[TRADE SECRET DATA BEGINS]			

Total
Total
TRADE SECRET DATA ENDS]
\$ -

Purchase to Serve Municipal Solar Energy	MWh				
	Average Cost				
Total Cost		\$ 189,009	\$ -	\$ -	\$ -
[TRADE SECRET DATA BEGINS]					
Solar Subscription Cancellations	MWh				
	Average Cost				
Total Cost		\$ -	\$ 1,654	\$ 70	\$ 1,367
Total Purchase Power Solar		\$ 2,711,324	\$ 1,654	\$ 70	\$ 1,367

TRADE SECRET DATA ENDS]
\$ -
TRADE SECRET DATA ENDS]
\$ 1,030
\$ 1,030

Purchase Power Unknown		Total	Total	Total	Total
		[TRADE SECRET DATA BEGINS]			
Market Purchase	MWh				
	Average Cost				
Total Cost		\$ 30,027,034	\$ 90,234,916	\$ 48,717,311	\$ 94,942,309
		[TRADE SECRET DATA BEGINS]			
MPC- Station Service	MWh				
	Average Cost				
Total Cost		\$ 540,981	\$ 366,992	\$ 257,212	\$ 507,516
		[TRADE SECRET DATA BEGINS]			
Purchase to Serve Non-Firm Retail Customer	MWh				
	Average Cost				
Total Cost		\$ 21,322,193	\$ -	\$ -	\$ -
		[TRADE SECRET DATA BEGINS]			
Minnkota Power	MWh				
	Average Cost				
Total Cost		\$ -	\$ 19,537,800	\$ 7,752,000	\$ 544,800
		[TRADE SECRET DATA BEGINS]			
IMO (Ontario Market Operator)	MWh				
	Average Cost				
Total Cost		\$ -	\$ 51,553	\$ 8,209	\$ 36,407
		[TRADE SECRET DATA BEGINS]			
AEP Energy Partners	MWh				
	Average Cost				
Total Cost		\$ -	\$ 3,748,360	\$ 3,627,000	\$ 5,579,300
		[TRADE SECRET DATA BEGINS]			

Total
TRADE SECRET DATA ENDS]
\$ 77,964,845
TRADE SECRET DATA ENDS]
\$ 377,240
TRADE SECRET DATA ENDS]
\$ -
TRADE SECRET DATA ENDS]
\$ 9,278,200
TRADE SECRET DATA ENDS]
\$ 32,057
TRADE SECRET DATA ENDS]
\$ 4,318,220

Shell Energy North America	MWh				
	Average Cost				
Total Cost		\$ -	\$ 13,783,040	\$ 460,350	\$ 7,632,060
[TRADE SECRET DATA BEGINS]					
NextEra Energy	MWh				
	Average Cost				
Total Cost		\$ -	\$ 2,405,083	\$ 3,082,620	\$ 23,297,399
[TRADE SECRET DATA BEGINS]					
Other Purchases	MWh				
	Average Cost				
Total Cost		\$ -	\$ 2,212,963	\$ 1,793,559	\$ 1,359,714
[TRADE SECRET DATA BEGINS]					
MacQuarie Energy	MWh				
	Average Cost				
Total Cost		\$ -	\$ -	\$ -	\$ 4,994,940
[TRADE SECRET DATA BEGINS]					
The Energy Authority	MWh				
	Average Cost				
Total Cost		\$ -	\$ 1,700,840	\$ -	\$ 52,800
[TRADE SECRET DATA BEGINS]					
Transalta Energy Marketing	MWh				
	Average Cost				
Total Cost		\$ -	\$ 23,063,820	\$ -	\$ -
[TRADE SECRET DATA BEGINS]					
Total Purchase Power Unknown		\$ 51,890,208	\$ 157,105,367	\$ 65,698,262	\$ 138,947,245

TRADE SECRET DATA ENDS]
\$ 7,291,817

TRADE SECRET DATA ENDS]
\$ 9,595,034

TRADE SECRET DATA ENDS]
\$ 1,788,745

TRADE SECRET DATA ENDS]
\$ 1,664,980

TRADE SECRET DATA ENDS]
\$ 584,547

TRADE SECRET DATA ENDS]
\$ 7,687,940

\$ 120,583,624

	Total	Total	Total	Total
Total Company Purchase Power	\$ 224,480,219	\$ 215,257,410	\$ 193,346,296	\$ 302,780,486

Total
\$ 237,128,064



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

Docket Number: E015/AA-19-302
Requested From: Minnesota Power
Type of Inquiry: Financial

☐ Nonpublic ☒ Public
Date of Request: 3/11/21
Response Due: 3/22/21

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

Assigned Analyst(s): Nancy Campbell
Email Address(es): nancy.campbell@state.mn.us
Phone Number(s): 651-539-1821

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:	Asset Based Margins
Reference(s):	MP's March 1, 2021 Filing

Request:

- A. Please provide MP's total asset based sales and margins for 2020.
- B. Please provide the wholesale sales and margins related to the "Sales due to Retail and Resale Loss of Load" - 518,000 MWhs shown on Table 3. Please explain if these margins are being kept by the Company and support for why this is reasonable.
- C. Please provide the asset based sales and margins refunded to customers. Please explain if asset based margins refunded to customers are part (A) less part (B).
- D. Please show how the asset based sales and margins were refunded to customers. Please explain your response.

Response:

- A. The actual 2020 year to date "Asset Based Sales" were 1,187,385 MWhs and the margin was \$23,085,356 after MISO costs. This includes a sale to [TRADE SECRET DATA BEGINS] [REDACTED] [TRADE SECRET DATA ENDS] Customer's received the margin credit from this sale in their base rates.
- B. The actual 2020 year to date "Sales due to Retail and Resale Loss of Load" were 518,056 MWhs and the margin was \$515,793 after MISO costs. The margins are retained by the Company which is in accordance with the results of Minnesota Power's Rate Case Resolution Docket Nos. E015/GR-19-442

To be completed by responder

Response Date: March 22, 2011
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-19-302
Requested From: Minnesota Power
Type of Inquiry: Financial

☐ Nonpublic ☒ Public
Date of Request: 3/11/21
Response Due: 3/22/21

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

Assigned Analyst(s): Nancy Campbell

Email Address(es): nancy.campbell@state.mn.us
and E015/M-20-429.

- C. The Asset Based Sales refunded to the customers through the FAC forecast were 613,364 MWhs and the margin was \$5,631,302 after MISO costs from July 2020 – December 2020. The Asset Based Sales margins were included in the 2020 FAC Forecast updated July 1, 2020 as a result of Minnesota Power's Rate Case Resolution Docket Nos. E015/GR-19-442 and E015/M-20-429 and reduced overall costs in the forecasted FAC rate. Asset Based Sales margins for May and June 2020 were refunded to the customer through the interim rate refund in accordance with the result of Minnesota Power's Rate Case Resolution Docket Nos. E015/GR-19-442 and E015/M-20-429. The Asset Based Sales margins refunded to the customers are not part (A) less part (B). The Asset Based Sales and margins presented in (A) do not include any sales and margins associated with Retail and Resale Loss of Load as they are tracked separately.
- D. The Asset Based Sales MWhs have always been considered an Intersystem Sale which reduce the MWh Sales in the Retail FAC Calculation. They are Non FAC Sales and are removed as shown on Attachment 2, Line 11 "Less: Inter-System Sales" and are included with other sales in the "Market Sales" bucket. The Asset Based Sales Margins refunded to customers were included in the 2020 FAC Forecast updated July 1, 2020 as a result of Minnesota Power's Rate Case Resolution Docket Nos. E015/GR-19-442 and E015/M-20-429 and reduced overall costs in the 2020 forecasted FAC calculation. The Asset Based Sales Margins are included on Attachment 2, Line 5 "Less: Fuel Cost Recovered through Inter-System Sales" and the "Asset Based Margins" bucket.

To be completed by responder

Response Date: March 22, 2011
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-22-216
Requested From: Minnesota Power
Type of Inquiry: Financial

☐ Nonpublic ☒ Public
Date of Request: 5/17/22
Response Due: 5/27/22

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

Assigned Analyst(s): Holly Soderbeck
Email Address(es): holly.soderbeck@state.mn.us
Phone Number(s): 651-539-1849

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: 18
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 2023. Please explain how the asset-based margins are given back to ratepayers.

Request:

- 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 2023 FAC Forecast, Docket No. AA-22-216, 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.

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

To be completed by responder

Response Date: 6/3/2022
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

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Requested From: Minnesota Power
Type of Inquiry: Financial

☐ Nonpublic ☒ Public
Date of Request: 5/17/22
Response Due: 5/27/22

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

Assigned Analyst(s): Holly Soderbeck
Email Address(es): holly.soderbeck@state.mn.us
Phone Number(s): 651-539-1849

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: 19
Topic: Planned outages
Reference(s): P 66-72 of 105 – Forecasted Planned and Forced Outages

Request:

- A. Please provide forecasted planned and forced outage costs for 2019, 2020, and 2021; the three-year average of 2019 – 2021, 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. The FAC Reform process started in 2020 and was the first year a forecast was filed. Minnesota Power's FAC reporting process before FAC Reform did not include the forecasting of planned and forced outage costs so no forecasted planned and forced outages were filed with the department.

DOC IR 19.01 Attach PUB contains the forecasted planned and forced incremental outage costs for 2020 and 2021; the two-year average of 2020 – 2021, and the actual planned incremental outage costs for the same time periods.

The 2023 forecasted planned outage incremental costs are not materially different from the two year average when compared to total FAC costs. The slight increase in planned incremental outage costs over the two year average forecasted incremental costs can be attributed to the higher market prices/LMPs forecasted for 2023 which would increase the cost of replacement energy.

To be completed by responder

Response Date: 6/3/2022
Response by: Ryan LaCoursiere
Email Address: rlacoursiere@mnpower.com
Phone Number: 218-355-3678

Planned Outage Incremental Costs		
	Forecasted Incremental Costs	Actual Incremental Costs
Year		
2020	\$3,441,487.35	(\$293,246.05)
2021	(\$2,869,832.41)	\$6,415,192.24
Total	\$571,654.94	\$6,121,946.19
2 Year Average	\$285,827.47	
2023	[TRADE SECRET DATA BEGINS	

TRADE SECRET
DATA ENDS]

Forced Outage Incremental Costs	
	Forecasted Incremental Costs
Year	
2020	\$1,021,843.22
2021	(\$633,961.53)
Total	\$387,881.69
2 Year Average	\$193,940.84



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Type of Inquiry: Financial

☐ Nonpublic ☒ Public
Date of Request: 5/17/22
Response Due: 5/27/22

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

Assigned Analyst(s): Holly Soderbeck
Email Address(es): holly.soderbeck@state.mn.us
Phone Number(s): 651-539-1849

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: 2
Topic: Minnesota Power's Actual 2019 -2021 and Forecasted 2023 Unplanned Outages (MWh)
Reference(s): No Specific Reference

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 2023 for 2023 forecast, 2019 to 2021 actuals by year, and three-year average of 2019 to 2021.
- B. For any differences of 5 percent or more when comparing 2023 forecast to 2021 actuals, please explain reasons for deviation.
- C. For any differences of 5 percent or more when comparing 2023 forecast to three-year average of 2019 to 2021, please explain reasons for deviation.

Responses:

- A. **DOC IR 02.01 Attach PUB** contains the unplanned outage MWhs (forced outages of less than 24 hours and forced outages of more than 24 hours) for the 2023 forecast, 2019-2021 actuals, and the three year average for 2019-2021. Minnesota Power has not tracked and reported on derates since November 2013 as they are not considered outages.
- B. The difference between the 2023 forecast to 2021 actuals is [TRADE SECRET DATA BEGINS] [REDACTED] [REDACTED] TRADE SECRET DATA ENDS].
- C. The 2023 forecast unplanned outage MWhs is about [TRADE SECRET DATA BEGINS] [REDACTED]

To be completed by responder

Response Date: 6/3/2022
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-22-216
Requested From: Minnesota Power
Type of Inquiry: Financial

☐ Nonpublic ☒ Public
Date of Request: 5/17/22
Response Due: 5/27/22

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

[REDACTED] **TRADE SECRET DATA ENDS]** than the 3 year average of 2019-2021 actuals. The driver of the difference would be that Boswell 3 and 4 had major unplanned outages in 2019 which raises the 3 year average (2019-2021). The 2019 forced outage rate was excluded from our 5 year average that was used to develop the 2023 FAC Forecast. In 2019, Boswell 4 had a major unplanned outage that spanned 49 days or 546,000 MWhs (Feb 2019 –Mar 2019) due to a hot reheat line steam leak. Boswell 3 also had a major unplanned outage that spanned 21 days or 169,000 MWhs (Jul 2019) due to a boiler circulation pump replacement and generator bushing failure.

To be completed by responder

Response Date: 6/3/2022
Response by: Ryan LaCoursiere
Email Address: rlacoursiere@mnpower.com
Phone Number: 218-355-3678

Department A

Unplanned Outage MWhs					
Unit	2023 Forecast Total	2021 Actuals Total	2020 Actuals Total	2019 Actuals Total	3 Year Actuals Average
	[TRADE SECRET DATA BEGINS]				
Boswell 3		96,552	86,029	312,248	164,943
Boswell 4		214,650	405,924	576,089	398,888
Total		311,202	491,953	888,337	563,831
Boswell 3 less than 24 hours		0	0	0	0
Boswell 3 more than 24 hours		96,552	86,029	312,248	164,943
Total		96,552	86,029	312,248	164,943
Boswell 4 less than 24 hours		16,797	0	0	5,599
Boswell 4 more than 24 hours		197,853	405,924	576,089	393,289
Total		214,650	405,924	576,089	398,888
Grand Total			311,202	491,953	888,337
[TRADE SECRET DATA ENDS]					
				2023 Forecast vs. 2021 Actuals	2023 Forecast vs. 2019-2021 Actuals
[TRADE SECRET DATA BEGINS]					
TRADE SECRET DATA ENDS					
Percent Change					
[TRADE SECRET DATA BEGINS]					



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

Docket Number: E015/AA-20-463
Requested From: Minnesota Power
Type of Inquiry: Financial

☐ Nonpublic ☒ Public
Date of Request: 4/22/22
Response Due: 5/2/22

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

Assigned Analyst(s): Nancy Campbell & Mark Johnson

Email Address(es): nancy.campbell@state.mn.us & mark.a.johnson@state.mn.us

Phone Number(s): 651-539-1821 & 651-539-1824

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:	24
Topic:	MISO Capacity Market Auction
Reference(s):	No specific reference

Request:

- a) Please provide the megawatts, dollars per megawatt, and total revenue that MP received or will receive from MISO's recent capacity auction. Please provide any supporting calculations and documentation.
- b) Please provide the megawatts, dollars per megawatt, and total expenses attributed to MP or will be attributed to MP via MISO's recent capacity auction. Please provide any supporting calculations and documentation.
- c) Please explain what MISO charge types these capacity auctions revenues and expenses are recorded to. Also, when will MP receive the capacity auction revenues and expenses? Please include applicable MISO invoices.
- d) Will MP flow through to customers these capacity auction revenues and expenses though the Fuel Clause Adjustment (FCA), also called the Fuel and Purchased Energy (FPE) Charge? If yes, please explain how and when these revenues and expenses will be refunded to customers, for example does MP plan to include these revenues and expenses in its 2021 FAC true-up? Please be specific and explain how refunding will occur.

(Continued on next page)

To be completed by responder

Response Date: May 2, 2022
Response by: Eric Palmer | Ryan LaCoursiere | Leann Oehlerking-Boes
Email Address: epalmer@mnpower.com | rlacoursiere@mnpower.com | lboes@mnpower.com
Phone Number: (218) 355-3839 | (218) 355-3678 | (218) 355-3832



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

Docket Number: E015/AA-20-463
Requested From: Minnesota Power
Type of Inquiry: Financial

☐ Nonpublic ☒ Public
Date of Request: 4/22/22
Response Due: 5/2/22

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

Assigned Analyst(s): Nancy Campbell & Mark Johnson

Email Address(es): nancy.campbell@state.mn.us & mark.a.johnson@state.mn.us

Phone Number(s): 651-539-1821 & 651-539-1824

ADDITIONAL INSTRUCTIONS:

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- e) Please explain how past MISO capacity market auction revenues or expenses were refunded or charged to ratepayers.
- f) If the capacity auction revenues and expenses are not proposed to flow through the FCA, please explain why not. Also, explain through what mechanism, how specifically and when and where, the MISO capacity auction revenues and expenses will be flowed through to ratepayers.
- g) Please explain if the capacity market revenues and/or costs exceed the Commission's June 12, 2019 Order in Docket No. E999/CI-03-802 that established a plus or minus 5 percent of all FCA costs and revenues to determine if an event qualifies as a significant unforeseen impact that justifies an adjustment to the approved fuel rates. Please show all supporting calculations.

RESPONSE

- a) Below is the excess capacity sold into the MISO Planning Resource Auction for Planning Year 2022-2023, including the \$/MW- Day clearing price and total revenue

	Excess Capacity Sold (ZRC)	Auction Clearing Price (\$/MW-Day)	Total Revenue MP Received from MISO
	[TRADE SECRET DATA BEGINS]		[TRADE SECRET DATA BEGINS]
June 2022 thru December 2022		\$236.66	
January 2023 thru May 2023		\$236.66	
	TRADE SECRET DATA ENDS]		TRADE SECRET DATA ENDS]

To be completed by responder

Response Date: May 2, 2022
Response by: Eric Palmer | Ryan LaCoursiere | Leann Oehlerking-Boes
Email Address: epalmer@mnpower.com | rlacoursiere@mnpower.com | lboes@mnpower.com
Phone Number: (218) 355-3839 | (218) 355-3678 | (218) 355-3832



Minnesota Department of Commerce
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Type of Inquiry: Financial

☐ Nonpublic ☒ Public
Date of Request: 4/22/22
Response Due: 5/2/22

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

Assigned Analyst(s): Nancy Campbell & Mark Johnson

Email Address(es): nancy.campbell@state.mn.us & mark.a.johnson@state.mn.us

- b) Minnesota Power did not incur any expenses in the Planning Year 2022-2023 Planning Resource Auction.
- c) MISO Capacity revenues and expenses are recorded in the MISO charge type "Resource Adequacy Auction Amount". The recent capacity auction was for planning year 2022-2023, therefore the first revenues should be seen on Minnesota Power's S7 MISO settlement statement for Operating Day June 1, 2022. Invoices for future operating days have not yet been received, therefore invoices cannot be provided at this time.
- d) Minnesota Power is evaluating the holistic impact to the company and customers of the planning resource auction results. Per the 2019 rate case settlement, asset-based wholesale margin credit is defined as such, "Asset-based wholesale margin credits are the net revenue that results from a utility selling excess energy and capacity that is not needed to serve the utility's retail customers in the wholesale MISO market. The difference between the revenues and costs from these sales results in asset-based wholesale margin credits ("margin credits")."

There is a wide range of impacts to customers and the Company due to the recent MISO capacity auction. Minnesota Power is evaluating how the revenue can best be utilized for all customers since existing agreements, Electric Service Agreements and tariffs have terms referencing the planning resource auction results which could have financial impacts on the Company. Under the current approved process, Minnesota Power would include any capacity auction revenues received in the calculation of actual fuel costs in the Fuel Clause Adjustment calculations. Capacity revenues would be included when the FAC Forecast True Up filing is completed in February 2023 and would either increase the amount to be refunded to customers or decrease the amount to be collected from customers through the FAC true up rates.

- e) Now that asset-based wholesales margins and capacity revenues are allowed to be included in the FAC, anticipated revenues are included in the FAC forecast, and trued up to actuals when the annual FAC True up filing is completed. Capacity expenses are forecast during a rate case and included in base rates.
- f) See e) above.

To be completed by responder

Response Date: May 2, 2022
Response by: Eric Palmer | Ryan LaCoursiere | Leann Oehlerking-Boes
Email Address: epalmer@mnpower.com | rlacoursiere@mnpower.com | lboes@mnpower.com
Phone Number: (218) 355-3839 | (218) 355-3678 | (218) 355-3832



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Email Address(es): nancy.campbell@state.mn.us & mark.a.johnson@state.mn.us

- g) As stated in responses a) and d), Minnesota Power is evaluating how the revenue can best be utilized for all customers and under the current approved process, Minnesota Power would receive [TRADE SECRET DATA BEGINS [REDACTED] TRADE SECRET DATA ENDS] (total Company) in capacity revenue from June 2022 thru December 2022. This is a [TRADE SECRET DATA BEGINS [REDACTED] TRADE SECRET DATA ENDS] reduction in total 2022 forecasted FAC costs and would not exceed the Commission's June 12, 2019 Order in Docket No. E999/CI-03-802 of plus or minus 5 percent of all FCA costs and revenues to determine if an event qualifies as a significant unforeseen impact that justifies an adjustment to the approved fuel rates.

2022 FAC Forecast Total Costs	Capacity Revenues from June - December 2022	Updated 2022 FAC Forecast Total Costs	Percentage Difference
	[TRADE SECRET DATA BEGINS [REDACTED] TRADE SECRET DATA ENDS]		
\$229,065,935	[REDACTED]		
	[REDACTED] TRADE SECRET DATA ENDS]		

To be completed by responder

Response Date: May 2, 2022
Response by: Eric Palmer | Ryan LaCoursiere | Leann Oehlerking-Boes
Email Address: epalmer@mnpower.com | rlacoursiere@mnpower.com | lboes@mnpower.com
Phone Number: (218) 355-3839 | (218) 355-3678 | (218) 355-3832

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/M-22-216

Dated this **30th** day of **June 2022**

/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_22-216_AA-22-216
Jorge	Alonso	jorge.alonso@state.mn.us	Public Utilities Commission	121 7th Place East Suite 350 St. Paul, MN 55101	Electronic Service	No	OFF_SL_22-216_AA-22-216
Lori	Andresen	info@sosbluewater.org	Save Our Sky Blue Waters	P.O. Box 3661 Duluth, Minnesota 55803	Electronic Service	No	OFF_SL_22-216_AA-22-216
Allen	Barr	allen.barr@ag.state.mn.us	Office of the Attorney General-DOC	445 Minnesota St Ste 1400 Saint Paul, MN 55101	Electronic Service	No	OFF_SL_22-216_AA-22-216
Jessica L	Bayles	Jessica.Bayles@stoel.com	Stoel Rives LLP	1150 18th St NW Ste 325 Washington, DC 20036	Electronic Service	No	OFF_SL_22-216_AA-22-216
Sara	Bergan	sebergan@stoel.com	Stoel Rives LLP	33 South Sixth Street Suite 4200 Minneapolis, MN 55402	Electronic Service	No	OFF_SL_22-216_AA-22-216
Kristin	Berkland	kristin.berkland@ag.state.mn.us	Office of the Attorney General-RUD	445 Minnesota Street Bremer Tower, Suite 1400 St. Paul, MN 55101	Electronic Service	No	OFF_SL_22-216_AA-22-216
David F.	Boehm	dboehm@bkllawfirm.com	Boehm, Kurtz & Lowry	36 E 7th St Ste 1510 Cincinnati, OH 45202	Electronic Service	No	OFF_SL_22-216_AA-22-216
Jason	Bonnett	jason.bonnett@state.mn.us	Public Utilities Commission	121 East 7th Place suite 350 St. Paul, MN 55101	Electronic Service	No	OFF_SL_22-216_AA-22-216
Elizabeth	Brama	ebrama@taftlaw.com	Taft Stettinius & Hollister LLP	2200 IDS Center 80 South 8th Street Minneapolis, MN 55402	Electronic Service	No	OFF_SL_22-216_AA-22-216

First Name	Last Name	Email	Company Name	Address	Delivery Method	View Trade Secret	Service List Name
Jon	Brekke	jbrekke@grenergy.com	Great River Energy	12300 Elm Creek Boulevard Maple Grove, MN 553694718	Electronic Service	No	OFF_SL_22-216_AA-22-216
Matthew	Brodin	mbrodin@allete.com	Minnesota Power Company	30 West Superior St Duluth, MN 55802	Electronic Service	Yes	OFF_SL_22-216_AA-22-216
Christina	Brusven	cbrusven@fredlaw.com	Fredrikson Byron	200 S 6th St Ste 4000 Minneapolis, MN 554021425	Electronic Service	No	OFF_SL_22-216_AA-22-216
Jennifer	Cady	jjcady@mnpower.com	Minnesota Power	30 W Superior St Duluth, MN 55802	Electronic Service	Yes	OFF_SL_22-216_AA-22-216
David	Cartella	David.Cartella@cliffsnr.com	Cliffs Natural Resources Inc.	200 Public Square Ste 3300 Cleveland, OH 44114-2315	Electronic Service	No	OFF_SL_22-216_AA-22-216
Greg	Chandler	greg.chandler@upm.com	UPM Blandin Paper	115 SW First St Grand Rapids, MN 55744	Electronic Service	No	OFF_SL_22-216_AA-22-216
Steve W.	Chriss	Stephen.chriss@walmart.com	Wal-Mart	2001 SE 10th St. Bentonville, AR 72716-5530	Electronic Service	No	OFF_SL_22-216_AA-22-216
Generic Notice	Commerce Attorneys	commerce.attorneys@ag.state.mn.us	Office of the Attorney General-DOC	445 Minnesota Street Suite 1400 St. Paul, MN 55101	Electronic Service	Yes	OFF_SL_22-216_AA-22-216
Riley	Conlin	riley.conlin@stoel.com	Stoel Rives LLP	33 S. 6th Street Suite 4200 Minneapolis, MN 55402	Electronic Service	No	OFF_SL_22-216_AA-22-216

First Name	Last Name	Email	Company Name	Address	Delivery Method	View Trade Secret	Service List Name
Brooke	Cooper	bcooper@allete.com	Minnesota Power	30 W Superior St Duluth, MN 558022191	Electronic Service	No	OFF_SL_22-216_AA-22-216
Sean	Copeland	seancopeland@fdlrez.com	Fond du Lac Band of Lake Superior Chippewa	1720 Big Lake Rd Cloquet, MN 55720	Electronic Service	No	OFF_SL_22-216_AA-22-216
Hillary	Creurer	hcreurer@allete.com	Minnesota Power	30 W Superior St Duluth, MN 55802	Electronic Service	Yes	OFF_SL_22-216_AA-22-216
Patrick	Cutshall	pcutshall@allete.com	Minnesota Power	30 West Superior Street Duluth, MN 55802	Electronic Service	No	OFF_SL_22-216_AA-22-216
Lisa	Daniels	lisadaniels@windustry.org	Windustry	201 Ridgewood Ave Minneapolis, MN 55403	Electronic Service	No	OFF_SL_22-216_AA-22-216
Richard	Dornfeld	Richard.Dornfeld@ag.state.mn.us	Office of the Attorney General-DOC	Minnesota Attorney General's Office 445 Minnesota Street, Suite 1800 Saint Paul, Minnesota 55101	Electronic Service	No	OFF_SL_22-216_AA-22-216
J.	Drake Hamilton	hamilton@fresh-energy.org	Fresh Energy	408 St Peter St Ste 350 Saint Paul, MN 55101	Electronic Service	No	OFF_SL_22-216_AA-22-216
Brian	Edstrom	briane@cubminnesota.org	Citizens Utility Board of Minnesota	332 Minnesota St Ste W1360 Saint Paul, MN 55101	Electronic Service	No	OFF_SL_22-216_AA-22-216
Ron	Elwood	relwood@mnlsap.org	Legal Services Advocacy Project	970 Raymond Avenue Suite G-40 Saint Paul, MN 55114	Electronic Service	No	OFF_SL_22-216_AA-22-216

First Name	Last Name	Email	Company Name	Address	Delivery Method	View Trade Secret	Service List Name
Sharon	Ferguson	sharon.ferguson@state.mn.us	Department of Commerce	85 7th Place E Ste 280 Saint Paul, MN 551012198	Electronic Service	No	OFF_SL_22-216_AA-22-216
Frank	Frederickson	ffrederickson@mnpower.com	Minnesota Power	30 W Superior St. Duluth, MN 55802	Electronic Service	No	OFF_SL_22-216_AA-22-216
Edward	Garvey	garveyed@aol.com	Residence	32 Lawton St Saint Paul, MN 55102	Electronic Service	No	OFF_SL_22-216_AA-22-216
John R.	Gasele	jgasele@fryberger.com	Fryberger Buchanan Smith & Frederick PA	700 Lonsdale Building 302 W Superior St Ste 700 Duluth, MN 55802	Electronic Service	No	OFF_SL_22-216_AA-22-216
Bruce	Gerhardson	bgerhardson@otpc.com	Otter Tail Power Company	PO Box 496 215 S Cascade St Fergus Falls, MN 565380496	Electronic Service	No	OFF_SL_22-216_AA-22-216
Barbara	Gervais	toftemn@boreal.org	Town of Tofte	P O Box 2293 7240 Tofte Park Road Tofte, MN 55615	Electronic Service	No	OFF_SL_22-216_AA-22-216
Jerome	Hall	hallj@stlouiscountymn.gov	Saint Louis County Property Mgmt Dept	Duluth Courthouse 100 N 5th Ave W Rm 515 Duluth, MN 55802-1209	Electronic Service	No	OFF_SL_22-216_AA-22-216
Adam	Heinen	aheinen@dakotaelectric.com	Dakota Electric Association	4300 220th St W Farmington, MN 55024	Electronic Service	No	OFF_SL_22-216_AA-22-216
Kimberly	Hellwig	kimberly.hellwig@stoel.com	Stoel Rives LLP	33 South Sixth Street Suite 4200 Minneapolis, MN 55402	Electronic Service	No	OFF_SL_22-216_AA-22-216
Annete	Henkel	mui@mnuilityinvestors.org	Minnesota Utility Investors	413 Wacouta Street #230 St. Paul, MN 55101	Electronic Service	No	OFF_SL_22-216_AA-22-216

First Name	Last Name	Email	Company Name	Address	Delivery Method	View Trade Secret	Service List Name
Valerie	Herring	vherring@taftlaw.com	Taft Stettinius & Hollister LLP	2200 IDS Center 80 S. Eighth Street Minneapolis, MN 55402	Electronic Service	No	OFF_SL_22-216_AA-22-216
Katherine	Hinderlie	katherine.hinderlie@ag.state.mn.us	Office of the Attorney General-DOC	445 Minnesota St Suite 1400 St. Paul, MN 55101-2134	Electronic Service	No	OFF_SL_22-216_AA-22-216
Lori	Hoyum	lhoyum@mnpower.com	Minnesota Power	30 West Superior Street Duluth, MN 55802	Electronic Service	No	OFF_SL_22-216_AA-22-216
James	Jarvi	N/A	Minnesota Ore Operations - U S Steel	P O Box 417 Mountain Iron, MN 55768	Paper Service	No	OFF_SL_22-216_AA-22-216
Alan	Jenkins	aj@jenkinsatlaw.com	Jenkins at Law	2950 Yellowtail Ave. Marathon, FL 33050	Electronic Service	No	OFF_SL_22-216_AA-22-216
Richard	Johnson	Rick.Johnson@lawmoss.com	Moss & Barnett	150 S. 5th Street Suite 1200 Minneapolis, MN 55402	Electronic Service	No	OFF_SL_22-216_AA-22-216
Kelsey	Johnson	info@taconite.org	Iron Mining Association	324 West Superior St Ste 502 Duluth, MN 55802	Electronic Service	No	OFF_SL_22-216_AA-22-216
Sarah	Johnson Phillips	sarah.phillips@stoel.com	Stoel Rives LLP	33 South Sixth Street Suite 4200 Minneapolis, MN 55402	Electronic Service	No	OFF_SL_22-216_AA-22-216
Nick	Kaneski	nick.kaneski@enbridge.com	Enbridge Energy Company, Inc.	11 East Superior St Ste 125 Duluth, MN 55802	Electronic Service	No	OFF_SL_22-216_AA-22-216

First Name	Last Name	Email	Company Name	Address	Delivery Method	View Trade Secret	Service List Name
Nicolas	Kaylor	nkaylor@mojlaw.com		120 South 6th St Ste 2400 Minneapolis, MN 55402	Electronic Service	No	OFF_SL_22-216_AA-22-216
Travis	Kolari	N/A	Keetac	PO Box 217 Keewatin, MN 55753	Paper Service	No	OFF_SL_22-216_AA-22-216
Michael	Krikava	mkrikava@taftlaw.com	Taft Stettinius & Hollister LLP	2200 IDS Center 80 S 8th St Minneapolis, MN 55402	Electronic Service	No	OFF_SL_22-216_AA-22-216
Becky	Lammi	cityclerk@ci.aurora.mn.us	City of Aurora	16 W 2nd Ave N PO Box 160 Aurora, MN 55705	Electronic Service	No	OFF_SL_22-216_AA-22-216
Carmel	Laney	carmel.laney@stoel.com	Stoel Rives LLP	33 South Sixth Street Suite 4200 Minneapolis, MN 55402	Electronic Service	No	OFF_SL_22-216_AA-22-216
David	Langmo	david.langmo@sappi.com	Sappi North America	P O Box 511 2201 Avenue B Cloquet, MN 55720	Electronic Service	No	OFF_SL_22-216_AA-22-216
Emily	Larson	eLarson@duluthmn.gov	City of Duluth	411 W 1st St Rm 403 Duluth, MN 55802	Electronic Service	No	OFF_SL_22-216_AA-22-216
James D.	Larson	james.larson@avantenergy.com	Avant Energy Services	220 S 6th St Ste 1300 Minneapolis, MN 55402	Electronic Service	No	OFF_SL_22-216_AA-22-216
Annie	Levenson Falk	annief@cupminnesota.org	Citizens Utility Board of Minnesota	332 Minnesota Street, Suite W1360 St. Paul, MN 55101	Electronic Service	No	OFF_SL_22-216_AA-22-216
LeRoger	Lind	llind@yahoo.com	Save Lake Superior Association	P.O. Box 101 Two Harbors, MN 55616	Electronic Service	No	OFF_SL_22-216_AA-22-216

First Name	Last Name	Email	Company Name	Address	Delivery Method	View Trade Secret	Service List Name
Eric	Lindberg	elindberg@mncenter.org	Minnesota Center for Environmental Advocacy	1919 University Avenue West Suite 515 Saint Paul, MN 55104-3435	Electronic Service	No	OFF_SL_22-216_AA-22-216
Eric	Lipman	eric.lipman@state.mn.us	Office of Administrative Hearings	PO Box 64620 St. Paul, MN 551640620	Electronic Service	No	OFF_SL_22-216_AA-22-216
Patrick	Loupin	PatrickLoupin@PackagingCorp.com	Packaging Corporation of America	PO Box 990050 Boise, ID 83799-0050	Electronic Service	No	OFF_SL_22-216_AA-22-216
Susan	Ludwig	sludwig@mnpower.com	Minnesota Power	30 West Superior Street Duluth, MN 55802	Electronic Service	No	OFF_SL_22-216_AA-22-216
Peter E.	Madsen	pmadsen@taftlaw.com	Taft Stettinius & Hollister LLP	2200 IDS Center 80 South 8th Street Minneapolis, MN 55402	Electronic Service	No	OFF_SL_22-216_AA-22-216
Kavita	Maini	kmains@wi.rr.com	KM Energy Consulting, LLC	961 N Lost Woods Rd Oconomowoc, WI 53066	Electronic Service	No	OFF_SL_22-216_AA-22-216
Discovery	Manager	discoverymanager@mnpower.com	Minnesota Power	30 W Superior St Duluth, MN 55802	Electronic Service	Yes	OFF_SL_22-216_AA-22-216
Sarah	Manchester	sarah.manchester@sappi.com	Sappi North American	255 State Street Floor 4 Boston, MA 02109-2617	Electronic Service	No	OFF_SL_22-216_AA-22-216
Pam	Marshall	pam@energycents.org	Energy CENTS Coalition	823 7th St E St. Paul, MN 55106	Electronic Service	No	OFF_SL_22-216_AA-22-216
Emily	Marshall	emarshall@mojlaw.com	Miller O'Brien Jensen, PA	120 S. 6th Street Suite 2400 Minneapolis, Minnesota 55402	Electronic Service	No	OFF_SL_22-216_AA-22-216

First Name	Last Name	Email	Company Name	Address	Delivery Method	View Trade Secret	Service List Name
Keith	Matzdorf	keith.matzdorf@sappi.com	Sappi Fine Paper North America	PO Box 511 2201 Avenue B Cloquet, MN 55720	Electronic Service	No	OFF_SL_22-216_AA-22-216
Daryl	Maxwell	dmaxwell@hydro.mb.ca	Manitoba Hydro	360 Portage Ave FL 16 PO Box 815, Station Main Winnipeg, Manitoba R3C 2P4 Canada	Electronic Service	No	OFF_SL_22-216_AA-22-216
Matthew	McClincy	MMcClincy@usg.com	USG	35 Arch Street Clouget, MN 55720	Electronic Service	No	OFF_SL_22-216_AA-22-216
Craig	McDonnell	Craig.McDonnell@state.mn.us	MN Pollution Control Agency	520 Lafayette Road St. Paul, MN 55101	Electronic Service	No	OFF_SL_22-216_AA-22-216
Natalie	McIntire	natalie.mcintire@gmail.com	Wind on the Wires	570 Asbury St Ste 201 Saint Paul, MN 55104-1850	Electronic Service	No	OFF_SL_22-216_AA-22-216
Joseph	Meyer	joseph.meyer@ag.state.mn.us	Office of the Attorney General-RUD	Bremer Tower, Suite 1400 445 Minnesota Street St Paul, MN 55101-2131	Electronic Service	No	OFF_SL_22-216_AA-22-216
David	Moeller	dmoeller@allete.com	Minnesota Power	30 W Superior St Duluth, MN 558022093	Electronic Service	Yes	OFF_SL_22-216_AA-22-216
Andrew	Moratzka	andrew.moratzka@stoel.com	Stoel Rives LLP	33 South Sixth St Ste 4200 Minneapolis, MN 55402	Electronic Service	No	OFF_SL_22-216_AA-22-216
James	Mortenson	james.mortenson@state.mn.us	Office of Administrative Hearings	PO BOX 64620 St. Paul, MN 55164-0620	Electronic Service	No	OFF_SL_22-216_AA-22-216

First Name	Last Name	Email	Company Name	Address	Delivery Method	View Trade Secret	Service List Name
Evan	Mulholland	emulholland@mncenter.org	Minnesota Center for Environmental Advocacy	1919 University Ave W Ste 515 Saint Paul, MN 55101	Electronic Service	No	OFF_SL_22-216_AA-22-216
David	Niles	david.niles@avantenergy.com	Minnesota Municipal Power Agency	220 South Sixth Street Suite 1300 Minneapolis, Minnesota 55402	Electronic Service	No	OFF_SL_22-216_AA-22-216
Michael	Noble	noble@fresh-energy.org	Fresh Energy	408 Saint Peter St Ste 350 Saint Paul, MN 55102	Electronic Service	No	OFF_SL_22-216_AA-22-216
Rolf	Nordstrom	rnordstrom@gpsd.net	Great Plains Institute	2801 21ST AVE S STE 220 Minneapolis, MN 55407-1229	Electronic Service	No	OFF_SL_22-216_AA-22-216
M. William	O'Brien	bobrien@mojlaw.com	Miller O'Brien Jensen, P.A.	120 S 6th St Ste 2400 Minneapolis, MN 55402	Electronic Service	No	OFF_SL_22-216_AA-22-216
Christopher J.	Oppitz	N/A	-	PO Box 910 Park Rapids, MN 56470-0910	Paper Service	No	OFF_SL_22-216_AA-22-216
Elanne	Palcich	epalcich@cpinternet.com	Save Our Sky Blue Waters	P.O. Box 3661 Duluth, MN 55803	Electronic Service	No	OFF_SL_22-216_AA-22-216
Max	Peters	maxp@cohasset-mn.com	City of Cohasset	305 NW First Ave Cohasset, MN 55721	Electronic Service	No	OFF_SL_22-216_AA-22-216
Jennifer	Peterson	jjpeterson@mnpower.com	Minnesota Power	30 West Superior Street Duluth, MN 55802	Electronic Service	No	OFF_SL_22-216_AA-22-216

First Name	Last Name	Email	Company Name	Address	Delivery Method	View Trade Secret	Service List Name
William	Phillips	wphillips@aarp.org	AARP	30 E. 7th St Suite 1200 St. Paul, MN 55101	Electronic Service	No	OFF_SL_22-216_AA-22-216
Marcia	Podratz	mpodratz@mnpower.com	Minnesota Power	30 W Superior S Duluth, MN 55802	Electronic Service	No	OFF_SL_22-216_AA-22-216
Tolaver	Rapp	Tolaver.Rapp@cliffsnr.com	Cliffs Natural Resources	200 Public Square Suite 3400 Cleveland, OH 441142318	Electronic Service	No	OFF_SL_22-216_AA-22-216
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_22-216_AA-22-216
Kevin	Reuther	kreuther@mncenter.org	MN Center for Environmental Advocacy	26 E Exchange St, Ste 206 St. Paul, MN 551011667	Electronic Service	No	OFF_SL_22-216_AA-22-216
Ralph	Riberich	rriberich@uss.com	United States Steel Corp	600 Grant St Ste 2028 Pittsburgh, PA 15219	Electronic Service	No	OFF_SL_22-216_AA-22-216
Buddy	Robinson	buddy@citizensfed.org	Minnesota Citizens Federation NE	2110 W. 1st Street Duluth, MN 55806	Electronic Service	No	OFF_SL_22-216_AA-22-216
Santi	Romani	N/A	United Taconite	PO Box 180 Eveleth, MN 55734	Paper Service	No	OFF_SL_22-216_AA-22-216
Susan	Romans	sromans@allete.com	Minnesota Power	30 West Superior Street Legal Dept Duluth, MN 55802	Electronic Service	No	OFF_SL_22-216_AA-22-216
Richard	Savelkoul	rsavelkoul@martinsquires.com	Martin & Squires, P.A.	332 Minnesota Street Ste W2750 St. Paul, MN 55101	Electronic Service	No	OFF_SL_22-216_AA-22-216

First Name	Last Name	Email	Company Name	Address	Delivery Method	View Trade Secret	Service List Name
Thomas	Scharff	thomas.scharff@versoco.com	Verso Corp	600 High Street Wisconsin Rapids, WI 54495	Electronic Service	No	OFF_SL_22-216_AA-22-216
Peter	Scholtz	peter.scholtz@ag.state.mn.us	Office of the Attorney General-RUD	Suite 1400 445 Minnesota Street St. Paul, MN 55101-2131	Electronic Service	No	OFF_SL_22-216_AA-22-216
Robert H.	Schulte	rhs@schulteassociates.com	Schulte Associates LLC	1742 Patriot Rd Northfield, MN 55057	Electronic Service	No	OFF_SL_22-216_AA-22-216
Will	Seuffert	Will.Seuffert@state.mn.us	Public Utilities Commission	121 7th PI E Ste 350 Saint Paul, MN 55101	Electronic Service	Yes	OFF_SL_22-216_AA-22-216
Janet	Shaddix Elling	jshaddix@janetshaddix.com	Shaddix And Associates	7400 Lyndale Ave S Ste 190 Richfield, MN 55423	Electronic Service	No	OFF_SL_22-216_AA-22-216
Doug	Shoemaker	dougs@charter.net	Minnesota Renewable Energy	2928 5th Ave S Minneapolis, MN 55408	Electronic Service	No	OFF_SL_22-216_AA-22-216
Brett	Skyles	Brett.Skyles@co.itasca.mn.us	Itasca County	123 NE Fourth Street Grand Rapids, MN 557442600	Electronic Service	No	OFF_SL_22-216_AA-22-216
Richard	Staffon	rcstaffon@msn.com	W. J. McCabe Chapter, Izaak Walton League of America	1405 Lawrence Road Cloquet, Minnesota 55720	Electronic Service	No	OFF_SL_22-216_AA-22-216
James M	Strommen	jstrommen@kennedy-graven.com	Kennedy & Graven, Chartered	150 S 5th St Ste 700 Minneapolis, MN 55402	Electronic Service	No	OFF_SL_22-216_AA-22-216
Eric	Swanson	eswanson@winthrop.com	Winthrop & Weinstine	225 S 6th St Ste 3500 Capella Tower Minneapolis, MN 554024629	Electronic Service	No	OFF_SL_22-216_AA-22-216

First Name	Last Name	Email	Company Name	Address	Delivery Method	View Trade Secret	Service List Name
Lynnette	Sweet	Regulatory.records@xcelenergy.com	Xcel Energy	414 Nicollet Mall FL 7 Minneapolis, MN 554011993	Electronic Service	No	OFF_SL_22-216_AA-22-216
Robert	Tammen	bobtammen@frontiernet.net	Wetland Action Group	PO Box 398 Soudan, MN 55782	Electronic Service	No	OFF_SL_22-216_AA-22-216
Jim	Tieberg	jtieberg@polymetmining.com	PolyMet Mining, Inc.	PO Box 475 County Highway 666 Hoyt Lakes, MN 55750	Electronic Service	No	OFF_SL_22-216_AA-22-216
Jessica	Tritsch	jessica.tritsch@sierraclub.org	Sierra Club	2327 E Franklin Ave Minneapolis, MN 55406	Electronic Service	No	OFF_SL_22-216_AA-22-216
Karen	Turnboom	karen.turnboom@versoco.com	Verso Corporation	100 Central Avenue Duluth, MN 55807	Paper Service	No	OFF_SL_22-216_AA-22-216
Kodi	Verhalen	kverhalen@taftlaw.com	Taft Stettinius & Hollister LLP	80 S 8th St Ste 2200 Minneapolis, MN 55402	Electronic Service	No	OFF_SL_22-216_AA-22-216
Kevin	Walli	kwalli@fryberger.com	Fryberger, Buchanan, Smith & Frederick	380 St. Peter St Ste 710 St. Paul, MN 55102	Electronic Service	No	OFF_SL_22-216_AA-22-216
Laurie	Williams	laurie.williams@sierraclub.org	Sierra Club	Environmental Law Program 1536 Wynkoop St Ste 200 Denver, CO 80202	Electronic Service	No	OFF_SL_22-216_AA-22-216
Scott	Zahorik	scott.zahorik@aeoa.org	Arrowhead Economic Opportunity Agency	702 S. 3rd Avenue Virginia, MN 55792	Electronic Service	No	OFF_SL_22-216_AA-22-216