



414 Nicollet Mall  
Minneapolis, MN 55401

June 1, 2022

—Via Electronic Filing—

Will Seuffert  
Executive Secretary  
Minnesota Public Utilities Commission  
121 7<sup>th</sup> Place East, Suite 350  
St. Paul, MN 55101

RE: REPLY COMMENTS  
COMMISSION INVESTIGATION INTO SELF-COMMITMENT AND SELF-  
SCHEDULING OF LARGE BASELOAD GENERATION FACILITIES  
DOCKET NO. E999/CI-19-704

Dear Mr. Seuffert:

Northern States Power Company, doing business as Xcel Energy, submits to the Minnesota Public Utilities Commission's this Reply to the May 2, 2022 Comments of the Department of Comments – Division of Energy Resources and Fresh Energy in the above-noted docket.

Pursuant to Minn. Stat. § 216.17, subd. 3, we have electronically filed this document, and served copies on the parties on the attached service list.

Please contact Rebecca Eilers at [rebecca.d.eilers@xcelenergy.com](mailto:rebecca.d.eilers@xcelenergy.com) or 612-330-5570 or me at [christopher.j.shaw@xcelenergy.com](mailto:christopher.j.shaw@xcelenergy.com) or 612- 330-7974 if you have any questions regarding this filing.

SINCERELY,

/s/

CHRISTOPHER SHAW  
MANAGER, REGULATORY POLICY

Enclosures  
c: Service List

STATE OF MINNESOTA  
BEFORE THE  
MINNESOTA PUBLIC UTILITIES COMMISSION

Katie J. Sieben	Chair
Joseph K. Sullivan	Vice-Chair
Valerie Means	Commissioner
Matthew Schuerger	Commissioner
John A. Tuma	Commissioner

IN THE MATTER OF AN INVESTIGATION  
INTO SELF-COMMITMENT AND SELF-  
SCHEDULING OF LARGE BASELOAD  
GENERATION FACILITIES

DOCKET NO. E999/CI-19-704

**REPLY COMMENTS**

**INTRODUCTION**

Northern States Power Company, doing business as Xcel Energy, submits to the Minnesota Public Utilities Commission's this Reply to the May 2, 2022 Comments of the Department of Commerce – Division of Energy Resources (Department) and Fresh Energy in the above-noted docket.

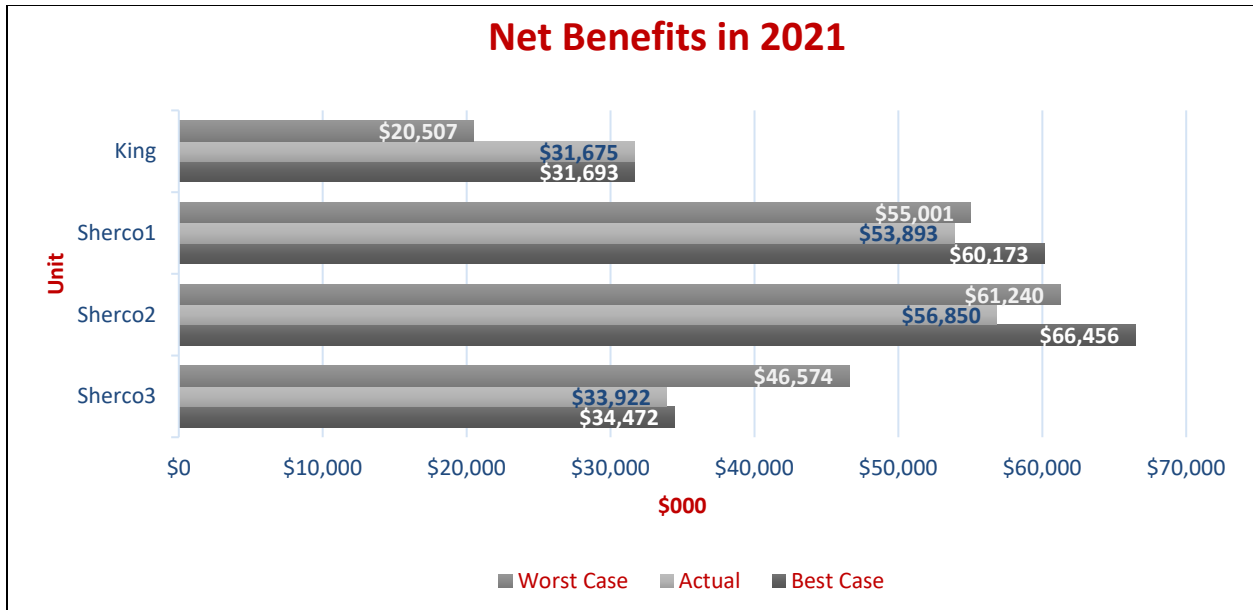
The Company appreciates parties' thorough review of our annual report on the self-commitment and self-scheduling of large baseload generation facilities for the calendar year 2021 reporting period. We respond to several requests and recommendations made by parties below.

**REPLY COMMENTS**

**A. Best Case/Worst Case Scenarios**

The Department recommended the utilities provide in Reply plant-specific graphs similar to Figure 30 of their Comments to allow an easier comparison of the best case/worst case scenario results. We provide the graphs in the requested format as Attachment A. However, Figure 1 below provides the same data in a format that we believe is more user-friendly. We propose to use the Figure 1 data format if the Department would like to see a similar visual representation of this information in future reports.

**Figure 1: 2021 Best Case-Actual-Worst Case Benefits Comparisons by Unit**



We note that for several units the worst case net benefits exceed the actual net benefits experienced.<sup>1</sup> This result illustrates the difficulty in comparing modeled scenarios to actual results. The best and worst case analyses were performed using PLEXOS runs in which operational parameters are utilized and actual constraints are included. The model optimizes against the historical LMPs at the commercial pricing node of each unit and assumes that LMP is unaffected by unit commit. The actual results are dependent on the actual availability, dispatch, and pricing in the entire MISO market. There will be multiple variables driving the differences between actual results and modeled scenarios. The scenario results may also represent limitations with MISO’s optimization model when making decisions to commit these units over just a 24-hour period (i.e. MISO’s lack of a multiday unit commit model). As a result, the comparison of modeled scenarios to actual results is not a perfect apples-to-apples comparison.

**B. Sherco Offer Strategy**

The Department requested the Company explain in Reply Comments how we weigh the lost margin with the environmental benefits of lower emissions in light of the loss of \$4 million in margins, but reduction in CO2 emissions of 1.9 billion pounds at

<sup>1</sup> In our initial report, we noted that the worst-cast scenario for Sherco 3 showed higher net benefits than the best-case scenario. As a result of the 24-hour MISO commitment construct, the economic commitment scenario produced periods of time where the unit was not committed although it would be economic to do so.

Sherco 3 as a result of economic dispatch compared to self-commitment. We note that carbon costs or other externality costs are not included in offers to the MISO market. MISO will dispatch units based on its Security Constrained Economic Dispatch (SCED) which minimizes production and operating reserve costs subject to reliability constraints. The environmental benefits associated with lower emissions are directly considered in our resource planning process, including decisions to retire units, but are not currently directly considered in our offers to MISO. However, our analysis of our proposal to operate Sherco 2 and King on a seasonal basis included an analysis of the impact on emissions.<sup>2</sup> In order to appropriately consider carbon costs or other externality costs on an hourly dispatch basis, it would be necessary for MISO to include those costs in its SCED for all generators. As noted in our initial filing, there were long periods when MISO did not commit the unit and market prices exceeded the unit's operating costs. This may be due to the current 24-hour MISO commitment process. The Company continues to advocate with MISO the need for multiday unit commit especially as more market participants are economically cycling long-lead time units.

We also clarify that Sherco 2 was operated as must-run during March and April 2021 due to an outage at Sherco 1. As we have discussed in previous filings, we intend to offer Sherco 1 as a must-run unit until we can rely on the two new auxiliary boilers to provide a reliable source of steam for unit cold startup for the existing power plant and building heating. We are also using this unit to supply steam to Liberty Paper Inc. In March and April 2021 we relied on Sherco 2 to provide the needed auxiliary source of steam at the Sherco site while Sherco 1 was in an outage.

In addition, Fresh Energy requested the Company discuss whether there are additional options for reducing start-up costs or modifying the offer strategy at Sherco 3 to better manage the limitations of the current 24-hour commitment and dispatch process. Our joint operating agreement with the Southern Minnesota Municipal Power Agency (SMMPA) informs all offer strategy decisions made at Sherco 3. As discussed in our last report in this docket, both Xcel Energy and SMMPA recognize that there are opportunities to offer Sherco 3 economically to MISO; therefore, parties signed a Sherco 3 MISO Coordination Agreement, effective March 1, 2021, to combine each company's share of the plant into a single asset to be offered to MISO to allow this greater flexibility. Xcel Energy is now the Market Participant for the total Sherco 3 unit in the MISO market, managing its registration, offer, metering, and settlements. The agreement coordinates the exchange of participants' costs and fuel requirements in order to effectively manage unit parameters into a single offer package; however, this agreement does not give Xcel

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<sup>2</sup> See Docket No. E002/M-19-809.

Energy sole decision making authority in relation to dispatch of the unit. The Company regularly discusses with SMMPA how to best manage the unit, and we will continue to do so in the future to determine if there are preferable ways to manage the dispatch process.

### **C. Wind Curtailment**

The Department requested the Company explain in Reply the reasons behind the large increase in curtailment compared to 2020 both for Company owned and contracted wind facilities, and the contribution of must run status of its coal and nuclear power plants towards that curtailment. The increased curtailment was the result of a number of different aspects of system operations, but a common factor is that the transmission system in the Upper Midwest has become oversubscribed and cannot support all the wind generation that has recently gone into service. Factors impacting 2021 curtailment were wind generation going into service prior to the completion of transmission upgrades required for the generation to interconnect along with a number of significant transmission outages. In other words, there was more wind generation installed in the western subregion of MISO than could be delivered to meet customer demand throughout the MISO footprint.

Evidence suggests that curtailment experienced in 2021 is primarily due to a lack of deliverability of wind, not due to the dispatch offer of our coal or nuclear units. Must run status of the coal and nuclear units has little to no impact on the current levels or causes of wind curtailment the Company is experiencing. In other words, wind generation and transmission limitations are causing the curtailment of other wind resources. In looking at Column Q of Attachments A and B of our initial report, one will observe that the day ahead LMP for hours when these units were offered as must run all had a positive LMP; given the no cost or negative offer cost of wind, we would expect to see negative LMPs if the must run status was a significant factor contributing to curtailment. We further note that we always dispatch our plants as economically as possible.

As part of moving towards a carbon-free generation fleet by 2050, we are working on increasing our operational flexibility so that we can ramp down our plants during periods of high transmission congestion and low prices, such as times when abundant renewable resources are available on our system. We have demonstrated our nuclear units' ability to participate in the MISO Day Ahead market by flexing a number of times in 2020 through the present. This helps with the Company's efforts to integrate its continuing renewable additions. Currently, we have moved beyond the pilot stage, with all three nuclear units in the market.

As noted in previous filings, the Company continuously seeks to improve operational flexibility for its generating units and as part of this effort we were able to reduce the minimum required loading at Sherco 1 and Sherco 2 from 260 MW to 215 MW. This increased “turndown capability” provides additional flexibility to accommodate additional renewables generation, decrease carbon emissions, and reduce production costs.

#### **D. Recommended Future Annual Report Requirements**

The Department recommended several new reporting requirements for future annual reports in this docket. In general, the Company does not object to these reporting requirements; however, we note that some of this data is being reported already in other dockets, and we believe that it is more efficient and less likely to cause confusion if such reporting is not duplicated in multiple dockets. The Company provides more specific detail regarding the suggested future reporting items as follows:

- *Additional carbon dioxide emissions analysis* – The Company is able to provide this data and Department-recommended calculation in future reports.
- *When economic commitment led to lost revenue* – The Company provided a discussion regarding Sherco 3 in our initial report. We would anticipate if we observe another such situation, we would note this in future reports.
- *Five years of monthly EFOR reporting standardization* – The Company provides five years of annualized EFOR data for each unit as Part G, Workpaper 10 in our annual fuel forecast petitions filed on May 1, most recently in Docket No. E002/AA-22-179. While we provided monthly data for 2021 in the self-commitment report this year, we believe that the annualized data already being provided is more meaningful.
- *Hot/warm start reporting standardization* – All utilities already provide this data in a standardized format in the hourly data reporting template (Column AH of the Company’s initial report Attachment A).
- *Monthly energy produced and wind curtailment in MWh* – The Company provides energy production and curtailment data for purchased wind energy in Part C, Attachment 2 of our annual fuel forecast true-up petitions filed on March 1, most recently in Docket No. E002/AA-20-417. In our response to Department Information Request No. 16 in Docket No. E002/AA-20-417, we also committed to providing curtailment data for Company-owned wind facilities in future fuel forecast true-up petitions.
- *Explore different mix of commitment status and compare what would be optimal for Sherco 3* – As discussed above in these Reply Comments, our dispatch options for

Sherco 3 must be informed by the joint operating agreement with SMMPA and therefore alternatives to the current mix of commitment status are limited.

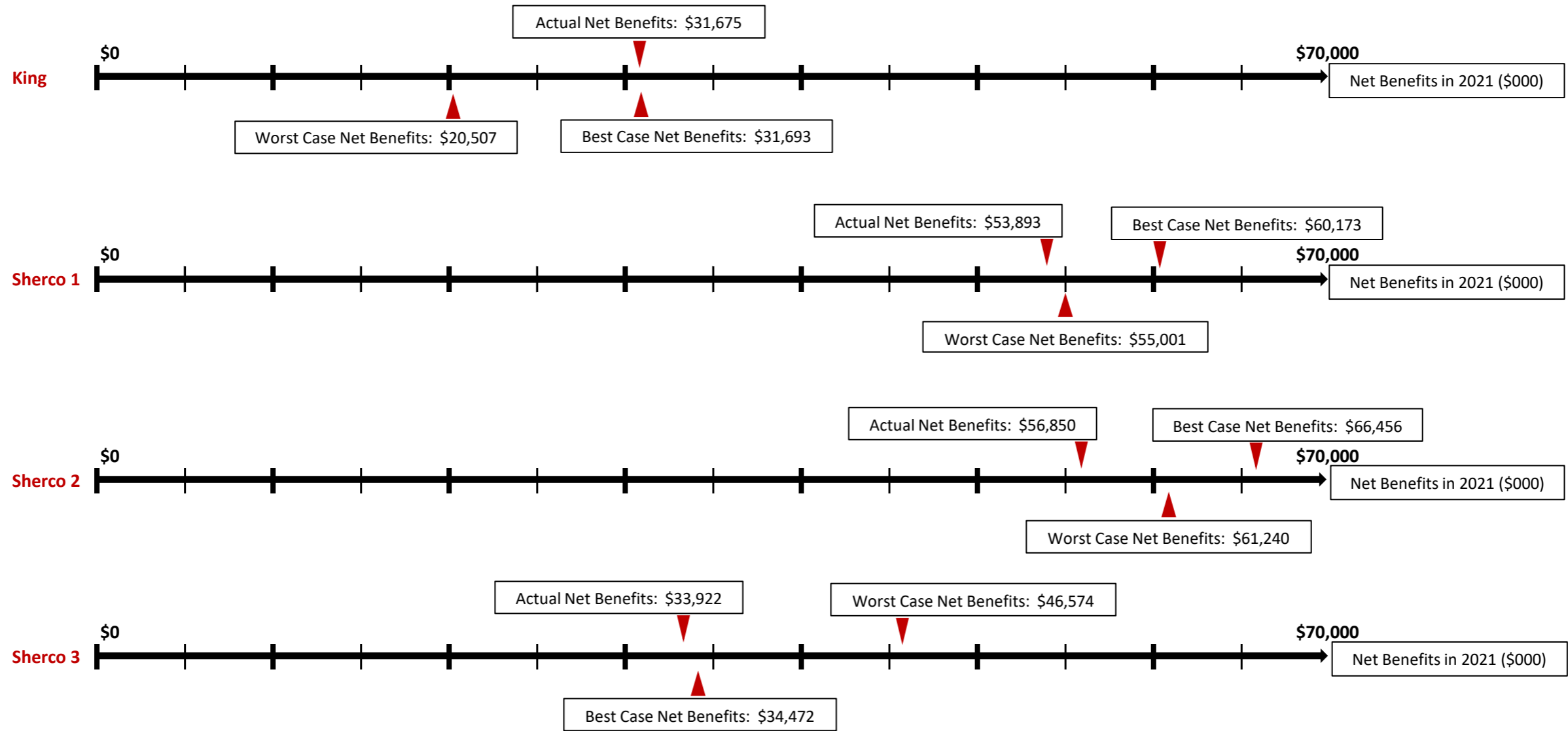
### **CONCLUSION**

Xcel Energy appreciates the opportunity to provide this Reply to Parties' Comments in this docket. We respectfully request that the Commission accept this filing in compliance with the Commission's Orders in Docket Nos. E999/AA-18-373 and E999/CI-19-704.

Dated: June 1, 2022

Northern States Power Company

### Net Benefits in 2021





## CERTIFICATE OF SERVICE

I, Christine Schwartz, hereby certify that I have this day served copies of the foregoing document on the attached list of persons.

xx by depositing a true and correct copy thereof, properly enveloped with postage paid in the United States mail at Minneapolis, Minnesota

xx electronic filing

**DOCKET No. E999/CI-19-704**

Dated this 1st day of June 2022

/s/

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Christine Schwartz  
Regulatory Administrator

First Name	Last Name	Email	Company Name	Address	Delivery Method	View Trade Secret	Service List Name
Alison C	Archer	aarcher@misoenergy.org	MISO	2985 Ames Crossing Rd  Eagan, MN 55121	Electronic Service	No	OFF_SL_19-704_Official
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_19-704_Official
Brooke	Cooper	bcooper@allete.com	Minnesota Power	30 W Superior St  Duluth, MN 558022191	Electronic Service	No	OFF_SL_19-704_Official
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_19-704_Official
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_19-704_Official
Allen	Gleckner	gleckner@fresh-energy.org	Fresh Energy	408 St. Peter Street Ste 350 Saint Paul, Minnesota 55102	Electronic Service	Yes	OFF_SL_19-704_Official
Kim	Havey	kim.havey@minneapolismn.gov	City of Minneapolis	350 South 5th Street, Suite 315M Minneapolis, MN 55415	Electronic Service	No	OFF_SL_19-704_Official
Adam	Heinen	aheinen@dakotaelectric.com	Dakota Electric Association	4300 220th St W  Farmington, MN 55024	Electronic Service	No	OFF_SL_19-704_Official
Kristin	Henry	kristin.henry@sierraclub.org	Sierra Club	2101 Webster St Ste 1300  Oakland, CA 94612	Electronic Service	No	OFF_SL_19-704_Official
Holly	Lahd	holly.lahd@target.com	Target Corporation	33 South 6th St CC-28662 Minneapolis, MN 55402	Electronic Service	No	OFF_SL_19-704_Official

First Name	Last Name	Email	Company Name	Address	Delivery Method	View Trade Secret	Service List Name
Leann	Oehlerking Boes	lboes@mnpower.com	Minnesota Power	30 W Superior St  Duluth, MN 55802	Electronic Service	No	OFF_SL_19-704_Official
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_19-704_Official
Isabel	Ricker	ricker@fresh-energy.org	Fresh Energy	408 Saint Peter Street Suite 220 Saint Paul, MN 55102	Electronic Service	Yes	OFF_SL_19-704_Official
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_19-704_Official
Shane	Stennes	stennes@umn.edu	University of Minnesota	319 15th Avenue SE  Minneapolis, MN 55455	Electronic Service	No	OFF_SL_19-704_Official
Lynnette	Sweet	Regulatory.records@xcelenergy.com	Xcel Energy	414 Nicollet Mall FL 7  Minneapolis, MN 554011993	Electronic Service	No	OFF_SL_19-704_Official
Stuart	Tommerdahl	stommerdahl@otpc.com	Otter Tail Power Company	215 S Cascade St PO Box 496 Fergus Falls, MN 56537	Electronic Service	No	OFF_SL_19-704_Official
Brian	Tulloh	btulloh@misoenergy.org	MISO	2985 Ames Crossing Rd  Eagan, MN 55121-2498	Electronic Service	No	OFF_SL_19-704_Official
Laurie	Williams	laurie.williams@sierraclub.org	Sierra Club	Environmental Law Program 1536 Wynkoop St Ste 200 Denver, CO 80202	Electronic Service	No	OFF_SL_19-704_Official