SIERRA CLUB

July 23, 2020

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

VIA E-FILING

Re: In the Matter of an Investigation into Self-Commitment and Self-Scheduling of Large Baseload Generation Facilities
Docket No. E999/CI-19-704
Sierra Club Public Version of Surreply Comments: Minnesota Power 2020 Annual Compliance Filing

Dear Mr. Seuffert:

Sierra Club respectfully submits its Surreply Comments on Minnesota Power's 2020 Annual Compliance Filing in Docket No. E999/CI-19-704.

Please contact me at (303) 454-3358 or lauriewilliams@sierraclub.org if you have any questions regarding this filing.

Sincerely,
/s/ Laurie Williams
Staff Attorney
Sierra Club
1536 Wynkoop St. Suite #200
Denver, CO 80202

STATE OF MINNESOTA
BEFORE THE PUBLIC UTILITIES COMMISSION

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

In the Matter of an Investigation Into	)	
Self-Commitment and	)	Docket No. E-999/CI-19-704
Self-Scheduling of Large Baseload	)	
Generation Facilities	)	

SIERRA CLUB SURREPLY COMMENTS
IN RESPONSE TO MINNESOTA POWER'S 2020 COMPLIANCE FILING

Developed with the Assistance of Synapse Energy Economics, Inc., Jamie Hall (lead)
485 Massachusetts Ave., Suite 3
Cambridge, Massachusetts, 02139

PUBLIC DOCUMENT – TRADE SECRET [or PRIVELEGED] DATA HAS BEEN ESCISED

July 23, 2020

I. Introduction

On July 8, 2020, Minnesota Power filed reply comments in *In the Matter of an Investigation into Self-Commitment and Self-Scheduling of Large Baseload Generation Facilities,* Docket No. E999/CI-19-704. Minnesota Power's reply comments do not respond to the substance of our key arguments or to the underlying analysis we presented in our Initial Comments. Nothing in Minnesota Power's reply comments changes our conclusion that Minnesota Power did not analyze potential options for seasonal dispatch, nor did it analyze potential "options and strategies for utilizing 'economic' commitments" at its coal plants, as required by the Commission's *Order Accepting 2017-2018 Electric Reports and Setting Additional Requirements, In the Matter of the Review of the 2017-2018 Annual Automatic Adjustment Report for All Electric Utilities,* Docket No. E-999/AA-18-373, Nov. 13, 2019. Instead, the company continues to assert that it will provide the analyses in a future docket.

Our analysis found that Minnesota Power regularly self-commits Boswell units 3 and 4, resulting in excess costs to customers. In fact, we found that MP operated the Boswell units uneconomically for close to or over half of all operational hours in 2017 and 2019, and nearly a third of operations hours in 2018. We concluded that moving the Boswell units to economic commitment would benefit customers.

As a result, we continue to recommend that the Commission:

1) require Minnesota Power to maintain standardized records sufficient to demonstrate they have used daily and weekly forward-looking analyses to inform dispatch decisions;

2) signal that the Commission will, in the next true-up proceeding, disallow recovery of fuel costs for times when coal plants were operated uneconomically in a manner that is not justified by such forward-looking analyses or other justified operational needs. This does not mean to say that the forward-looking analyses must always match the commitment decision. Rather, the Company should keep records sufficient to explain its decision-making process for periods in which both of the following conditions are true: (1) the Company's operations deviate from the actions that the forward-looking analysis suggested it should take, and (2) the Company incurs net operational losses over a period of time greater than the units' cool-down time to warm plus warm startup time; and

3) require Minnesota Power to identify any proposed new coal contracts to the Commission, and to submit them for prudence review in fuel clause adjustment proceedings, before signing any such contracts.

II. RESPONSE TO COMMISSION'S JUNE 10TH NOTICE

In its June 10th Notice providing for reply and response comment periods in this docket, the Commission also requested that parties respond to several questions.

Are the March 1, 2020 filings by the utilities adequate?

No, as discussed in our Initial Comments, Minnesota Power's filings do not adequately demonstrate that its commitment and dispatch practices are minimizing costs and maximizing customer benefits.

What conclusions can be drawn from the data filed by the utilities on March 1, 2020 in conjunction with what has been learned earlier in this investigation?

From our analysis of Minnesota Power's March 1 filing, we conclude as follows (as presented in our Initial Comments):

- In its filing, Minnesota Power did not analyze the costs and benefits of moving Boswell 3 and 4 to economic commitment, nor did it analyze the potential to move the units to seasonal operation.

- During the reporting period, Minnesota Power frequently uneconomically self-committed Boswell Units 3 and 4. Minnesota Power self-commits the Boswell units up to each unit's minimum operating level 100 percent of the time that the units are not in outage, regardless of economics.

- Minnesota Power's reliance on self-commitment without the use of forward-looking analysis has resulted in many instances of avoidable, sustained losses. Minnesota Power's failure to conduct forward-looking analyses to inform unit commitment decisions has resulted in [**TRADE SECRET DATA BEGINS**…**TRADE SECRET DATA ENDS**] periods of consecutive hourly losses at Boswell Units 3 and 4 from 2017 to 2019, with losses totaling [**TRADE SECRET DATA BEGINS** …**TRADE SECRET DATA ENDS**]. Moreover, the units operated uneconomically for close to or over half of all operational hours in 2017 and 2019 and nearly a third of operational hours in 2018. Initial Comments at 4.

- Minnesota Power's claim that the Boswell units provided a net benefit to its customers during the 18-month reporting period (July 2018 through December 2019) is based on an incomplete accounting of short-run marginal costs by omitting variable predictive maintenance. If those costs were included in Minnesota Power's variable O&M costs, the percentage of hours in which Minnesota Power found that Boswell Units 3 and 4 operated uneconomically would be greater.

- Minnesota Power could generate over **[TRADE SECRET DATA BEGINS**…**TRADE SECRET DATA ENDS]** in additional revenue for its customers by decreasing the minimum operating level of its units. Our analysis finds that by reducing the minimum operating level of each unit by half, Minnesota Power could have increased net revenues for its customers by [**TRADE SECRET DATA BEGINS** …**TRADE SECRET DATA ENDS**] from 2017 through 2019. Initial Comments at 4.

- Minnesota Power has not demonstrated that Boswell Units 3 and 4 represent the lowest cost option for meeting its resource adequacy requirements, or for obtaining its reliability and ancillary services. Minnesota Power has conducted neither a robust technical nor economic analysis exploring the costs and benefits of meeting its resource adequacy requirements through other means. Furthermore, Minnesota Power has not demonstrated that the uneconomic operation of Boswell Units 3 and 4 is justified by the need for reliability and ancillary services from those units. It may be possible for Minnesota Power to obtain needed reliability and ancillary services through less costly means.

How should the Commission use the information provided by the utilities in this docket going forward?

We recommend that the Commission take the following actions in response to Minnesota Power's filing:

- The Commission should find Minnesota Power did not comply with its November 13, 2019 Order.

- In the absence of a multi-day commitment market at MISO, the Commission should require Minnesota Power to establish a clear and auditable mechanism of determining whether its commitment decisions are in the best interests of ratepayers, or else require Minnesota Power to use MISO's economic commitment status for both Boswell 3 and Boswell 4. Our analysis indicates that Boswell 3 and 4 should be moved to economic commitment status. As discussed further in section III.B, below, Commission should require Minnesota Power to track and maintain for review daily and weekly forward-looking evaluations of unit commitment strategies. Minnesota Power should be required to utilize day-ahead locational marginal price (LMP) forecasts, unit operational costs, and unit start-up and shut-down costs to determine on at least a day-ahead basis, taking the full 24-hour period of expected revenues into account, whether to designate a unit as economic or must-run, or to take it offline. Minnesota Power should be required to retain this analysis to allow the Commission to evaluate whether a unit's commitment decision maximizes its economic value to Minnesota Power's customers.

- The Commission should indicate that in Minnesota Power's next Fuel Clause Adjustment True-Up proceeding, it will disallow Minnesota Power's recovery from ratepayers any fuel and variable operations and maintenance (O&M) costs incurred as a result of Minnesota Power's uneconomic dispatch of Boswell 3 and 4, where not supported by the forward-looking analyses described above or otherwise justified. The reasonableness of unit commitment practices should be evaluated based on an analysis that incorporates predictive maintenance costs—and any other excluded costs that scale with and are impacted by plant operations—into the variable costs that Minnesota Power uses to make its unit commitment decisions.

- The Commission should require Minnesota Power to evaluate, in its upcoming IRP, whether there are lower cost alternatives for meeting its resource adequacy requirements, and for obtaining reliability and ancillary services. Alternatives include, but are not limited to, the construction of new generation facilities, bi-lateral capacity purchases, and the purchase of capacity through the MISO capacity auction.

- In its next IRP, Minnesota Power should also be required to analyze whether reducing the minimum operating levels at Boswell Units 3 and 4 would benefit customers.

- The Commission should require utilities to identify any proposed new coal contracts in Fuel Clause Adjustment proceedings, and to submit them for prudence review those proceedings, before signing any such contracts. It should also signal that it will not allow utilities to recover from ratepayers future costs associated with new coal contracts that include fixed cost terms of service, or take or pay or liquidated damages provisions. The Commission should also indicate that any fuel contracts that contractually prohibit disclosure of the contracts' terms without Commission order is per se counter to the public interest.

Should the Commission require the utilities to evaluate any specific facilities for economic commitment?

It is our understanding that Minnesota Power was required to evaluate Boswell 3 & 4 for economic commitment in this proceeding.

Should the Commission establish enforcement procedures for this issue?

Yes; see recommendations above.

Are there other issues or concerns related to this matter?

We provide a response to Minnesota Power's reply comments, below.

III. Response to Minnesota Power Reply Comments

A. Periods of avoidable losses

In our Initial Comments, we found that Minnesota Power's reliance on self-commitment without the use of forward-looking analysis resulted in many instances of avoidable, sustained losses. We found that Minnesota Power's unit commitment behavior resulted in [**TRADE SECRET DATA BEGINS**…**TRADE SECRET DATA ENDS**] periods of consecutive hourly losses at Boswell Units 3 and 4 from 2017 to 2019, with losses totaling [**TRADE SECRET DATA BEGINS**…**TRADE SECRET DATA ENDS**]. We further found that MN Power operated the Boswell units uneconomically for close to or over half of all operational hours in 2017 and 2019 and nearly a third of operational hours in 2018. Initial Comments at 4.

In its Reply Comments, Minnesota Power responded that it "recognizes there are short periods of time when the analysis does show a cost to customers but most of the costs incurred were during periods of 12 consecutive hours or less," when cycling the Boswell units off and on would be difficult. MP Reply at 2. MP further stated: "As agreed upon by the Department, the net costs incurred during these short time periods can't be avoided due to the operating characteristics of Boswell units 3 &4." *Id.*

This response ignores the dozens of instances of sustained losses longer than 12 hours that Minnesota Power could have avoided with prudent operational decisions. While losses incurred over periods of 12 consecutive hours or less may sometimes be unavoidable, Minnesota Power did not provide the Commission with an explanation for the dozens of instances of sustained losses over **[TRADE SECRET DATA BEGINS**…**TRADE SECRET DATA ENDS**]. Our analysis found that between 2017 and 2019:

- There were **[TRADE SECRET DATA BEGINS**…**TRADE SECRET DATA ENDS]** instances in which Boswell Unit 3 incurred hourly losses for more than [**TRADE SECRET DATA BEGINS**…**TRADE SECRET DATA ENDS**] consecutive hours with total losses exceeding incremental fuel costs for startup, with total net operational losses exceeding [**TRADE SECRET DATA BEGINS**…**TRADE SECRET DATA ENDS**]. Initial Comments at 13-14.

- There were [**TRADE SECRET DATA BEGINS**…**TRADE SECRET DATA ENDS**] instances in which Boswell Unit 4 incurred hourly losses for more than [**TRADE SECRET DATA BEGINS**…**TRADE SECRET DATA ENDS**] consecutive hours with total losses exceeding incremental fuel costs for startup, with total net operational losses exceeding [**TRADE SECRET DATA BEGINS**…**TRADE SECRET DATA ENDS**]. *Id* at 14.

Minnesota Power does not account for its failure to avoid these longer periods of losses.

B. Forward-Looking Analyses

In our Initial Comments, we discussed the inconsistency between Minnesota Power's assertion in its initial filing that it uses forward-looking analyses to ensure that it is maximizing customer benefits from its coal fleet, and the Company's responses to our information requests that suggests that the Company in fact does not perform forward-looking dispatch and commitment analysis–at least, not with the regularity that is required in order to prudently inform dispatch decisions.

In its Compliance Filing, Minnesota Power stated that "[t]he Company evaluates its energy market strategy and market performance for its generation portfolio on a regular basis to ensure the assets are providing value to customers within the MISO market construct. If the Company receives a signal that the current market strategy is no longer providing value to customers, then the strategy is reevaluated."[1]

In response to our request asking Minnesota Power to explain how regularly the company evaluates its market strategy, the Company responded that it evaluates its market strategy on an "annual and seasonal basis."[2] In response to our request that the utility provide all of the company's evaluations and analyses performed to "evaluate its energy market strategy" for the last 5 years, the Company objected "as this information request seeks a study or studies that are outside the scope of this docket."[3] Sierra Club also asked the Company whether it performs economic analyses to inform its unit commitment decisions for its coal units, and if so, to provide those analyses. Minnesota Power objected again, adding its standard response in this proceeding that:

> Minnesota Power has initiated an investigation into the alternative for economic dispatch to determine the potential operating conditions that exist at each Boswell unit. At this time, it is too early in the investigative phase to report on conditions and potential solutions with any certainty. Minnesota Power will continue to consider this topic in its Integrated Resource Plan which will be filed on October 1, 2020, and next year's Self-Commitment filing.[4]

Minnesota Power asserts in its Reply Comments that "Minnesota Power does monitor and conduct forward-looking market analysis to understand current market conditions and evaluate its energy market strategy. Factors that are considered in our forward-looking analysis include

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[1] Compliance Filing at 3.
[2] *Id.*
[3] *Id.*
[4] Minnesota Power Response to Sierra Club IR 15 (attached to Sierra Club Initial Comments).

forecasted locational marginal prices ("LMP"), fuel costs, forecasted load, expected renewable production, and forced and planned outages." MP Reply at 2.

Sierra Club provided Minnesota Power several opportunities to substantiate this assertion in the record; the Company declined to do so. As noted in our Initial Comments, the utility, not intervenors, bears the burden of proof to demonstrate that it operates its generating fleet in a manner that minimizes fuel costs. The utility has not done so in this docket.

We therefore adhere to our recommendation from our Initial Comments that in the absence of a multi-day commitment market at MISO, the Commission should require Minnesota Power to establish a clear and auditable mechanism of determining whether its commitment decisions are in the best interests of ratepayers, or else require Minnesota Power to use MISO's economic commitment status for both Boswell 3 and Boswell 4. The Commission should require Minnesota Power to track and maintain for review regular forward-looking evaluations of unit commitment strategies. Minnesota Power should be required to utilize day-ahead locational marginal price (LMP) forecasts, unit operational costs, and unit start-up and shut-down costs to determine on at least a day-ahead basis, taking the full 24-hour period of expected revenues into account, whether to designate a unit as economic or must-run, or to take it offline. To the extent that Minnesota Power is currently conducting such assessments on an "annual or seasonal basis," this is insufficient.

Nor should the utility wait for MISO to develop a multi-day dispatch process. The utility can and should conduct its own forward-looking analyses at a minimum on a daily and weekly basis (daily, based on the timing of the day ahead market, but also multi-day, to take into account start-up and shut-down costs that are included in commitment decisions). Minnesota Power should be required to retain this analysis to allow the Commission to evaluate whether a unit's commitment decision maximizes its economic value to Minnesota Power's customers.

C. Reliability and ancillary services from Boswell

Minnesota Power states in its Reply Comments that "Boswell Units 3 & 4 are the backbone of Minnesota Power's power supply" and that there is therefore "a need to understand the reliability of the transmission system infrastructure and the Integrated Resource Plan is a better platform to conduct that analysis and make those resource operating decisions." MP Reply at 3.

In our Initial Comments, we stated that:

> Minnesota Power has not demonstrated that Boswell Units 3 and 4 represent the lowest cost option for meeting its resource adequacy requirements, or for obtaining its reliability and ancillary services. Minnesota Power has conducted neither a robust technical nor economic analysis exploring the costs and benefits of meeting its resource adequacy

> requirements through other means. Furthermore, Minnesota Power has not demonstrated that the uneconomic operation of Boswell Units 3 and 4 is justified by the need for reliability and ancillary services from those units. It may be possible for Minnesota Power to obtain needed reliability and ancillary services through less costly means.

Initial Comments at 4-5.

We recommended:

> The Commission should require Minnesota Power to evaluate, in its upcoming IRP, whether there are lower cost alternatives for meeting its resource adequacy requirements, and for obtaining reliability and ancillary services. Alternatives include, but are not limited to, the construction of new generation facilities, bi-lateral capacity purchases, and the purchase of capacity through the MISO capacity auction.

Id. at 29.

It appears that Minnesota Power does not disagree with our recommendation.

D. Explanation of uneconomic dispatch

In its Reply Comments, Minnesota Power provides two explanations for why it appears to be frequently dispatching the Boswell units uneconomically above stated minimum levels. Neither is adequate. We recommend that the Commission require the utilities to provide, for at least a sample of days, a clear explanation and accompanying analysis for hours of uneconomic dispatch above the minimum.

The first reason MP offers is that "MISO clears ancillary products (spinning reserves, supplemental reserves, and regulation) when needed, which makes the clearing appear uneconomic. During the period of July 1, 2018 through December 31, 2019, the Boswell facility received $1.0 million in revenue for providing ancillary products." MP Reply at 3.

However, we noted in our Initial Comments that operational losses over that same period were greater than $1 million. Initial Comments at 14. Minnesota Power has not justified the uneconomic operation of Boswell Units 3 and 4 on the basis of providing these ancillary services. It may be that the savings that Minnesota Power would have experienced by offering the Boswell units using economic commitment would have outweighed the $1 million in ancillary revenues these units received. It is also possible that Minnesota Power could obtain reliability services more cost-effectively through other means.

MP suggests that "The other reason for the appearance that MISO uneconomically dispatched a unit is due to the fact that an incremental offer curve is utilized which is based on an estimated cost of fuel. In the analysis Minnesota Power provided as Attachment 1 of the March 2, 2020 Compliance filing the unit fuel was based on actual fuel costs and not incremental fuel costs."

Minnesota Power could and should have provided data on estimated fuel costs. Sierra Club asked for the company's analysis of estimated costs.[5] It is unreasonable for Minnesota Power to now claim that the discrepancy in the data is a result of the delta between estimated and actual fuel costs. At minimum, the Company should have included this data in its Reply Comments and provided an analysis to support their assertion.

IV. Response to Department Reply Comments

The Department of Commerce recommends that Minnesota Power be required to "provided an analysis of the overall benefits and costs of alternatives, such as economic or seasonal dispatch, at Boswell unit 3 and Boswell unit 4 in the Company's next annual filing in this proceeding." DOC Reply at 7. Respectfully, it is our understanding that this is what Minnesota Power was already required to do in its March 2020 filing. We believe this recommendation is inadequate and fails to take into account the amount of resources it takes for intervenors to repeatedly engage in these proceedings.

V. Conclusion and Restatement of Recommendations

Nothing in the Reply Comments alters Sierra Club's recommendations, which for convenience are restated below:

- The Commission should find Minnesota Power did not comply with its November 13, 2019 Order.

- In the absence of a multi-day commitment market at MISO, the Commission should require Minnesota Power to establish a clear and auditable mechanism of determining whether its commitment decisions are in the best interests of ratepayers, or else require Minnesota Power to use MISO's economic commitment status for both Boswell 3 and Boswell 4. Our analysis indicates that Boswell 3 and 4 should be moved to economic commitment status. The Commission should require Minnesota Power to track and maintain for review daily and weekly forward-looking evaluations of unit commitment strategies. Minnesota Power should be required to utilize day-ahead locational marginal price (LMP) forecasts, unit operational costs, and unit start-up and shut-down costs to determine on at least a day-ahead basis, taking the full 24-hour period of expected revenues into account, whether to designate a unit as economic or must-run, or to take it offline. Minnesota Power should be required to retain this analysis to allow the

[5] MP Response to SC IR 15 (asking for economic analyses to inform its unit commitment decisions for its coal units conducted since 2017, which should have included estimated fuel costs; the Company objected as outside the scope, and also stated it was too early in its investigative process).

Commission to evaluate whether a unit's commitment decision maximizes its economic value to Minnesota Power's customers.

- The Commission should indicate that in Minnesota Power's next Fuel Clause Adjustment True-Up proceeding, it will disallow Minnesota Power's recovery from ratepayers any fuel and variable operations and maintenance (O&M) costs incurred as a result of Minnesota Power's uneconomic dispatch of Boswell 3 and 4, where not supported by the forward-looking analyses described above. The reasonableness of unit commitment practices should be evaluated based on an analysis that incorporates predictive maintenance costs—and any other excluded costs that scale with and are impacted by plant operations—into the variable costs that Minnesota Power uses to make its unit commitment decisions.

- The Commission should require Minnesota Power to evaluate, in its upcoming IRP, whether there are lower cost alternatives for meeting its resource adequacy requirements, and for obtaining reliability and ancillary services. Alternatives include, but are not limited to, the construction of new generation facilities, bi-lateral capacity purchases, and the purchase of capacity through the MISO capacity auction.

- In its next IRP, Minnesota Power should also be required to analyze whether reducing the minimum operating levels at Boswell Units 3 and 4 would benefit customers.

- The Commission should require utilities to identify any proposed new coal contracts in Fuel Clause Adjustment proceedings, and to submit them for prudence review those proceedings, before signing any such contracts. It should also signal that it will not allow utilities to recover from ratepayers future costs associated with new coal contracts that include fixed cost terms of service, or take or pay or liquidated damages provisions. The Commission should also indicate that any fuel contracts that contractually prohibit disclosure of the contracts' terms without Commission order is per se counter to the public interest.

Sierra Club respectfully requests the Commission adopt the recommendations above.

Dated: July 23, 2020

Respectfully submitted,

/s/ S. Laurie Williams
S. Laurie Williams
Staff Attorney
Sierra Club
1536 Wynkoop St., Suite #200

Denver, CO 80202
Laurie.williams@sierraclub.org
(303) 454-3358

CERTIFICATE OF SERVICE

I, S. Laurie Williams, hereby certify that I have this day, served or caused to be served copies of the following document on the attached list of persons by electronic filing or e-mail.

Sierra Club Surreply Comments: Minnesota Power 2020 Annual Compliance Filing

Docket No. E999/CI-19-704

Dated this 23rd day of July 2020

/s/ S. Laurie Williams
S. Laurie Williams

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Service List Member Information

Electronic Service Member(s)

Last Name	First Name	Email	Company Name	Delivery Method	View Trade Secret
Anderson	Christopher	canderson@allete.com	Minnesota Power	Electronic Service	No
Archer	Alison C	aarcher@misoenergy.org	MISO	Electronic Service	No
Commerce Attorneys	Generic Notice	commerce.attorneys@ag.state.mn.us	Office of the Attorney General-DOC	Electronic Service	Yes
Ferguson	Sharon	sharon.ferguson@state.mn.us	Department of Commerce	Electronic Service	No
Gerhardson	Bruce	bgerhardson@otpco.com	Otter Tail Power Company	Electronic Service	No
Gleckner	Allen	gleckner@fresh-energy.org	Fresh Energy	Electronic Service	No
Havey	Kim	kim.havey@minneapolismn.gov	City of Minneapolis	Electronic Service	No
Larson	Douglas	dlarson@dakotaelectric.com	Dakota Electric Association	Electronic Service	No
Oehlerking Boes	Leann	lboes@mnpower.com	Minnesota Power	Electronic Service	No
Olson	Randy	rolson@dakotaelectric.com	Dakota Electric Association	Electronic Service	No
Residential Utilities Division	Generic Notice	residential.utilities@ag.state.mn.us	Office of the Attorney General-RUD	Electronic Service	Yes
Ricker	Isabel	ricker@fresh-energy.org	Fresh Energy	Electronic Service	No
Seuffert	Will	Will.Seuffert@state.mn.us	Public Utilities Commission	Electronic Service	Yes
Sweet	Lynnette	Regulatory.records@xcelenergy.com	Xcel Energy	Electronic Service	No
Tommerdahl	Stuart	stommerdahl@otpco.com	Otter Tail Power Company	Electronic Service	No
Tulloh	Brian	btulloh@misoenergy.org	MISO	Electronic Service	No

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