



414 Nicollet Mall  
Minneapolis, MN 55401

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February 10, 2025

—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: INITIAL COMMENTS  
IN THE MATTER OF A FORMAL COMPLAINT AND PETITION FOR RELIEF BY  
SUNSHARE LLC AGAINST NORTHERN STATES POWER CO. D/B/A XCEL  
ENERGY REGARDING SETTLEMENT AGREEMENT  
DOCKET NO. E002/C-25-76

Dear Mr. Seuffert:

Northern States Power Company, doing business as Xcel Energy, submits these Initial Comments pursuant to the Commission's January 23, 2025 Amended Notice of Comment Period on SunShare LLC's Formal Complaint and Petition for Relief.

Part of these Comments and parts of Attachment B have been marked as "Non-Public" because this data is classified as trade secret pursuant to Minn. Stat. §13.37, subd. 1(b). This information derives independent economic value from not being generally known or readily ascertainable by others who could obtain a financial advantage from its use. The entirety of Attachment A is Not Public and also contains data classified as trade secret pursuant for similar reasons. Pursuant to Minn. R. 7829.0500, subp. 3, the Company provides the following description of the Attachment A:

1. **Nature of the Material:** The attachment contains the terms of a settlement agreement that by its terms is non-public.
2. **Authors:** The data was prepared by the Company and SunShare.
3. **Importance:** The attachment contains the non-public resolution of a dispute and treating such data as non-public is consistent with the public

- policy of encouraging settlements, and also provides project specific information that is non-public based on privacy policies of the Commission.
4. **Date the Information was Prepared:** The information was prepared in August 2024.

We have electronically filed this document with the Minnesota Public Utilities Commission, and copies have been served on the parties on the attached service list. Please contact Kristen Ruud at 612-216-7979 or [Kristen.S.Ruud@xcelenergy.com](mailto:Kristen.S.Ruud@xcelenergy.com) if you have any questions regarding this filing.

Sincerely,

/s/

JAMES R. DENNISTON  
ASSISTANT GENERAL COUNSEL

Enclosures  
cc: Service Lists

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STATE OF MINNESOTA  
BEFORE THE  
MINNESOTA PUBLIC UTILITIES COMMISSION

Katie J. Sieben  
Hwikwon Ham  
Audrey Partridge  
Joseph K. Sullivan  
John A. Tuma

Chair  
Commissioner  
Commissioner  
Commissioner  
Commissioner

IN THE MATTER OF A FORMAL  
COMPLAINT AND PETITION FOR  
RELIEF BY SUNSHARE LLC AGAINST  
NORTHERN STATES POWER CO. D/B/A  
XCEL ENERGY REGARDING  
SETTLEMENT AGREEMENT

DOCKET NO. E002/C-25-76

**INITIAL COMMENTS**

**INTRODUCTION**

Northern States Power Company, doing business as Xcel Energy, submits these Initial Comments to the Minnesota Public Utilities Commission (Commission) pursuant to the January 23, 2025 Amended Notice of Comment Period on SunShare LLC's Formal Complaint and Petition for Relief (Complaint).

The Notice specified these topics for comment:

- Does the Commission have jurisdiction over the subject matter of the Complaint?
- Are there reasonable grounds for the Commission to investigate these allegations?
- Is it in the public interest for the Commission to investigate these allegations upon its own motion?
- If the Commission chooses to investigate the Complaint, what procedures should be used to do so?
- Are there other issues or concerns related to this matter?

The Complaint claims that the Company has failed to make sufficient efforts or progress in implementing in good faith the Settlement Agreement<sup>1</sup> that resolved co-

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<sup>1</sup> The Settlement Agreement is included as Attachment A.

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location disputes for several SunShare projects. Specifically, SunShare argues that the Company has created “new criteria” for studying DER interconnection applications by forwarding six applications to the Midcontinent Independent System Operator (MISO) for screening for transmission study, while arguing that this type of screening has not been required for SunShare’s projects in the past. SunShare also alleges that at the time of entering into the Settlement Agreement (August 2024), it was unaware that the projects could require transmission studies and that the Company should have known that the projects would require MISO screening.

For clarification, it is our understanding that ten projects are subject to the Complaint with a focus on a subset of those projects that have been sent for MISO transmission review. As noted in the remainder of these Comments, six of the ten projects have been submitted for MISO review based on the MISO Distributed Energy Resources Affected System Study (DER AFS) Process and its transmission study requirements.

We believe there are no reasonable grounds or merit for the Complaint nor is it in the public interest for the Commission to investigate these allegations. Further, the Complaint requests inappropriate forms of relief that are not authorized by the Settlement Agreement referenced as the basis of the Complaint, are not recognized in the Minnesota Distributed Energy Resources Interconnection Process (MN DIP) and circumvent the application process for the Low- and Moderate-Income Accessible Community Solar Garden Program (LMI CSG Program) administered by the Department of Commerce (Department).

There are several reasons why it is not in the public interest for the Commission to investigate SunShare’s allegations. First, the Company has followed the terms of the Settlement Agreement, and the Complaint falls short in attempting to allege any violation of that agreement. As committed to in the Settlement Agreement, the Company has made good faith efforts to follow the MN DIP process and timelines for the System Impact Studies (SIS). We did not at any point promise or guarantee to issue Interconnection Agreements by a certain date to SunShare.

Second, the Company has followed the MN DIP and its timelines in processing and studying SunShare projects.<sup>2</sup> Furthermore, the MN DIP recognizes that MISO may need to study potential adverse transmission system impacts from DER projects and has specific provision to allow for transmission studies.<sup>3</sup> The Company is obligated to follow this MISO review process, including the technical criteria and timelines for

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<sup>2</sup> The Complaint does not allege the violation of any statute, tariff or any part of the MN DIP interconnection process. Neither does it point out or specify any MN DIP rule or timeline that was allegedly violated.

<sup>3</sup> See MN DIP 4.3.6 - 4.3.8

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DER AFS. The Company has been transparent and communicated regularly about the MISO transmission review process.<sup>4</sup> Regardless, the Complaint baselessly claims that the Company has “significantly modified its process” and applied “new criteria for transmission studies.”

Third, when the Settlement Agreement was negotiated and executed, none of the projects subject to the Complaint had yet entered the SIS phase. The Company had not yet performed any engineering analyses under the MN DIP process, and no engineering evaluation was conducted as part of the settlement negotiations. Accordingly, we did not know at the time of signing the Settlement Agreement whether the SunShare projects would trigger additional MISO screening. The distribution SIS fees, which are a pre-requisite for starting the study process, were paid by SunShare for these projects between September 27, 2024, and November 25, 2024. In addition, SunShare signed the Transmission SIS Agreement, which clearly states the process and next steps, including the requirement to pay the DER AFS study fee within 10 Business Days and that a project will be withdrawn if the payment for the DER AFS is not timely made.<sup>5</sup>

SunShare requests the Commission grant relief in the form of conditional Interconnection Agreements (IA) for the projects that SunShare has submitted to the Department as applications for the 2024 LMI CSG Program. If the 2024 program year capacity has been already allocated, SunShare requests that the Department hold capacity in its 2025 LMI CSG Program for these SunShare projects.

The Commission should not grant these inappropriate forms of relief. MN DIP does not recognize or provide for a “Conditional IA.” Similarly, the Settlement Agreement specifies the remedies that the Commission has available for enforcing the Settlement Agreement, and issuance of a Conditional IA is not listed among them. Additionally, a Conditional IA would circumvent the application process outlined in Minnesota Statute §216B.1641 that requires an executed IA (not a Conditional IA) before a project can be accepted to the LMI CSG Program. The Department has broad statutory authority to administer the LMI CSG Program and to determine whether capacity could be reserved in the 2025 LMI CSG Program. It is unclear to us whether SunShare is asking any Commission action on this issue.

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<sup>4</sup> This is discussed below. Also, see Attachment C for further details regarding communication and discussion with Developers, the contents of which have been filed in Docket Nos. E002/M-13-867 or E999/CI-16-521.

<sup>5</sup> See Attachment D for full Xcel Energy Transmission Study SIS Agreement, including PDF page 5 of that document.

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We discuss the reasons why there are neither reasonable grounds nor public interest to investigate the SunShare Complaint in more detail below. The Complaint has no merit and should be dismissed.

**COMMENTS**

**I. THE COMMISSION HAS JURISDICTION OVER THE SUBJECT MATTER**

The Commission has jurisdiction over the subject matter of the Complaint to the extent to which it relates to relief against the Company, consistent with Minn. Stat. §216B.09 (allowing the Commission to consider complaints with respect to services provided by utilities), consistent with Minn. Stat. § 216B.17 (upon a complaint the Commission may make such investigation as it may deem necessary or may dismiss a complaint if in its opinion a hearing is not in the public interest), and consistent with the Commission’s broad oversight of the interconnection process under Minn. Stat. §216B.1611. Formal Complaints are also subject to Minn. R. 7829.1700 - 1900 (providing in part, that the Commission shall dismiss a complaint if the Commission concludes that it lacks jurisdiction or if there is no reasonable basis to investigate the matter). The general nature of the Complaint relates to the SunShare interconnection applications submitted to the Company pursuant to the statewide interconnection process under the MN DIP as detailed in our Commission approved tariffs.

**II. THERE ARE NO “REASONABLE GROUNDS” OR “PUBLIC INTEREST” TO INVESTIGATE**

The Company believes the Commission should dismiss the Complaint because it has no reasonable grounds or merit, and it is not in the public interest for the Commission to investigate the allegations. As we describe below, we adhered to the terms of the Settlement Agreement, making good faith efforts consistent with the MN DIP process to move SunShare projects through engineering studies.

**A. The Company Followed the MN DIP and the Terms of the Settlement Agreement**

Interconnection applications for the ten projects subject to the Complaint were originally submitted to the Legacy CSG Program and received queue positions in December 2023. The projects were then identified as violating the co-location rules and disputed before the Commission. The Commission held a hearing on July 18,

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2024, when the matter was tabled as parties had agreed to seek a resolution<sup>6</sup>; a resolution that was subsequently reflected in the Settlement Agreement executed by parties. As shown in Attachment B, the SunShare projects at issue have moved forward in the MN DIP process.

The Complaint alleges that the Company has violated the following terms of the Settlement Agreement (Attachment A at pages 11-12):

**[PROTECTED DATA BEGINS**

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Consistent with the Settlement Agreement, the Company has followed the MN DIP process and timelines for studying the SunShare projects. Nowhere in the Complaint does SunShare point out or identify any specific MN DIP rule or timeline that we would have allegedly violated in processing its applications. However, the Complaint implies that the Company violated MN DIP by sending project applications to MISO for transmission review when a project application had met the MISO trigger for transmission review, but SunShare has not explained why this would violate MN DIP and has not pointed to which part of MN DIP this would violate. The Company did not promise or guarantee that Interconnection Agreements would be issued by a certain date. We committed to follow the MN DIP process, which includes provisions for studying adverse impacts on the transmission system and have done so.

The Company has been working with SunShare to move projects forward following the Commission's July 18, 2024 hearing. First, the parties worked diligently to find a reasonable compromise, resulting in the Settlement Agreement. Then, beginning in September 2024, our program team met with SunShare weekly to discuss project status to help move these projects forward consistent with the MN DIP process. At the time that the Settlement Agreement was entered into in August 2024, SunShare had not yet paid for any engineering study analysis. As shown in Attachment B, SIS fees for these projects were paid between September 27 and November 25, 2024, initiating the timeframe for conducting the SIS. The Company did its part to follow the MN DIP timelines to begin the study process, and SunShare has not claimed there were any delays in the Company's SIS process. Their claims are all related to the

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<sup>6</sup> See Minnesota Public Utilities Commission, Meeting Minutes for Thursday, July 18, 2024, filed on November 22, 2024. <https://www.edockets.state.mn.us/documents/%7BD09A5493-0000-C614-AF20-ACDEA54FC969%7D/download?contentSequence=0&rowIndex=14>

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MISO DER AFS transmission study.

Part of the inherent nature of the interconnection process is that until a project moves into the SIS phase, we do not know whether the project will require a Phase II SIS, MISO transmission study, Xcel Energy transmission study, or if parties will request a Cluster SIS. When the Settlement Agreement was negotiated and subsequently executed, the Company had not yet performed any engineering analyses, and no engineering evaluation was conducted as part of the settlement negotiations. Therefore, we did not know at that time whether the SunShare projects would trigger screening for a DER AFS transmission study. The following table provides a high-level description of where the ten SunShare projects at issue here are in the interconnection process.

**Table 1: Current Stage of SunShare Projects**

| <b>Current Stage</b>  | <b># of Projects</b> |
|---|----------------------|
| <b>Cluster SIS/Phase II Analysis</b>  | <b>4</b>             |
| <b>MISO Screening Q1 2025</b>   | <b>1</b>             |
| <b>MISO DER AFS Full Study (Sub-totals below)</b>   | <b>5</b>             |
| MISO AFS Q4 2024 – Paid and in analysis   | 1                    |
| MISO AFS Q4 2024 – MISO deposit not paid and therefore no longer are in MISO full study queue | 4                    |

Attachment B provides further details regarding the process and status for the projects.

For the six projects that met the MISO DER AFS trigger, the Company notified SunShare before sending them to MISO for screening. SunShare signed the MN DIP Transmission System Impact Study Agreements between October and December 2024, agreeing to move forward and pay the necessary fees to the Company for the MISO analysis.<sup>7</sup> The fees are payable after the MISO screening shows that a full study is needed.

**B. The Company Followed the MISO DER AFS Process**

Under MN DIP 4.3.6, in instances where the SIS shows potential for Transmission System adverse system impacts, Xcel Energy shall coordinate with the appropriate Transmission Provider (for the applications at hand, MISO) to have the necessary studies completed to determine if the DER causes any adverse transmission impacts. MISO's trigger for transmission review is where the aggregate DER exceeds the substation Peak Load by at least 1 MW as described by the Business Practice Manual

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<sup>7</sup> See Attachment D for full Xcel Energy Transmission Study SIS Agreement.



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015- Generation Interconnection.<sup>8</sup> Six of SunShare's project applications met the MISO trigger. Since these project applications met the MISO trigger, the Company was obligated to send them for MISO transmission study screening.

The Company knows which projects meet the MISO trigger only after it has begun the SIS study and information has begun to be assembled. This also aligns with MN DIP 4.3.6 that contemplates that this information would be determined during the SIS. When SunShare paid the first SIS fee for the projects at issue on September 27, 2024, the screening request window for MISO's Q3 2024 study cadence had already closed on September 2, 2024.

Six of SunShare's projects met the MISO trigger and SunShare signed the Xcel Energy Transmission Study SIS Agreements between October 1 and December 2, 2024. Per the MISO quarterly study cadence<sup>9</sup>, for the fourth quarter of 2024, the deadline to send qualifying projects to MISO was December 2, 2024. MISO accepted for review as part of the Fourth Quarter 2024 cadence five of the SunShare projects, as outlined in Attachment B. One project missed the Q4 deadline and will be included in the MISO First Quarter 2025 study cycle.<sup>10</sup>

All five of the SunShare projects that were sent to MISO in Q4 2024 met the full study requirements. SunShare was notified on December 17, 2024, after the MISO screening results were available, that payment was due within ten Business Days as outlined in the Xcel Energy Transmission Study SIS Agreement (included as Attachment D). The Agreement also clearly states that a timely payment is of the essence and that a project will be withdrawn if a timely payment is not received. We provide the specific language below on PDF page 5 of that document.

If the project subject to this Agreement requires screening for a Midcontinent Independent System Operator (MISO) transmission system impact study, the deposit referred to in paragraph 8.0 for the good faith estimated cost of such a transmission system impact study shall be paid within 10 Business Days after the Company informs the Interconnection Customer that the MISO screening results show that a full MISO transmission system impact study is required. Due to tight MISO timelines for payment, and the need for the Company to receive the payment and then forward that

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<sup>8</sup> <https://www.misoenergy.org/legal/rules-manuals-and-agreements/business-practice-manuals/>

<sup>9</sup> The MISO DER AFS Process is described at this link: <https://www.misoenergy.org/planning/resource-utilization/distribution/#t=10&p=0&s=FileName&sd=desc>

<sup>10</sup> We acknowledge this missed deadline was made in error by the Company.

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payment to MISO in a timely way, the Parties agree that notwithstanding the general provisions in MN DIP 5.2.3 for extending time, there shall be no extension requested or allowed for the above 10 Business Day required payment date. Timely payment is of the essence. The Parties agree that any failure of the Interconnection Customer to make timely payment of this amount shall cause the above application to lose its position in queue and to be withdrawn.

SunShare's DER AFS fee payments were due on January 21, 2025.<sup>11</sup> However, SunShare has paid the required MISO study fee only for one project and therefore the other four projects have not progressed into the Q4 2024 MISO DER AFS. Accordingly, the four unpaid projects should be removed from the interconnection queue.

**C. The Company Informed Stakeholders About the MISO Transmission Study Process**

Prior to the current MISO DER AFS transmission study process, MISO conducted DER transmission studies on a case-by-case basis under an ad hoc process. However, growing DER interconnections within the distribution system across the MISO footprint necessitated a more formal process to consistently evaluate DER transmission system impacts. Therefore, MISO led a stakeholder meeting series throughout 2022 to develop the MISO DER AFS procedures and technical criteria to evaluate potential DER reliability impacts. The MISO Interconnection Process Working Group (IPWG) met six times in 2022 to discuss the framework, technical thresholds, coordination, analysis, and results for MISO's DER AFS. Additional information on the IPWG, including its meeting minutes, are available on MISO's website.<sup>12</sup> The MISO DER AFS was implemented in Q4 2023 – about nine months before the Settlement Agreement was executed. The first MISO DER AFS report was published on June 11, 2024 (again, well before the Settlement Agreement). The Company is obligated to follow the MISO review process, and the rules outlined in MISO's Business Practice Manuals.

As discussed above, the MISO review process is not brand new. The Company has informed developers about the MISO transmission study process for DER interconnections for some time. This is reflected in various filings in Docket Nos. 13-867, 16-521, and several workgroups referenced in these filings. The Company

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<sup>11</sup> SunShare had asked for, and we had allowed, a one-time extension of the DER AFS fee payment with a final due date of January 21, 2025.

<sup>12</sup> <https://www.misoenergy.org/engage/committees/interconnection-process-working-group/>

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includes pertinent excerpts from these filings in Attachment C. The excerpts in these filings cover the time frame from August 2022 through December 2024. They show how the Company has provided frequent updates to developers about the MISO transmission study process for DER applications, including the following:

- show that MISO by January 2023 accepted for study its first DER project under its “ad hoc” process (Attachment C, page 8);
- provide details on the development of MISO workgroups on this issue (Attachment C, throughout);
- explain that MISO, following the workgroup process, implemented its finalized process on October 1, 2023 for reviewing transmission impacts caused by DER projects, including the trigger that MISO would use for its review (Attachment C, page 21);
- note that by November 2023 DER applications at three substations were the subjects of MISO studies (Attachment C, page 21);
- note that the trigger for the MISO review is where aggregate DER at a substation exceeds substation peak load by at least 1 MW (Attachment C, pages 21, 29);
- disclose that the MISO cost is \$60,000 per study per substation (Attachment C, pages 21, 22, 26, 28, 31, 33, 35);
- explain the MISO quarterly cadence of its review and study of DER applications (Attachment C, pages 21, 22, 26, 27, 31, 33, 35);
- explain when payments are due to Xcel Energy when a MISO study is triggered (Attachment C, page 46); and
- disclose that the first MISO study for a DER project calculated that the transmission upgrade costs would be \$8 million if the project were to move forward (Attachment C, pages 21, 22, 29, 31, 33, 35).

SunShare in its Complaint claims that it was unaware of the MISO transmission study procedure and surprised that its projects were the subject of a MISO review. However, the Company has provided robust information on the MISO review process to developers. Further, the Settlement Agreement provides the following:

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**III. THE RELIEF REQUESTED IS INAPPROPRIATE**

Given that the Complaint does not allege any violation of state statute, rule or tariff, the only relief that can be provided by the Commission is governed by Par. 4 of the Settlement Agreement, which states in pertinent part as follows:

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The relief requested by SunShare is inappropriate and not included in the allowed scope of remedies as set forth in the Settlement Agreement.

**A. “Conditional IA” Is Not Allowed in MN DIP or a Term of the Settlement Agreement**

SunShare has requested that the Commission order Xcel Energy to provide to SunShare a “Conditional IA”. The Complaint is unclear as to which specific projects they would like to be subject to Conditional IAs. But, in any event, this request is outside the MN DIP process and would violate the Settlement Agreement

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**PROTECTED DATA ENDS]**, as cited above, and therefore does not contemplate a Conditional IA in the terms. Further, granting SunShare this type of exception to the MN DIP process would provide it an unfair advantage over other projects in queue awaiting MISO DER AFS results. As of January 1, 2025, there were 27 Minnesota DER applications submitted to the Company in the MISO DER AFS process.

MN DIP 5.1.1 describes the timing for issuance of the Interconnection Agreement,

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and states as follows:

5.1.1 The Area EPS Operator shall provide the Interconnection Customer an executable Interconnection Agreement as described in section 1.1.5 within five (5) Business Days after the completion of all required review or study of the Interconnection Application unless sections 3.2.2.2, 3.4.5.1, 3.4.5.2 or 4.2.2 applies.

The study process for the SunShare applications have not yet been completed. The System Impact Studies will determine the upgrades needed for both the distribution and transmission networks. The facilities studies would then need to be conducted to arrive at indicative cost estimates for this work and these amounts would then be included in the Interconnection Agreement. SunShare would then need to pay these amounts, or post credit for these amounts such as a through a letter of credit, when it signs these Interconnection Agreements. We are still far from this point. There is no provision in MN DIP for a “Conditional IA” and if the Commission were to impose such a remedy, then the Company would need to use its best judgement to determine the estimated interconnection costs while the studies to determine these costs have not yet been performed.

We do not believe it is reasonable or in the public interest to create “Conditional IAs” that are not established with the MN DIP. Further, such relief would give SunShare an advantage over other developers.

**B. 2025 LMI CSG Program Capacity Is Determined by the Department**

SunShare has self-identified that the projects at issue are intended by SunShare to be part of the Department’s LMI CSG program. If capacity for the Department’s 2024 LMI CSG Program has been fully allocated, SunShare is requesting that the Department hold capacity in its 2025 LMI CSG Program for these SunShare projects. Therefore, it is unclear to us whether SunShare is asking any Commission action on this issue. By statute, however, the LMI CSG program is administered and projects approved by only the Department.

Minn. Stat. §216B.1641 gives the Department broad authority on how it administers the application process and other aspects of the LMI CSG Program, and we do not believe the Commission could grant the relief being requested.

**IV. IF THE COMMISSION CHOOSES TO INVESTIGATE, WHAT PROCEDURES SHOULD THE COMMISSION UTILIZE?**

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As described above, the forms of relief being sought here do not comply with MN DIP, do not align with the statute for the LMI CSG Program, and conflict with the scope of available remedies as detailed in the Settlement Agreement. SunShare is requesting special treatment that is not available for other developers or projects. Further, no state statute authorizes or identifies any available remedy as the Complaint did not allege violation of any state statute. Accordingly, if the Commission decides to take further action on the Complaint, we believe it would be appropriate to open a new generic docket inviting all other similarly situated developers/projects to participate, so that all similarly situated developers can be treated similarly.

**V. OTHER ISSUES OR CONCERNS**

The Company has no other issues or concerns to address.

**CONCLUSION**

The Commission should dismiss SunShare's Complaint and not investigate further. The Company has followed the MN DIP process, and the Complaint does not allege any violation of statute, tariff or MN DIP. The Company has made reasonable efforts to move these projects forward consistent with the Settlement Agreement and the MN DIP process. It is not in the public interest to consider this matter further.

Dated: February 10, 2025

Northern States Power Company

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The entirety of Attachment A is Not Public and also contains data classified as trade secret pursuant to Minn. Stat. §13.37, subd. 1(b). This information derives independent economic value from not being generally known or readily ascertainable by others who could obtain a financial advantage from its use.

Pursuant to Minn. Rule 7829.0500, subp. 3, the Company provides the following description of the excised material:

1. **Nature of the Material:** The attachment contains the terms of a settlement agreement that by its terms is non-public.
2. **Authors:** The data was prepared by the Company and SunShare.
3. **Importance:** The attachment contains the non-public resolution of a dispute and treating such data as non-public is consistent with the public policy of encouraging settlements, and also provides project specific information that is non-public based on privacy policies of the Commission.
4. **Date the Information was Prepared:** The information was prepared in August 2024.

| Row | MISO DER AFS Required | Case Number                | Project                   | Distribution SIS Payment Received | Started Distribution SIS | Developer Signs AFS Agreement | Sent to MISO for Screening | MISO Confirmed Transmission Study (AFS) | Distribution SIS Published | SunShare Payment for MISO AFS | Next Steps  |
|-----|-----------------------|----------------------------|---------------------------|-----------------------------------|--------------------------|-------------------------------|----------------------------|---|----------------------------|-------------------------------|---|
|     |                       | PROTECTED DATA BEGINS HERE |                           |                                   |                          |                               |                            |   |                            |                               |   |
| 1   | x                     |                            |                           | 10/1/2024                         | 10/2/2024                | 10/22/2024                    | 10/23/2024                 | 12/16/2024                              | 11/27/2024                 | Missed Deadline               | SunShare failed to pay for AFS Study. Project currently on hold as a result of this dispute.  |
| 2   |                       |                            |                           | N/A                               | N/A                      | N/A                           | N/A                        | N/A                                     | N/A                        | N/A                           | Triggered Phase II SIS Study, waiting for payment.  |
| 3   | x                     |                            |                           | 10/31/2024                        | 11/6/2024                | 11/20/2024                    | 11/21/2024                 | 12/16/2024                              | 1/6/2025                   | Missed Deadline               | SunShare failed to pay for AFS Study. Project currently on hold as a result of this dispute.  |
| 4   |                       |                            |                           | N/A                               | N/A                      | N/A                           | N/A                        | N/A                                     | N/A                        | N/A                           | Cluster SIS Study process just initiated; no study fees paid to date.Waiting on payment.  |
| 5   | x                     |                            |                           | 10/2/2024                         | 10/4/2024                | 11/20/2024                    | 11/21/2024                 | 12/16/2024                              | 11/25/2024                 | 1/22/2025                     | Q4 2024 MISO AFS results due 6/25   |
| 6   | x                     |                            |                           | 11/25/2024                        | 12/3/2024                | N/A                           | Held till SIS is completed | N/A                                     | N/A                        | N/A                           | MISO AFS screening triggered; cluster SIS study participants requested the SIS study be completed before any project is sent to MISO screening. |
| 7   | x                     |                            |                           | 10/2/2024                         | 10/23/2024               | 11/20/2024                    | 11/25/2024                 | 12/16/2024                              | 12/11/2024                 | Missed Deadline               | SunShare failed to pay for AFS Study. Project currently on hold as a result of this dispute.  |
| 8   | x                     |                            |                           | 9/27/2024                         | 10/2/2024                | 10/23/2024                    | 12/11/2024                 | N/A                                     | 11/21/2024                 | N/A                           | Missed the Q4 2024 MISO screening deadline, moved into Q1 2025 AFS process.   |
| 9   |                       |                            |                           | 1/24/2025                         | N/A                      | N/A                           | N/A                        | N/A                                     | N/A                        | N/A                           | SIS Study in Process  |
| 10  | x                     |                            |                           | 10/1/2024                         | 10/4/2024                | 12/2/2024                     | 12/2/2024                  | 12/16/2024                              | N/A                        | Missed Deadline               | SunShare failed to pay for AFS Study. Project currently on hold as a result of this dispute.  |
|     |                       |                            | PROTECTED DATA ENDS HERE] |                                   |                          |                               |                            |   |                            |                               |   |





414 Nicollet Mall  
Minneapolis, MN 55401

August 15, 2022

—Via Electronic Filing—

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

RE: STAKEHOLDER MINUTES  
COMMUNITY SOLAR GARDENS  
DOCKET NO. E002/M-13-867

Dear Mr. Seuffert:

Northern States Power Company, doing business as Xcel Energy, submits the attached Compliance information in response to the Commission's February 13, 2015 Order (Order Point 3) submitted in the above-noted docket. Per Commission Order, all agendas, approved minutes and attachments from the Solar\*Rewards Community (S\*RC) Implementation Workgroup will be filed in eDockets. We note that we have expanded our working group efforts to begin to include all Distributed Energy Resources (DER). Therefore, we include the meeting minutes from the MN DER Implementation Workgroup here. Attachment A includes the meeting minutes for our May 19, 2022 workgroup.

We have electronically filed this document with the Minnesota Public Utilities Commission, and copies have been served on the parties on the attached service list. Please contact me at [jessica.k.peterson@xcelenergy.com](mailto:jessica.k.peterson@xcelenergy.com) or 612-330-6850 if you have any questions regarding this filing.

Sincerely,  
/s/

JESSICA PETERSON  
MANAGER, PROGRAM STRATEGY AND PERFORMANCE

Enclosure  
c: Service List

## MN DER Implementation Workgroup

2022 Quarter Two – May 19, 2022

Meeting Minutes

Approved by Workgroup on August 11, 2022.

### PRESENT INCLUDE:

| Full Name           | Organization                   |
|---------------------|--------------------------------|
| Dana Miller         | Amp                            |
| Mat Orner           | Apadana                        |
| Charlie Stenstrom   | Cedar Creek Energy             |
| Bruce Konewko       | CEF                            |
| Dan                 | CEF                            |
| Roxanne Vinciquarra | CleanChoice Energy             |
| Pouya Najmaie       | Cooperative Energy             |
| Neta Eitan          | Development Services, Inc.     |
| Russel Gilberg      | Energy Concepts LLC            |
| Roxanne Baker       | Ethical                        |
| Natalie Townsend    | Fresh Energy                   |
| J. Drake Hamilton   | Fresh Energy                   |
| Dan                 | Guest                          |
| Amanda Werner       | Guest                          |
| Gordy               | Guest                          |
| Nicole              | Guest                          |
| Shiva Gowrinathan   | Hansen Technologies            |
| Wendy Vorasane      | Ideal Energies, LLC            |
| Megan Gallagher     | Impact Power Solutions         |
| Ian Santos-Meeker   | Impact Power Solutions         |
| Jeffrey Barber      | Knobelsdorff Enterprises, Inc. |
| Travis Murray       | MN AGO                         |
| Kristin Berkland    | MN AGO                         |
| John Dybvig         | MN PUC                         |
| Nick Nigro          | MnSEIA                         |
| Doug Shoemaker      | MRES                           |
| Andrey Tolkachev    | Nautilus Solar Energy          |
| Chengjun Liang      | Nexamp                         |
| Matt Walsh          | Nexamp                         |
| Devin Beltran       | Nexamp                         |

|                    |                          |
|--------------------|--------------------------|
| Adam Siegelstein   | NextEra Energy Resources |
| Matthew Melewski   | Nokomis Energy           |
| Zeeshan Yasin      | Novel Energy Solutions   |
| David Shaffer      | Novel Energy Solutions   |
| Colin O'Neil       | ReneSola Power           |
| Eric Jensen        | ReneSola Power           |
| Gordon Simanton    | SolarStone Partners      |
| Jordan Eggert      | Spark Power Corp         |
| Steve Coleman      | Sundial Energy           |
| Joel Cipicic       | Sunrise Energy Ventures  |
| Michael Cathcart   | Sunrise Energy Ventures  |
| Christy Leopold    | TBR                      |
| Donna Pickard      | TruNorth Solar           |
| Lisa Nielsen       | TruNorth Solar           |
| Ross Abbey         | US Solar                 |
| Nicole Vaughn      | Vaughn CO                |
| Will Kenworthy     | Vote Solar               |
| Anthony Maiolo     | Xcel Energy              |
| James Denniston    | Xcel Energy              |
| Karl Johnson       | Xcel Energy              |
| Mike Sans Crainte  | Xcel Energy              |
| Carissa Cavalieri  | Xcel Energy              |
| Kylie Kiecker      | Xcel Energy              |
| Jeffrey Buttermore | Xcel Energy              |
| Rehana Power       | Xcel Energy              |
| Matthew Hagen      | Xcel Energy              |
| David Madigan      | Xcel Energy              |
| Jacob Hillman      | Xcel Energy              |
| Kiwa Anisman       | Xcel Energy              |
| Nicholas Coquyt    | Xcel Energy              |
| Dean Schiro        | Xcel Energy              |
| Tim J Rossbach     | Xcel Energy              |
| Michael Ruiz       | Xcel Energy              |
| Violeta Vidakovic  | Xcel Energy              |
| Callie Walsh       | Xcel Energy              |
| Jessica Peterson   | Xcel Energy              |
| Lee E Gabler       | Xcel Energy              |
| Michael Boerboon   | Xcel Energy              |
| Kerry Klemm        | Xcel Energy              |
| Kelsey Loomis      | Xcel Energy              |
| Michael Palmer     | Xcel Energy              |

## **(TRANSMISSION SYSTEM IMPACT STUDIES)**

Transmission System Impact Studies, as noted from the Public Utilities Commission order, the agreement that Xcel Energy had in place between Xcel Energy and MISO has been stayed.

Right now, what would be available when it is determined that there's an impact to the transmission system would be to utilize the MISO ad hoc process. Xcel Energy is evaluating its options there to determine how that can be effectively utilized in the meantime.

The MISO interconnection process working group (IPWG) is currently also working on a MISO wide agreement for studying the distributed energy resources that are across the MISO system. They have already had a couple of meetings of the working group. There are several more meetings throughout the remainder of 2022. Upcoming meetings will be held on June 6, 2022, then August 15, 2022, October 10, 2022, and November 14, 2022.

As noted, MISO is looking at the screening criteria and the analysis to determine and study impacts of the distribution connected resources that have an impact on the transmission system and then the intent would be working on a MISO wide study agreement.

## **(COST SHARING)**

A quick reminder of the Cost Sharing order point. Back at the end of March, the Commission approved the Cost Sharing program for Xcel Energy, which applies for customers with DER systems 40 kW AC or less. The original proposal was put together by Fresh Energy, IREC and TRUNorth. The plan is for Xcel Energy to implement this program by the end of August of this year, within 60 days of the order and capping the individual upgrades that customers can take advantage of at \$15,000 per project.

Once the program and the tariffs are approved and launched, that would mean all projects 40kW AC or less that submit their application on or after the launch date and submitted the cost sharing fee will be eligible to be covered for future upgrade costs up to \$15,000. This will be an additional fee to the application.

As noted in the proposal, this Cost Sharing fee will cover both the Supplemental Review fees for all projects that may require Supplemental Review and any upgrade costs up to the previously established \$15,000 cap. However, it excludes any study fees, Phase II study fees or metering costs. Eligible projects would receive available upgrade funding on a first come, first served basis. Once a project gets to the point where they go through the Facilities Study and received the Facility Study results, Xcel Energy is going to check the fund to see how much is available and allocate the appropriate amount to that project.

Xcel Energy intends to follow the same MNDIP timelines and will not instigate or start a waitlist for these funds. If there are not any funds available, the customer would be responsible for payment to keep their application moving forward and would need to pay up and above what is available within the funds.

Xcel Energy intends to review the program structure on a periodic basis, as necessary.

# Improving Transparency

## 2021

1. [Engineering Practice: Overhead Conductor](#)
2. [Engineering Practice: Voltage Regulators](#)
3. [Engineering Practice: Maximum Conductor Size for DER](#)
4. [Engineering Practice: Technical Planning Limits](#)
5. [Diagram: Technical Planning Limits](#)
6. [Office Hour: DER Technical Planning Limits PowerPoint \(September 24, 2021\)](#)
7. [Office Hour: DER Technical Planning Limits Recording \(September 24, 2021\)](#)
8. [Follow-up Questions and Answers: DER Technical Planning Limits](#)
9. [Suggested Tools to Use Before Submitting an Interconnection Application](#)

## 2022 Q1

1. [Affected System Impact Study Agreement \(Xcel Energy and MISO\)](#)
2. [Transmission System Impact Study Agreement \(Xcel Energy and Interconnection Customer\)](#)
3. [Office Hour: MISO Transmission Affected System Impact Study PowerPoint](#)
4. [Office Hour: MISO Transmission Affected System Impact Study Recording](#)
5. [Office Hour MISO Transmission Affected System Impact Study Follow-up Q&A](#)
6. [Xcel Energy Standard for Electric Installation and Use](#)
7. [Updated Example One Lines, Site Plan, Labeling](#)

# DGWG

## 4. Transmission System Impact Study

- Commission Order Stayed Agreement between XE and MISO
- Ad Hoc Process is currently available for review of transmission impact
- MISO Interconnection Process Working Group (IPWG)
  - 2022 Meetings: June 6, August 15, October 10, and November 14
  - Key points:
    - MISO wide screening criteria and analysis
    - MISO wide study agreement
- **Questions?**



414 Nicollet Mall  
Minneapolis, MN 55401

January 31, 2023

—Via Electronic Filing—

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

RE: QUARTERLY COMPLIANCE FILING  
COMMUNITY SOLAR GARDENS  
DOCKET NO. E002/M-13-867

Dear Mr. Seuffert:

Northern States Power Company, doing business as Xcel Energy, submits this Quarterly Compliance Report to the Minnesota Public Utilities Commission. This Report provides the status of the Solar\*Rewards Community program as of January 1, 2023.

We have electronically filed this document with the Minnesota Public Utilities Commission, and copies have been served on the parties on the attached service list. Please contact [Kristen.S.Ruud@xcelenergy.com](mailto:Kristen.S.Ruud@xcelenergy.com) or 612-216-7979 if you have any questions regarding this filing.

Sincerely,

/s/

JESSICA PETERSON  
MANAGER, PERFORMANCE AND STRATEGY  
DSM AND RENEWABLE PROGRAMS

Enclosures  
c: Service List

**Table 4: Quarterly Study Results – Facilities Study (FS) (Q4 2022)**

|   | October         | November        | December        |
|---|-----------------|-----------------|-----------------|
| <b>Number of Facilities Studies Due (per month)</b>                     | <b>6</b>        | <b>12</b>       | <b>9</b>        |
| FS Delivered by Original Due Date                                       | 0               | 4               | 1               |
| FS Delivered by Adjusted Due Date                                       | 4               | 0               | 5               |
| FS Delivered but not by either Due Date                                 | <b>0</b>        | <b>2</b>        | <b>0</b>        |
| <b>Total Studies Delivered</b>  | <b>4</b>        | <b>6</b>        | <b>6</b>        |
|   |                 |                 |                 |
| <b><i>Studies due and not yet delivered (categorized by reason)</i></b> | <b><i>2</i></b> | <b><i>6</i></b> | <b><i>3</i></b> |
| <i>Batch/ Cluster Study</i>   | <i>0</i>        | <i>4</i>        | <i>0</i>        |
| <i>Operational Delays</i>   | <i>2</i>        | <i>2</i>        | <i>3</i>        |

For the projects noted as delivered “not yet delivered”, we provide the following additional detail:

- *Batch/ Cluster Study*: Those projects voluntarily moving through a batch or cluster study often have extended timelines as there are several projects together being completed with increased complexity and time required. These projects are included in our Group Study Compliance.
- *Modeling Issues*: Some models involve a large variety of equipment, load characteristics, and generation which require extensive data validation, and troubleshooting analyses to ensure the model yields results which accurately represent the distribution system.
- *Operational Delays*: Some projects have had operational delays because of modeling verification through quality assurance, a delay in timing between days, or an error by the program team.
- *MISO Study* – The Company has sent its first project to MISO for review. Results are pending.

## **B. Engineering Review Process**

There are currently 293 CSG applications in progress under the MN DIP process that have been Deemed Complete and are now moving through engineering review.





414 Nicollet Mall  
Minneapolis, MN 55401

February 21, 2023

—Via Electronic Filing—

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

RE: STAKEHOLDER MINUTES  
COMMUNITY SOLAR GARDENS  
DOCKET NO. E002/M-13-867

Dear Mr. Seuffert:

Northern States Power Company, doing business as Xcel Energy, submits the attached Compliance information in response to the Commission's February 13, 2015 Order (Order Point 3) submitted in the above-noted docket. Per Commission Order, all agendas, approved minutes and attachments from the Solar\*Rewards Community (S\*RC) Implementation Workgroup will be filed in eDockets. We note that we have expanded our working group efforts to begin to include all Distributed Energy Resources (DER). Therefore, we include the meeting minutes from the MN DER Implementation Working group here. Attachment A includes the approved meeting minutes for our November 17, 2022 workgroup along with the powerpoint pertaining to that meeting.

We have electronically filed this document with the Minnesota Public Utilities Commission, and copies have been served on the parties on the attached service list. Please contact Kristen Ruud at [Kristen.S.Ruud@xcelenergy.com](mailto:Kristen.S.Ruud@xcelenergy.com) if you have any questions regarding this filing.

Sincerely,  
/s/

JESSICA PETERSON  
MANAGER, PROGRAM STRATEGY AND PERFORMANCE

Enclosure  
c: Service List

## MN DER Implementation Workgroup

2022 Quarter Four – November 17, 2022

### Meeting Minutes

#### PRESENT INCLUDE:

| Full Name           | Organization               |
|---------------------|----------------------------|
| Danielle DeMarre    | All Energy Solar           |
| Dena Webster        | All Energy Solar           |
| Mat Orner           | Apadana                    |
| Rozanne Vinciquarra | Clean Choice Energy        |
| Sarah Kittross      | Clean Choice Energy        |
| Nubia Baptiste      | Clean Choice Energy        |
| Bruce Konewko       | Cooperative Energy Futures |
| Laura Brown         | Development Services, Inc. |
| Natalie Haberman    | Fresh Energy               |
| Courtney O'Conno    | Gordian Energy System      |
| Jordan Betts        | Green Lantern Solar        |
| Shiva Gowrinathan   | Hansen Technologies        |
| Wendy Vorasane      | Ideal Energies, LLC        |
| Aaron Kueffer       | Minnesota Power            |
| Bridget Clements    | MN Solar                   |
| Andrey Tolkachev    | Nautilus Solar Energy      |
| Megan Gallagher     | New Energy Equity          |
| Amy Woldt           | Nokomis Energy             |
| Fritz Ebinger       | Nokomis Energy             |
| Jamie Giguni        | Nokomis Energy             |
| Dana Hallstorm      | Nokomis Energy             |
| David Shaffer       | Novel Energy Solutions     |
| Bob Olson           | Olson Energy Corporation   |
| Maggie Clymer       | Pivot Energy               |
| Myra Gardiner       | PurEnergy LLC              |
| Aidan Keegan        | Solar Landscape            |
| Mouli Vaidyanathan  | SolarPod                   |
| Travis Tufte        | SolarPod                   |
| Steve Coleman       | Sundial Energy             |
| Holland Parker      | SunShare                   |

## **A. GROUP STUDIES**

Xcel Energy gave a brief update on the cluster study efforts. Xcel Energy hosted a stakeholder workshop series for cluster studies that concluded on June 30<sup>th</sup>. Following the conclusion of the series, Xcel Energy filed the report with the Commission on July 25<sup>th</sup>. The report included an issues matrix detailing the resolved and unresolved issues surrounding cluster study implementation at that time. Two clusters had been completed, with more than 10 in progress. There has been anticipation to implement mandatory clusters on feeders with capacity constraint or significant queued DERs on hold. A report was filed on September 30, 2022, and its main purpose was to update the Commission on how the effort was going, how many studies were completed, and what the outcomes were at that time. In September, Xcel Energy completed 5 cluster study projects. Since then, 4 of these projects have been withdrawn. At that time, 7 more projects were in progress, and of those 7 projects, 3 of them are now complete with the remaining 4 still in progress. Xcel Energy has submitted 6 additional agreements for Cluster Studies.

## **B. SMART INVERTERS**

Xcel Energy spoke on efforts to move towards Smart Inverter implementation when they become readily available, to align with the MNDIP process. There was an initial Office Hour on July 27, 2022, laying out Xcel Energy's proposed plan. The recording and PowerPoint are now available on the Interconnection webpage. Subsequent to this, the DGWG was directed to form a technical subgroup to work on the Smart Inverter topic as well. This included required updates to the TIIR, which is applicable across the entire state of Minnesota.

- [Office Hour: Smart Inverters PowerPoint \(July 27, 2022\) \(PPTX\)](#)
- [Office Hour: Smart Inverters Recording \(July 27, 2022\)](#)

The projected timeline for the updates and implementation of Smart Inverters was proposed through a Commission Notice on September 15, 2022. Once Smart Inverters are deemed readily available, this timeline will go into action.

The DGWG technical subgroup has been meeting every second week to work through updates that will be needed for the TIIR. The TIIR will utilize the advanced functionalities of smart inverters, primarily the autonomous functions for reactive power support or Volt-VAR capability and active power control Volt-Watt. The subgroup is progressing and will be able to meet the timelines as established within the notice.

## **C. MISO TRANSMISSION**

Xcel Energy explained that MISO, Midcontinent Content Independent System Operator, has been working through the Interconnection Process Working Group (IPWG). IPWG has been meeting on a regular basis, as one of their topics throughout the year is specifically focused on the MISO study for affected transmission system studies. Xcel Energy provided

everyone with the materials from the last meeting of the IPWG, on November 14, 2022, including the Whitepaper that summarizes the process for affected system studies.

The screening for the first quarterly cycle will be in the August 2023 timeframe. Once the projects are evaluated with screening, they would go into a study. Those studies would be completed later in 2023 and the results compiled in the first quarter of 2024, following the MISO study timeline.

**Comment:** IPWG meetings are addressing the transmission affected system impact studies and use the acronym TASIS. This will be important for developers and other interconnection customers to understand.

**Response:** Couldn't agree more.

## E. TOOLS TO USE

Xcel Energy spoke about resources available before applications are submitted in order to gain initial indication of the feeders' potential available capacity for interconnection. All resources are available on Xcel Energy's interconnection website. One of these resources is the Hosting Capacity Map. More information can be found by clicking on the presentation to a workshop series on this item as well.

Another resource is the monthly Public DER Queue Report, which includes a tab that identifies Known Capacity Constraints that will include both feeders and substations that are currently constrained. That will help to identify any applications on those feeders that are probably going to take a longer time to process and will most likely need further in-depth studies. Information on the Public Queue Report is updated on a monthly basis.

Another tool is the Pre-application Data Report for a \$300.00 fee. This report provides information about the feeder and the substation serving a particular area that can be used to give guidance on submitting an interconnection application. . However, the Pre-application Data Report is informational only and does not guarantee anything to the applicant.

Once again, all of these resources are available on Xcel Energy's webpage, but stakeholders can reach out to the program for questions on those as well.

- [Interconnection | Renewable Developer Resources | Xcel Energy](#)
- [Suggested Tools to Use Before Submitting an Interconnection Application](#)

**Question:** I have a question about the public queue report and the known capacity constraints tab. There are feeders with aggregate DER greater than daytime minimum load and feeders that we have typically found to only be in that constraint, so it doesn't meet any of the other constraints listed on this tab. We haven't historically seen feeders with applications on hold. If that is the only known issue, I see that a couple of feeders with applications of less than 40 kilowatts are getting placed on hold when that's the only known capacity constraint. Is this a change in the review of the capacity constraints or placing

## MISO Transmission Affected Systems Study

The last Midcontinent Independent System Operator (MISO) IPWG meeting was **November 14, 2022**. Meeting details are available [here](#).

– DRAFT MISO [Whitepaper](#)

**Who?** The outcomes of the MISO IPWG will impact Disturbed Energy Resources (DER) in Minnesota, including Solar\*Rewards Community interconnection applications – *you!*

**Why?** “To provide stakeholders a forum to develop revised generator interconnection queue process procedures with the goal of reducing study time and increasing certainty. It is intended that the work product of this Working Group will be included in Tariff filings to FERC and modifications to the Generator Interconnection Business Manual.” - [misoenergy.org](https://misoenergy.org)

Questions or interested in future meetings? Additional information is available on the [MISO Interconnection Process Working Group \(misoenergy.org\)](https://misoenergy.org) webpage.



414 Nicollet Mall  
Minneapolis, MN 55401

**PUBLIC DOCUMENT  
NOT PUBLIC DATA EXCISED**

August 15, 2023

**—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: COMPLIANCE FILING – QUARTERLY 2023 REPORT  
GENERIC STANDARDS FOR INTERCONNECTION AND OPERATION OF  
DISTRIBUTED GENERATION FACILITIES  
DOCKET NOS. E999/CI-16-521 & E,G-002/M-12-383 & E002/M-18-714

Dear Mr. Seuffert:

Northern States Power Company, doing business as Xcel Energy, submits this Quarterly Compliance Report as required by the Minnesota Public Utilities Commission's February 18, 2021 Order Accepting Filing and Denying Request to Exclude Complaints at Order Point 4 and the Notice of Quarterly Reporting Requirements issued on May 12, 2021.

Certain information in Attachment A is nonpublic and is Protected Information that is not in the public version of this filing. For example, pursuant to Minn. Stat. §13.02, subd 9, the pre-incentive installed costs and zip code information is generally nonpublic, consistent with the requirements in Minn. Stat. §216B.1611, subd. 3a(d). Other information may also be nonpublic because in combination with other publicly available information, it could identify specific customers.

Also, consistent with the need to protect "security information" under Minn. Stat. §13.37, subd 1(a), the Company generally does not publicly provide certain combinations of information about its grid including city information and feeder/substation information. This approach has been developed over time and includes the Commission discussion of what type of data to publicly provide in our Service Quality Performance reports, as reflected in our March 30, 2018 filing of our 2017 Annual Report in Docket No. E002/M-18-239 at page 13. This resulted in the Company publicly providing the city, but not also publicly providing the feeder/substation. This approach aligns with the Company's prior practice in this

filing, the Company committed to reporting ongoing progress of the Group Study pilot in future MN DIP Quarterly Compliance filings.

From September 2022 through June 30, 2023, a total of 121 applications are currently in or have completed cluster study. Approximately 15 percent of these applications are in FS, 33 percent are in SIS, 25 percent are on-hold while the previous in-queue project study is complete, and the remaining 27 percent have withdrawn their application.

## **VI. EQUIPMENT LEAD TIMES**

The industry has experienced significant supply chain lead times which have persisted over the past few years. The Company is now seeing a substantial increase in equipment lead times for primary metering equipment. Historically, larger DER projects and Solar\*Rewards Community applications were required to have metering equipment ordered no later than 32 weeks prior to the in-service date (ISD). As a result of the increase in lead times, in July 2023 we updated the timeline for procurement to require primary metering equipment be ordered no later than 50 weeks prior to the ISD. Secondary metering equipment lead times will remain unchanged. Also, transformer availability continues to be an issue. Even though the Company is installing oversized transformers when available, sourcing from new manufacturers, expanding our inventory & contracts, and expanding our internal/external transformer rebuild program, we have seen these lead times pushing past 52 weeks. We expect these lead time issues to continue through 2024 and impact additional equipment, like primary cable.

## **VII. TRANSMISSIONS STUDIES**

Starting in October 2022, Xcel Energy implemented the MISO transmission study process for a MISO review and study of DER interconnection applications that have potential to adversely impact the transmission system under the MISO criteria that triggers a MISO review. In Q2, the Company has received its first completed report since the start of this process. Additional reports are currently under review and the Company expects to provide more details on this process in future MN DIP Quarterly reports.

## **VIII. SMART INVERTER IMPLEMENTATION**

On March 2, 2023, the Distributed Generation Work Group (DGWG) presented updates to the State of Minnesota Technical Interconnection and Interoperability Requirements (TIIR) for Commission approval, including changes required to move for full implementation of the TIIR to use IEEE 1547-2018 certified inverters. The Commission

- ☐ Not-Public Document – Not For Public Disclosure  
☐ Public Document – Not-Public Data Has Been Excised  
☒ Public Document

|                |                                       |   |
|----------------|---------------------------------------|---|
| Xcel Energy    | Information Request No.               | 3 |
| Docket No.:    | E999/CI-16-521                        |   |
| Response To:   | Minnesota Public Utilities Commission |   |
| Requestor:     | Sophie Nikitas                        |   |
| Date Received: | October 27, 2023                      |   |

---

Question:

Does Xcel use the 2022 TESIS Agreement that preceded MISO's DER Affected System Studies found in MISO's [Business Practice Manual – 015 Generation Interconnection](#) (see BPM-015 r26)? If so, explain why and how this complies with the [Commission's March 31, 2022 Order](#)?

Response:

No. The Company understands the term "2022 TESIS Agreement" to refer to that agreement attached to the December 17, 2021 letter filing of Xcel Energy in Docket No. E999/IC-16-521. Xcel Energy has not used that agreement. The Commissioner discussion at the January 20, 2022 Agenda Hearing on this issue clearly indicated that the MISO transmission studies would still be needed, and that the action of the Commission would not require placing projects on hold. (Hearing recording at about 2:42:50 and at about 3:53:10).

For the time that preceded MISO's DER Affected Studies found in MISO's [Business Practice Manual – 015 Generation Interconnection](#)<sup>1</sup> (see BPM-015 r26)) MISO performed Transmission Studies for DER interconnections under the MISO ad-hoc process. Under this MISO ad hoc process MISO would be notified of the need for study and perform their own screening with their own criteria. Once they had determined the need for study, MISO would provide the Company with a study agreement for each study that was to be performed and then performed the study. Under the new MISO process, the studies are now done on a quarterly basis with studies entering their queue to perform studies in the next quarter after they have been screened under MISO's updated criteria (this can be reviewed in the business practice manual linked above).

---

<sup>1</sup> <https://www.misoenergy.org/legal/business-practice-manuals/>



Preparer: Michael Ruiz  
Title: Sr. Engineer  
Department: Distribution  
Telephone: 612-330-6771  
Date: November 14, 2023



414 Nicollet Mall  
Minneapolis, MN 55401

**PUBLIC DOCUMENT  
NOT PUBLIC FOR DATA EXCISED**

November 15, 2023

**—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: COMPLIANCE FILING – QUARTERLY 2023 REPORT  
GENERIC STANDARDS FOR INTERCONNECTION AND OPERATION OF  
DISTRIBUTED GENERATION FACILITIES  
DOCKET NOS. E999/CI-16-521 & E,G002/M-12-383 & E002/M-18-714

Dear Mr. Seuffert:

Northern States Power Company, doing business as Xcel Energy, submits this Quarterly Compliance Report as required by the Minnesota Public Utilities Commission's February 18, 2021 Order Accepting Filing and Denying Request to Exclude Complaints at Order Point 4 and the Notice of Quarterly Reporting Requirements issued on May 12, 2021.

Certain information in Attachment A is nonpublic and is Protected Information that is not in the public version of this filing. For example, pursuant to Minn. Stat. §13.02, subd 9, the pre-incentive installed costs and zip code information is generally nonpublic, consistent with the requirements in Minn. Stat. §216B.1611, subd. 3a(d). Other information may also be nonpublic because in combination with other publicly available information, it could identify specific customers.

Also, consistent with the need to protect "security information" under Minn. Stat. §13.37, subd 1(a), the Company generally does not publicly provide certain combinations of information about its grid including city information and feeder/substation information. This approach has been developed over time and includes the Commission discussion of what type of data to publicly provide in our Service Quality Performance reports, as reflected in our March 30, 2018 filing of our 2017 Annual Report in Docket No. E002/M-18-239 at page 13. This resulted in the Company publicly providing the city, but not also publicly providing the feeder/substation. This approach aligns with the Company's prior practice in this

## **V. GROUP STUDY**

In compliance with the March 2022 Order, Ordering Point 7, Xcel Energy filed a six-month Group Study compliance report on September 30, 2022 in this docket. In this filing, the Company committed to reporting ongoing progress of the Group Study pilot in future MN DIP Quarterly Compliance filings.

From September 2022 through October 31, 2023, a total of 147 applications are currently in or have completed cluster study. Approximately 16 percent of these applications are in System Impact Study, 3 percent are in Facilities Study, 10 percent have received an Interconnection Agreement, 24 percent are on-hold while the previous in-queue project study is complete, and the remaining 46 percent have withdrawn their application.

## **VI. EQUIPMENT LEAD TIMES**

The industry has experienced significant supply chain lead times which have persisted over the past few years and have continued to persist through Q3. The Company is now seeing a substantial increase in equipment lead times for primary metering equipment. Historically, larger DER projects and Solar\*Rewards Community applications were required to have metering equipment ordered no later than 32 weeks prior to the in-service date (ISD). As a result of the increase in lead times, in July 2023 we updated the timeline for procurement to require primary metering equipment be ordered no later than 50 weeks prior to the ISD. Secondary metering equipment lead times will remain unchanged.

Transformer availability continues to be a pervasive issue across the entire electric industry and will impact new customer projects for the foreseeable future. Even though the Company is installing oversized transformers when available, sourcing from new manufacturers, expanding our inventory & contracts, and expanding our internal/external transformer rebuild program, we have seen these lead times pushing past 52 weeks. The Company continues to communicate with major builders, developers, key customers, contractors, and community leaders regarding delays as we are made aware of delays. We expect these lead time issues to continue through 2024.

We are committed to working closely with customers and will keep them informed as the situation changes in the coming weeks and months ahead.

## **VII. TRANSMISSIONS STUDIES**

We provide here a high level discussion of transmission studies, and provide further discussion in the last section of this quarterly report. Starting in October 2022, Xcel

Energy implemented the MISO transmission study process for a MISO review and study of DER interconnection applications that have potential to adversely impact the transmission system under the MISO criteria that triggers a MISO review. In Q2, the Company has received its first completed report since the start of this process. Additional reports are currently under review and the Company expects to provide more details on this process in future MN DIP Quarterly reports.

On September 1, 2023, Xcel Energy also implemented an internal Transmission Study Process independent of the MISO Transmission Study process. This internal Transmission Study reviews DER interconnection applications that have potential to adversely impact the transmission system when substation DML is exceeded but less than peak load. The screening process began on September 1, 2023 with studies having been scheduled to begin October 1, 2023. There are currently no applications being studied under the internal Transmission Study process at this time, but applications that trigger the internal transmission study criteria will be flagged and studied quarterly.

## **VIII. SMART INVERTER IMPLEMENTATION**

On March 2, 2023, the Distributed Generation Work Group (DGWG) presented updates to the State of Minnesota Technical Interconnection and Interoperability Requirements (TIIR) for Commission approval, including changes required to move for full implementation of the TIIR to use IEEE 1547-2018 certified inverters. The Commission approved the TIIR changes and on April 11, 2023, issued an Order setting the timeline for adopting these statewide standards into each utility's Technical Specifications Manual (TSM). The implementation of these changes will take place when smart inverters are determined to be "readily available" by the Commission.

Xcel Energy implemented a voluntary interim process to allow developers to have their projects studied using smart inverters. As part of the roll-out, Xcel Energy hosted two office hours summarizing the interim implementation process and outlining the steps developers need to take. Beginning April 3, 2023, smart inverters have been available for applications entering a SIS and in these cases the SIS will utilize the Volt-VAR functionality instead of the fixed Power Factor. This allows time for the developer to procure UL1741SB certified inverters and should not create a manufacturer market advantage or disadvantage. Although not yet fully approved, Xcel Energy's TSM will be utilized for the applications that elect to be studied with the smart inverter Volt-VAR functionality. The planned in-service date for any project using a smart inverter will be after smart inverters are deemed "readily available" and applicable TIIR and TSM are fully approved and in effect. The developer would need to decide prior to the start of the SIS if they want to switch to a smart inverter and modify application prior to signing the SIS

customers to keep their existing incentive allocation. This is a change from the existing practice which requires manual intervention, as typically any increase to the system size would require a new application. Despite the manual processing, the Company was happy to propose this solution for affected customers due to this situation. It is important to note that neither the former customers of Sun Badger nor the Company received benefits from this proposal that they would not have received, had their systems and Solar\*Rewards applications been completed appropriately by Sun Badger Solar in the prior program year. The one variance to this statement is that some households would be allowed a slightly increased system size because of discontinued originally specified modules, and this proposal variance from standard operation is a one-time case.

### **C. Transmission**

The Company currently has two processes for determining transmission impacts: The MISO Transmission System Impact Study Process and the Internal Transmission System Impact Study Process.

#### ***1. MISO Transmission System Impact Study Process***

To ensure regional transmission reliability and deliverability, MISO conducts transmission studies for Xcel Energy in cases where transmission impacts are identified due to interconnecting DER in a substation (i.e., aggregate DER is exceeding the substation peak load, resulting in reverse flow.) This process was implemented in October 1, 2022 under the MISO “Ad hoc Process.” As shared at MISO’s July 1, 2023 Planning Advisory Committee, MISO has updated their process to perform quarterly studies, a process change that became effective on October 1, 2023. Under the new process, MISO will perform screenings to determine what projects will enter their quarterly study queue under the following conditions:

- Aggregate Substation DER less than 1MW of substation peak load: Project will screen out and not require a MISO Transmission System Impact Study.
- Aggregate Substation DER greater than 1MW but less than 5MW peak load: A 1% Line Rating criteria will be applied with MISO requiring a MISO Transmission System Impact Study for projects exceeding that criterion.
- Aggregate Substation DER greater than 5MW of substation peak load: Project will require a MISO Transmission System Impact Study.

There are currently three substations in MISO’s study queue. Two of these studies have been completed. One study resulted in recommended upgrades of approximately \$8 million, while the other study resulted in no transmission upgrades being required. As required by MISO, studies have a deposit fee of \$60,000 per substation under study and

will take 90 days to complete. At the completion of the study, the results will be communicated to the developers.

## ***2. Internal Transmission System Impact Study Process***

Due to the extensive cost of transmission upgrades (\$8 million) resulting from the first MISO study analysis and resulting reliability concerns, the Company has determined there is an additional need to conduct an internal Transmission System Impact Study.

As explained at our workgroup meeting on August 9, 2023, we began implementing the internal transmission study process to determine the impacts to Transmission due to interconnecting DER. Any CSG application where the aggregate DER is exceeding substation DML, but is less than peak load, will be studied internally and will not be sent to MISO for additional study. Screening for studies began on September 1, 2023 with quarterly studies beginning as of October 1, 2023. Interconnection applications that have not yet reached the Facilities Study stage by September 1, 2023 may be affected. This study process will impact 42 substations with DER rated at 750kW or greater. Initially, we determined that a study deposit of \$60,000 would be required. However, after evaluation, the study deposit was reduced to \$45,000 per study, regardless of substation. The internal transmission study will take up to 90 days to complete. At the completion of the study, the results will be communicated to develops.

## **CONCLUSION**

We appreciate the opportunity to provide further information regarding the MN DIP process and applications. We respectfully request the Commission accept this Q3 2023 Quarterly Compliance Report in compliance with the Commission Orders and Notice.

Dated: November 15, 2023

Northern States Power Company



414 Nicollet Mall  
Minneapolis, MN 55401

November 28, 2023

—Via Electronic Filing—

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

RE: STAKEHOLDER MINUTES  
COMMUNITY SOLAR GARDENS  
DOCKET NO. E002/M-13-867

Dear Mr. Seuffert:

Northern States Power Company, doing business as Xcel Energy, submits the attached Compliance information in response to the Commission's February 13, 2015 Order (Order Point 3) submitted in the above-noted docket. Per Commission Order, all agendas, approved minutes and attachments from the Solar\*Rewards Community (S\*RC) Implementation Workgroup will be filed in eDockets. We note that we have expanded our working group efforts to begin to include all Distributed Energy Resources (DER). Therefore, we include the meeting minutes from the MN DER Implementation Working group here. Attachment A includes the minutes for our August 9, 2023 workgroup along with the powerpoint pertaining to that meeting, which were approved at the November 15, 2023 workgroup session

We have electronically filed this document with the Minnesota Public Utilities Commission, and copies have been served on the parties on the attached service list. Please contact Kristen Ruud at [Kristen.S.Ruud@xcelenergy.com](mailto:Kristen.S.Ruud@xcelenergy.com) if you have any questions regarding this filing.

Sincerely,  
/s/

JESSICA PETERSON  
MANAGER, PROGRAM POLICY

Enclosure  
c: Service List

## MN DER Implementation Workgroup

2023 Quarter Three – August 9, 2023

### Meeting Minutes

#### PRESENT INCLUDE:

| Full Name                  | Organization                                      |
|----------------------------|---|
| Josh Schuman               | Amp Energy  |
| Andy Goke                  | Apadana Solar                                     |
| Cecelia Hartigan           | Apadana Solar                                     |
| Mat Orner                  | Apadana Solar                                     |
| Rachael Acevedo-Hoffmann   | Apadana Solar                                     |
| Ingrid Bjorklund           | Bjorklund Law                                     |
| "BlueSky Electric & Solar" | BlueSky Electric & Solar                          |
| Lucas Buchanan             | Cedar Creek Energy                                |
| Bruce Konewko              | Cooperative Energy Futures                        |
| Pouya Najmaie              | Cooperative Energy Futures                        |
| Josephine Hamilton         | EDF   |
| Anabel Njoes               | Emmons & Olivier Resources, Inc. (EOR)            |
| Jon Richter                | Energy Concepts LLC                               |
| Evan Carlson               | Enterprise Energy                                 |
| Carly Jaeger               | Everlight Solar                                   |
| Samira Hussaini            | Everlight Solar                                   |
| Courtney O'Connor          | Gordian Energy Systems                            |
| Andrew Armstrong           | Gordian Energy Systems                            |
| Jeffrey Barber             | Knobelsdorff                                      |
| Armel Martin               | Luminance By Brookfield Renewable                 |
| Dave Robinson              | McKinstry   |
| Kyle Samejima              | Minneapolis Climate Action                        |
| John Wachtler              | Minnesota Department of Commerce (MN DOC)         |
| Brian Lebens               | Minnesota Office of the Attorney General (MN OAG) |
| John Dybvig                | Minnesota Public Utilities Commission (MN PUC)    |
| Tracie Bangert             | Minnesota Public Utilities Commission (MN PUC)    |
| Kyle Neal                  | Minnesota Valley Electric Cooperative             |
| Pa Stelzner                | MN PUC CAO  |
| Kim Benjamin               | MN Solar  |
| Leah Johnson               | MN Solar  |
| Curtis Zaun                | MnSEIA (MN Solar Energy Industries Association)   |
| Bridget Clements           | N/A   |
| Kevin Burns                | N/A   |
| Michael Holmes             | New Energy Equity                                 |



|                         |                          |
|-------------------------|--------------------------|
| Matt Van Arkel          | New Leaf Energy          |
| Amber Vadnais           | Nokomis Energy           |
| Brooke Bestul           | Nokomis Energy           |
| David Shaffer           | Novel Energy Solutions   |
| Zeeshan Yasin           | Novel Energy Solutions   |
| Jose Luciano            | PPLSI Business Solutions |
| David Coughlan          | Solar Flow LLC           |
| James McCarten          | Solar Landscape          |
| Mouli Vaidyanathan      | Solar Pod                |
| Jeff Bertch             | Solar Stone              |
| Steve Coleman           | Steve Coleman            |
| Umar Ahmed              | Sun Renewable Energy     |
| Cara Koontz             | SunVest Solar            |
| Donna Pickard           | TruNorth Solar           |
| Jackson Cade            | US Solar                 |
| Luke Gildemeister       | US Solar                 |
| Ross Abbey              | US Solar                 |
| Audrey Ochtrup-DeKeyrel | US Solar                 |
| Will Kenworthy          | Vote Solar               |
| Amy Meister             | Xcel Energy              |
| Callie Walsh            | Xcel Energy              |
| Casey Anderson          | Xcel Energy              |
| Crystal Pomerleau       | Xcel Energy              |
| David Craig             | Xcel Energy              |
| Dean Schiro             | Xcel Energy              |
| Forrest Turner          | Xcel Energy              |
| Jacob Hillman           | Xcel Energy              |
| James Denniston         | Xcel Energy              |
| Jameson Kahl            | Xcel Energy              |
| Jeffrey McLean          | Xcel Energy              |
| Jessica Peterson        | Xcel Energy              |
| Joshua Gutzmann         | Xcel Energy              |
| Karl Johnson            | Xcel Energy              |
| Katie Dietlin           | Xcel Energy              |
| Kerry Klemm             | Xcel Energy              |
| Kristen Ruud            | Xcel Energy              |
| Leena Kurki             | Xcel Energy              |
| Madeline Lydon          | Xcel Energy              |
| Matthew Hooley          | Xcel Energy              |
| Michael Ruiz            | Xcel Energy              |
| Mike Sans Crainte       | Xcel Energy              |

Lastly, Xcel Energy provided reminders and best practices for scheduling Witness Tests.

### **Transmission System Impact Studies**

Xcel Energy also addressed Transmission System Impact Studies as part of a DER application review and provided information on the process. Xcel Energy referenced the PowerPoint slide that showed the process chart for the MISO (Midcontinent Independent System Operator) Transmission studies, and Xcel Energy then described the MISO screening criteria and current status as was communicated by MISO to the IPWG (Interconnection Process Working Group) workgroup on July 1<sup>st</sup>. MISO had explained that the MISO screening criteria and current process is in accordance with FERC (Federal Energy Regulatory Commission) requirements. Under the MISO process, the need for a MISO transmission System Impact Study for a DER application is triggered by aggregate DER exceeding substation peak load as further detailed in the Q3 PowerPoint slide. The cost is \$60,000 per substation studied; and MISO studies are conducted on a quarterly basis.

Then Xcel Energy discussed the new Xcel Energy transmission System Impact Study process, why it was important for maintaining grid reliability, and the requirement for this type of study when aggregate DER is exceeding substation DML but not at a level that would trigger a MISO transmission System Impact Study review. The MISO trigger for review is when the DER exceeds peak substation load. Xcel Energy explained that it would begin its transmission System Impact Studies on September 1<sup>st</sup>, 2023, with quarterly studies beginning on October 1<sup>st</sup>, 2023. The initial study deposit for the Xcel Energy transmission System Impact Study would be \$60,000 per study but this would cover the cost of all Xcel Energy transmission System Impact Studies conducted within a given quarter. A question was raised to clarify the line rating criteria of the new MISO screening criteria and the answer was that this would vary depending on the transmission line rating. Another question was whether the timing of sending the transmission System Impact Study agreement for funding could be delayed until after the results of the distribution System Impact Studies are presented to the developer. Xcel Energy stated that it would consider this internally and determine whether to change its practice.

## **C. DESIGN & CONSTRUCTION**

Xcel Energy discussed the [following](#):

- Equipment Lead Times associated with Design & Construction.
  - In general, we order material according to ISD and construction timelines
  - Transformers continue to be a challenge and some transformers can be up to or beyond 52–58-week lead time
  - Primary service PT and CT lead time increase from 32 weeks to approx. 50 weeks
  - Covered what the company is doing to be proactive in response to our long transformer lead times. Installing oversized transformers when available, sourcing from new vendors, sourcing transformer components, expanding inventory and entering into longer term contracts, expanding our internal rebuild program.

## Transmission Studies

### **Who: MISO**

What: MISO Transmission Studies (TS)

Where: Aggregate DER > Substation peak Load

If substation contains multiple transformers, substation peak load is the sum of the substation transformers

When: Quarterly

Why: Ensure Regional Transmission reliability & deliverability

How: Developer is notified and sent an SOW. Xcel Energy notifies MISO after receiving signed SOW

MISO performs screening to determine if substation will move forward to study stage

### **Who: Xcel Energy**

What: Xcel Energy Transmission Studies (TS)

Where: DER exceeds DML

When: Proposal: Quarterly

Why: Ensure Xcel Energy Transmission system reliability

How: Process similar to MISO, but Transmission Planning will be informed after receiving confirmation and agreement of Transmission Study

# Transmission Studies

## MISO Transmission Study Process



## Transmission Studies (TS)

### MISO Transmission Study Process

#### *Screening Criteria & Current Status*

- MISO Screening is in accordance with their new DER Affected System Impact Study process
  - **Aggregate Substation DER < 1MW of substation peak load:** No TS required
  - **Aggregate Substation DER > 1MW but < 5MW of peak load:** >1% line rating criteria is applied.
  - DER meeting that criteria require TS
  - **Aggregate Substation DER > 5MW of substation peak load:** TS required.
- Currently 5 substations with signed study agreements and currently in study
- 1 study is completed resulting in transmission upgrades estimated to cost ~\$8M.



414 Nicollet Mall  
Minneapolis, MN 55401

**PUBLIC DOCUMENT  
NOT PUBLIC DATA HAS BEEN EXCISED**

March 1, 2024

**—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: COMPLIANCE FILING - 2023 INTERCONNECTIONS  
GENERIC STANDARDS FOR INTERCONNECTION AND OPERATION OF  
DISTRIBUTED GENERATION FACILITIES  
DOCKET NOS. & E,G-002/M-12-383 & E002/M-13-867 & E999/CI-16-521  
E002/M-18-714

Dear Mr. Seuffert:

Northern States Power Company, doing business as Xcel Energy, submits this Annual Report as required by the Minnesota Public Utilities Commission's August 13, 2018 Order in these dockets Establishing Updated Interconnection Process and Standard Interconnection Agreement at Order Point 20, the Commission's January 22, 2020 Order in these dockets Establishing Updated Technical Interconnection and Interoperability Requirements at Order Point 9, the Commission's May 12, 2021 Notice in these dockets, the Commission's February 18, 2021 Order Accepting Filing and Denying Request to Exclude Complaints in Docket Nos. E,G002/CI-02-2034 and E,G002/M-12-383 at Order Point 4, the Commission's November 19, 2022 Order in Docket No. E002/M-22-162 at Order Point 7, and the June 20, 2023 and December 12, 2023 Orders in Docket No. E002/M-13-867.

Certain information in Attachment A is nonpublic and is Protected Information that is not in the public version of this filing. For example, pursuant to Minn. Stat. § 13.02, subd 9, the pre-incentive installed costs, zip code and feeder information are generally nonpublic, consistent with the requirements in Minn. Stat. § 216B.1611, subd. 3a(d). Other information may also be nonpublic because in combination with other publicly available information, it could identify specific customers.

Also, consistent with the need to protect "security information" under Minn. Stat. §13.37, subd 1(a), the Company does not publicly provide certain combinations of

## **D. Transmission Studies**

Due to the extensive cost of transmission upgrades (\$8 million) resulting from the first MISO study analysis and resulting reliability concerns, the Company has determined there is an additional need to conduct an internal Transmission System Impact Study. Since then, three additional MISO studies have been performed. The findings of those three studies did not result in any transmission upgrades needed.

As explained at our workgroup meeting on August 9, 2023, we began implementing the internal transmission study process to determine the impacts to Transmission due to interconnecting DER. Any CSG application where the aggregate DER is exceeding substation DML, but is less than peak load, will be studied internally and will not be sent to MISO for additional study because these have not met the MISO threshold. Screening for studies began on September 1, 2023 with quarterly studies beginning as of October 1, 2023. Interconnection applications that have not yet reached the Facilities Study stage by September 1, 2023 may be affected. This study process will impact 42 substations with DER rated at 750kW or greater. Initially, we determined that a study deposit of \$60,000 would be required. However, after evaluation, the study deposit was reduced to \$45,000 per study, regardless of substation. The internal transmission study will take up to 90 days to complete. At the completion of the study, the results will be communicated to develops.

## **CONCLUSION**

We respectfully request the Commission accept this 2023 Annual Report in compliance with the applicable Orders as outlined in Attachment A, Compliance Matrix.

Dated: March 1, 2024

Northern States Power Company



414 Nicollet Mall  
Minneapolis, MN 55401

**PUBLIC DOCUMENT  
NOT PUBLIC DATA HAS BEEN EXCISED**

May 15, 2024

**—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: COMPLIANCE FILING - 2024 INTERCONNECTIONS  
GENERIC STANDARDS FOR INTERCONNECTION AND OPERATION OF  
DISTRIBUTED GENERATION FACILITIES  
DOCKET NOS. & E,G-002/M-12-383 & E002/M-13-867 & E999/CI-16-521  
E002/M-18-714

Dear Mr. Seuffert:

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Also, consistent with the need to protect "security information" under Minn. Stat. §13.37, subd 1(a), the Company does not publicly provide certain combinations of



ordered no later than 32 weeks prior to the in-service date (ISD). As a result of the increase in lead times, we updated the timeline for procurement in July of 2023 to require primary metering equipment be ordered no later than 50 weeks prior to the ISD. Secondary metering equipment lead times remain unchanged.

Transformer availability continues to be a pervasive issue across the entire electric industry and will impact new customer projects for the foreseeable future. Even though the Company is installing oversized transformers when available, sourcing from new manufacturers, expanding our inventory & contracts, expanding our internal/external transformer rebuild program, and are working with peer utilities, we have seen these lead times pushing past 52 weeks. The Company continues to communicate with major builders, developers, key customers, contractors, and community leaders regarding delays as we are made aware of delays.

We expect these lead time issues to continue through 2024 and have seen a plateau in the estimated lead times, stabilizing at 52 weeks for transformers and 50 weeks for primary metering equipment. This same equipment is used for DER interconnections as well as for retail customers who do not have DER equipment. Accordingly, this supply chain issue impacts both retail and DER interconnection services.

## **B. Transmission Studies**

Due to the extensive cost of transmission upgrades (\$8 million) resulting from the first MISO study analysis and resulting reliability concerns, the Company has determined there is an additional need to conduct an internal Transmission System Impact Study. As explained at our workgroup meeting on August 9, 2023, we began implementing the internal transmission study process to determine the impacts to Transmission due to interconnecting DER. Any CSG application where the aggregate DER is exceeding substation DML, but is less than peak load, will be studied internally and will not be sent to MISO for additional study because these have not met the MISO threshold. Screening for studies began on September 1, 2023 with quarterly studies beginning as of October 1, 2023. Interconnection applications that have not yet reached the Facilities Study stage by September 1, 2023 may be affected. This study process will impact 42 substations with DER rated at 750kW or greater. Initially, we determined that a study deposit of \$60,000 would be required. However, after evaluation, the study deposit was reduced to \$45,000 per study, regardless of substation. The internal transmission study will take up to 90 days to complete. At the completion of the study, the results will be communicated to developers.

In the past quarter, there have been no internal transmission studies performed.



414 Nicollet Mall  
Minneapolis, MN 55401

**PUBLIC DOCUMENT  
NOT PUBLIC DATA HAS BEEN EXCISED**

August 15, 2024

**—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: COMPLIANCE FILING - 2024 INTERCONNECTIONS  
GENERIC STANDARDS FOR INTERCONNECTION AND OPERATION OF  
DISTRIBUTED GENERATION FACILITIES  
DOCKET NOS. & E,G-002/M-12-383 & E002/M-13-867 & E999/CI-16-521  
E002/M-18-714

Dear Mr. Seuffert:

Northern States Power Company, doing business as Xcel Energy, submits this Quarterly Report as required by the Minnesota Public Utilities Commission's August 13, 2018 Order in these dockets Establishing Updated Interconnection Process and Standard Interconnection Agreement at Order Point 20, the Commission's January 22, 2020 Order in these dockets Establishing Updated Technical Interconnection and Interoperability Requirements at Order Point 9, the Commission's May 12, 2021 Notice in these dockets, the Commission's February 18, 2021 Order Accepting Filing and Denying Request to Exclude Complaints in Docket Nos. E,G002/CI-02-2034 and E,G002/M-12-383 at Order Point 4, the Commission's November 19, 2022 Order in Docket No. E002/M-22-162 at Order Point 7, and the June 20, 2023 and December 12, 2023 Orders in Docket No. E002/M-13-867.

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Also, consistent with the need to protect "security information" under Minn. Stat. §13.37, subd 1(a), the Company does not publicly provide certain combinations of

metering equipment. This same equipment is used for DER interconnections as well as for retail customers who do not have DER equipment. Accordingly, this supply chain issue impacts both retail and DER interconnection services.

### **C. Transmission Studies**

Due to the extensive cost of transmission upgrades (\$8 million) resulting from the first MISO study analysis and resulting reliability concerns, the Company has determined there is an additional need to conduct an internal Transmission System Impact Study. As explained at our workgroup meeting on August 9, 2023, we began implementing the internal transmission study process to determine the impacts to Transmission due to interconnecting DER. Any CSG application where the aggregate DER is exceeding substation DML, but is less than peak load, will be studied internally and will not be sent to MISO for additional study because these have not met the MISO threshold. Screening for studies began on September 1, 2023 with quarterly studies beginning as of October 1, 2023. Interconnection applications that have not yet reached the Facilities Study stage by September 1, 2023 may be affected. This study process will impact 42 substations with DER rated at 750kW or greater. Initially, we determined that a study deposit of \$60,000 would be required. However, after evaluation, the study deposit was reduced to \$45,000 per study, regardless of substation. The internal transmission study will take up to 90 days to complete. At the completion of the study, the results will be communicated to developers.

In the past quarter, there have been no internal transmission studies performed.

### **VII. COMMUNITY SOLAR GARDEN PLANNED OUTAGES**

In addition, the Commission's December 12, 2023 Order in Docket No. E002/M-13-867 granted Xcel Energy's motion to streamline reporting requirements for the Solar\*Rewards Community program. This Order requires Xcel Energy to provide reporting on Planned Outages for community solar gardens (CSGs) in the quarterly MN DIP reporting and file a copy of this reporting in Docket No. E-002/M-13-867. This information is provided in Attachment G, CSG Planned Outage Reporting.

### **CONCLUSION**

We respectfully request the Commission accept this Q2 2024 Quarterly Report in compliance with the applicable Orders as outlined in Attachment A, Compliance Matrix.

Dated: August 15, 2024

Northern States Power Company



414 Nicollet Mall  
Minneapolis, MN 55401

September 19, 2024

—Via Electronic Filing—

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

RE: STAKEHOLDER MINUTES  
COMMUNITY SOLAR GARDENS  
DOCKET NO. E002/M-13-867

Dear Mr. Seuffert:

Northern States Power Company, doing business as Xcel Energy, submits the attached Compliance information in response to the Commission's February 13, 2015 Order (Order Point 3) submitted in the above-noted docket. Per Commission Order, all agendas, approved minutes and attachments from the Solar\*Rewards Community (S\*RC) Implementation Workgroup will be filed in eDockets. We note that we have expanded our working group efforts to begin to include all Distributed Energy Resources (DER). Therefore, we include the meeting minutes from the MN DER Implementation Working group here. Attachment A includes the approved meeting minutes for our May 15, 2024 workgroup along with the powerpoint pertaining to that meeting.

We have electronically filed this document with the Minnesota Public Utilities Commission, and copies have been served on the parties on the attached service list. Please contact Kristen Ruud at [Kristen.S.Ruud@xcelenergy.com](mailto:Kristen.S.Ruud@xcelenergy.com) if you have any questions regarding this filing.

Sincerely,  
/s/

JESSICA PETERSON  
MANAGER, PROGRAM STRATEGY AND PERFORMANCE

Enclosure  
c: Service List

## MN DER Stakeholder Workgroup

2024 Quarter Two – May 15, 2024

### Meeting Minutes

#### PRESENT INCLUDE:

| Full Name          | Organization           |
|--------------------|------------------------|
| Casey Anderson     | Xcel Energy            |
| Andrew Damitio     | Unverified             |
| Anna Danielski     | Unverified             |
| Ankita Ashrit      | Xcel Energy            |
| Austin             | Unverified             |
| Bella Montague     | Unverified             |
| Ben Gregory        | Dynamic Energy         |
| Ben Ransom         | Unverified             |
| Patrick Berger     | Xcel Energy            |
| Braden Salvati     | Unverified             |
| Brandon Smithwood  | Unverified             |
| Brant Thomas       | Unverified             |
| Brian Dolan        | Unverified             |
| Brooke Bestul      | Nokomis Energy         |
| Ryan Bruers        | Xcel Energy            |
| Cara Koontz        | Unverified             |
| Carly Jaeger       | Unverified             |
| Carissa Cavalieri  | Xcel Energy            |
| Colin O'Neil       | Unverified             |
| John-Michael Cross | Department of Commerce |
| Dan                | Guest                  |
| Danielle DeMarre   | All Energy Solar       |
| Dave Coughlan      | Unverified             |
| James Denniston    | Xcel Energy            |
| Bridget Dockter    | Xcel Energy            |
| Donna              | TruNorth Solar         |
| Derek Duran        | PUC                    |
| Elliott Wiegman    | Unverified             |
| Eric Pasi          | Enterprise Energy      |
| Erick Sipila       | Sisu Solar             |
| Erin Curran        | Unverified             |
| Evan               | Unverified             |
| Anastasia Garth    | Unverified             |
| Gary Winters       | Unverified             |

| Full Name         | Organization               |
|-------------------|----------------------------|
| Gabriel Gauderman | Unverified                 |
| Tami Gunderzik    | Xcel Energy                |
| Hannah Boudreau   | Unverified                 |
| Jeff Horst        | Unverified                 |
| Karl Johnson      | Xcel Energy                |
| Joseph Nishida    | Unverified                 |
| Ken Valley        | Unverified                 |
| Kevin Cray        | Unverified                 |
| Kim Benjamin      | MN Solar                   |
| Madeleine Klein   | ENGIE North America        |
| Kerry Klemm       | Xcel Energy                |
| Leena Kurki       | Xcel Energy                |
| Kyle Samejima     | Cooperative Energy Futures |
| Lionel Durand     | Unverified                 |
| Lucas Buchanan    | Cedar Creek Energy         |
| Luke Glidemeister | US Solar                   |
| Maggie Kaynor     | Unverified                 |
| Matt Van Arkel    | Unverified                 |
| Megan Spear       | All Energy Solar           |
| Mena Kaehler      | Unverified                 |
| Michael Cathcart  | Unverified                 |
| Mike Kampmeyer    | Unverified                 |
| MK                | New Leaf Energy            |
| Hannah Moore      | ENGIE North America        |
| Adwaid Nambiar    | Xcel Energy                |
| Nathan Smelker    | Unverified                 |
| Nikolas Vivier    | Unverified                 |
| Paige Knutsen     | MEEA                       |
| Jessica Peterson  | Xcel Energy                |
| Phillip Truax     | Unverified                 |
| Ryan Pierce       | Xcel Energy                |
| Pouya             | Unverified                 |
| Tamara Rogers     | Xcel Energy                |
| Ross Abbey        | US Solar                   |
| Michael Ruiz      | Xcel Energy                |
| Russel Gilberg    | Energy Concepts            |
| Russell Goetze    | Unverified                 |
| Kristen Ruud      | Xcel Energy                |
| Samira H          | Unverified                 |
| Mike Sans Cainte  | Xcel Energy                |

| Full Name          | Organization |
|--------------------|--------------|
| Sare               | Unverified   |
| Dean Schiro        | Xcel Energy  |
| Sido Shira         | Unverified   |
| Michael Siglin Jr. | Unverified   |
| Stephanie Rogalsky | Unverified   |
| Steve Chan         | Unverified   |
| Steve Coleman      | Unverified   |
| Peter Teigland     | COMM         |
| Tim Rudnicki       | Unverified   |
| Makaela Truner     | Unverified   |
| Violeta Vidakovic  | Xcel Energy  |
| Vince Robinson     | DSI          |
| Callie Walsh       | Xcel Energy  |
| Brandon Wellcome   | Xcel Energy  |
| Wendy Vorasane     | Unverified   |
| Zeeshan Yasin      | Unverified   |
| Corbin Donner      | Xcel Energy  |
| Adwaid Nambiar     | Xcel Energy  |
| Vlad               | Unverified   |
| Aileen Cole        | Unverified   |
| Chua Xiong         | Xcel Energy  |
| William Waldron    | Unverified   |

Total Number of Participants: 97

Total Number of Organizations: At least 5+

## AGENDA

1:00pm Welcome & Meeting Logistics  
1:05pm On-Site Programs  
1:35pm All MN DER Interconnections  
2:45pm Solar\*Rewards Community  
2:50pm Closing Remarks

## WELCOME & MEETING LOGISTICS

Xcel Energy welcomed stakeholders to the meeting and opened it with logistical items.

## **PRIORITY AND GENERAL QUEUES – AND NEW DOCKET ON CAPACITY**

### **RESERVATION**

Commission's April 15, 2024 order in Docket 16 -521 requires two queues for Xcel Energy – a "Priority" queue and a "General" queue. Those applications in the Priority Queue have priority over those in the General queue that have not yet started a System Impact Study nor have a signed Interconnection Agreement. Priority queue includes those "customer sited" DER projects up to 40 kW that comply with the 120% rule, as well as those applications that participate in the Solar on Schools and Solar on Public Building programs. Commission has opened new Docket 24-176 to address issues on capacity reservation for specific types of DER projects. Initial comments due June 7, and Reply comments due June 28.

## **TRANSMISSION STUDY PROCESS UPDATES**

### **GENERAL**

Developers flagged for transmission studies can opt to wait until receiving their distribution System Impact Studies to decide whether to move forward with a transmission study or withdraw. Developer still has 15 business day to decide to move forward and sign SOW once distribution SIS results are received.

### **INTERNAL TRANSMISSION STUDY (ITS)**

Study deposit was reduced from \$45,000 to \$33,000. Projects entering ITS have until June 23, 2024, to fund study. True-ups will be provided after this date. Projects with signed SOWs and funded will be studied starting on July 1, 2024

### **MISO**

Quarterly cadence began October 1, 2023, and the next screening closing date is June 3, 2024. Developers can refer to MISO Distribution website for upcoming milestones under the DER AFS cycle schedules. Note that screening timeline begins prior to the 90 day study timeline.

## **DESIGN & CONSTRUCTION**

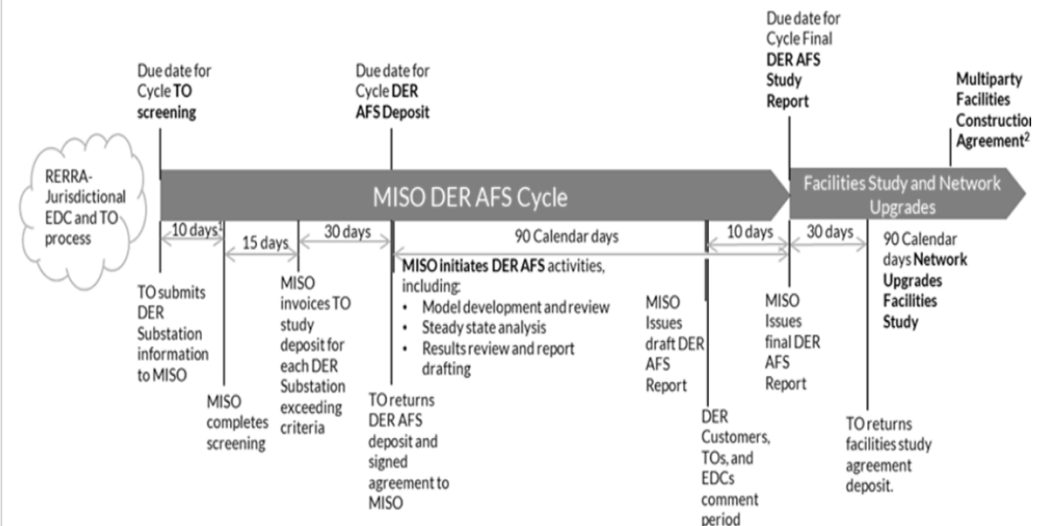
Xcel Energy designers become involved in projects when a study has determined upgrades are required for an Interconnection Agreement (IA). Inform your designers when an IA requiring construction upgrades has been signed. After an IA requiring upgrades has been executed designers will submit an invoice with a Statement of Work (SOW) that must be signed and fully funded to move forward. If you are not receiving the invoice and SOW from your designers, please ask. The site contact will be notified when Xcel Energy's required construction upgrades are complete. Designers should only be contacted after an Interconnection Agreement has been executed, unless a meeting has been scheduled by the program management office.



# Transmission Study Process Updates

## MISO

- MISO Study quarterly cadence began October 1, 2023
- Next screening window closing date: June 3, 2024
- MISO milestone dates can be seen at [Distribution \(misoenergy.org\)](https://www.misoenergy.org/planning/resource-utilization/distribution/)<sup>1</sup> under Quarterly DER AFS Study Cycle Schedules
  - Note: Screening timeline begins prior to the 90-calendar day study timeline



<sup>1</sup> <https://www.misoenergy.org/planning/resource-utilization/distribution/>



414 Nicollet Mall  
Minneapolis, MN 55401

December 19, 2024

—Via Electronic Filing—

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

RE: STAKEHOLDER MINUTES  
COMMUNITY SOLAR GARDENS  
DOCKET NO. E002/M-13-867

Dear Mr. Seuffert:

Northern States Power Company, doing business as Xcel Energy, submits the attached Compliance information in response to the Commission's February 13, 2015 Order (Order Point 3) submitted in the above-noted docket. Per Commission Order, all agendas, approved minutes and attachments from the Solar\*Rewards Community (S\*RC) Implementation Workgroup will be filed in eDockets. We note that we have expanded our working group efforts to begin to include all Distributed Energy Resources (DER). Therefore, we include the meeting minutes from the MN DER Implementation Working group here. Attachment A includes the approved meeting minutes for our September 4, 2024 workgroup along with the powerpoint pertaining to that meeting.

We have electronically filed this document with the Minnesota Public Utilities Commission, and copies have been served on the parties on the attached service list. Please contact Kristen Ruud at [Kristen.S.Ruud@xcelenergy.com](mailto:Kristen.S.Ruud@xcelenergy.com) if you have any questions regarding this filing.

Sincerely,  
/s/

JESSICA PETERSON  
MANAGER, PROGRAM POLICY

Enclosure  
c: Service List

## MN DER Stakeholder Workgroup

2024 Quarter Three – September 4, 2024

### Meeting Minutes

#### PRESENT INCLUDE:

| Full Name          | Organization           |
|--------------------|------------------------|
| Casey Anderson     | Xcel Energy            |
| Andrew Damitio     | Unverified             |
| Anna Danielski     | Unverified             |
| Ankita Ashrit      | Xcel Energy            |
| Austin             | Unverified             |
| Bella Montague     | Unverified             |
| Ben Gregory        | Dynamic Energy         |
| Ben Ransom         | Unverified             |
| Patrick Berger     | Xcel Energy            |
| Braden Salvati     | Unverified             |
| Brandon Smithwood  | Unverified             |
| Brant Thomas       | Unverified             |
| Brian Dolan        | Unverified             |
| Brooke Bestul      | Nokomis Energy         |
| Ryan Bruers        | Xcel Energy            |
| Cara Koontz        | Unverified             |
| Carly Jaeger       | Unverified             |
| Carissa Cavalieri  | Xcel Energy            |
| Colin O'Neil       | Unverified             |
| John-Michael Cross | Department of Commerce |
| Dan                | Guest                  |
| Danielle DeMarre   | All Energy Solar       |
| Dave Coughlan      | Unverified             |
| James Denniston    | Xcel Energy            |
| Bridget Dockter    | Xcel Energy            |
| Donna              | TruNorth Solar         |
| Derek Duran        | PUC                    |
| Elliott Wiegman    | Unverified             |
| Eric Pasi          | Enterprise Energy      |
| Erick Sipila       | Sisu Solar             |
| Erin Curran        | Unverified             |
| Evan               | Unverified             |
| Anastasia Garth    | Unverified             |
| Gary Winters       | Unverified             |

| Full Name         | Organization               |
|-------------------|----------------------------|
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| Tami Gunderzik    | Xcel Energy                |
| Hannah Boudreau   | Unverified                 |
| Jeff Horst        | Unverified                 |
| Karl Johnson      | Xcel Energy                |
| Joseph Nishida    | Unverified                 |
| Ken Valley        | Unverified                 |
| Kevin Cray        | Unverified                 |
| Kim Benjamin      | MN Solar                   |
| Madeleine Klein   | ENGIE North America        |
| Kerry Klemm       | Xcel Energy                |
| Leena Kurki       | Xcel Energy                |
| Kyle Samejima     | Cooperative Energy Futures |
| Lionel Durand     | Unverified                 |
| Lucas Buchanan    | Cedar Creek Energy         |
| Luke Glidemeister | US Solar                   |
| Maggie Kaynor     | Unverified                 |
| Matt Van Arkel    | Unverified                 |
| Megan Spear       | All Energy Solar           |
| Mena Kaehler      | Unverified                 |
| Michael Cathcart  | Unverified                 |
| Mike Kampmeyer    | Unverified                 |
| MK                | New Leaf Energy            |
| Hannah Moore      | ENGIE North America        |
| Adwaid Nambiar    | Xcel Energy                |
| Nathan Smelker    | Unverified                 |
| Nikolas Vivier    | Unverified                 |
| Paige Knutsen     | MEEA                       |
| Jessica Peterson  | Xcel Energy                |
| Phillip Truax     | Unverified                 |
| Ryan Pierce       | Xcel Energy                |
| Pouya             | Unverified                 |
| Tamara Rogers     | Xcel Energy                |
| Ross Abbey        | US Solar                   |
| Michael Ruiz      | Xcel Energy                |
| Russel Gilberg    | Energy Concepts            |
| Russell Goetze    | Unverified                 |
| Kristen Ruud      | Xcel Energy                |
| Samira H          | Unverified                 |
| Mike Sans Crainte | Xcel Energy                |

| Full Name          | Organization   |
|--------------------|----------------|
| Sare               | Unverified     |
| Dean Schiro        | Xcel Energy    |
| Sido Shira         | Unverified     |
| Michael Siglin Jr. | Unverified     |
| Stephanie Rogalsky | Unverified     |
| Steve Chan         | Unverified     |
| Steve Coleman      | Unverified     |
| Peter Teigland     | COMM           |
| Tim Rudnicki       | Unverified     |
| Makaela Truner     | Unverified     |
| Violeta Vidakovic  | Xcel Energy    |
| Vince Robinson     | DSI            |
| Callie Walsh       | Xcel Energy    |
| Brandon Wellcome   | Xcel Energy    |
| Wendy Vorasane     | Unverified     |
| Zeeshan Yasin      | Unverified     |
| Dena Webster       | Unverified     |
| Donna              | TruNorth Solar |
| Chua Xiong         | Xcel Energy    |
| Cleveland Silas    | Xcel Energy    |

Total Number of Participants: 97

Total Number of Organizations: At least 5+

## AGENDA

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 1:35pm All MN DER Interconnections  
 2:45pm Solar\*Rewards Community  
 2:50pm Closing Remarks

## WELCOME & MEETING LOGISTICS

Xcel Energy welcomed stakeholders to the meeting and opened it with logistical items.

## APPROVAL OF MINUTES

Xcel Energy reiterated that stakeholders are expected to have reviewed the Meeting Minutes and are encouraged to refer to the Meeting Minutes for reference as needed. No workgroup attendees objected to the September 4 Quarter Three Stakeholder Workgroup Meeting Minutes, and these were therefore approved.

Priority Queue have priority over those in the General queue that have not yet started a System Impact Study nor have a signed Interconnection Agreement. Priority queue includes those "customer sited" DER projects up to 40 kW that comply with the 120% rule, as well as those applications that participate in the Solar on Schools and Solar on Public Building programs. Commission has opened new Docket 24-176 to address issues on capacity reservation for specific types of DER projects. Initial comments due June 7, and Reply comments due June 28.

## TRANSMISSION STUDY PROCESS UPDATES

Developers flagged for transmission studies can opt to wait until receiving their distribution System Impact Studies to decide whether to move forward with a transmission study or withdraw. Developer still has 15 business day to decide to move forward and sign SOW once distribution SIS results are received.

## MISO TRANSMISSION STUDY

Transmission Study deposits will be collected after MISO completes their screening and confirms the need for a study. Note: Study agreements will still be provided and signed prior to MISO being notified.

Developers will have 15 business days to provide study deposits after MISO provides their confirmation. MISO milestone dates can be seen at [misoenergy.org](https://misoenergy.org) under Quarterly DER AFS Study Cycle Schedules. Screening timeline begins prior to the 90-calendar day study timeline.

## INTERNAL TRANSMISSION STUDY (ITS)

Beginning in Q4, developers requiring an ITS will have 23 business days (15 business days + 8 business days automatic extension) to sign the Transmission SIS agreements and fund the study.

The cutoff for next calendar quarter's study is the 20th calendar date of the third month of the given calendar quarter. Studies that are signed and funded on or before the 20th calendar date will qualify to be part of the ITS for the next calendar quarter. Studies that are signed and funded after the 20th calendar date would qualify to be part of the ITS for the quarter after the next calendar quarter.

Projects can still opt to wait until distribution SIS is completed, although they may have to wait until the quarter after the next calendar quarter to enter ITS. Projects that opt to be studied in parallel will be studied in the next quarter.

## THREE PHASE REPEAT TRIP CHARGE PILOT

Effective 8/1/2024, the Three-Phase Repeat Trip Charge pilot was marked as complete and Xcel Energy will no longer charge for repeat trips at this time. The pilot was successful, seeing an increase in the pass-first-time percentages, from 50%

## Transmission Study Process Updates

### MISO

- Study deposits will be collected after MISO completes their screening and confirms the need for a study.
  - Note: Study agreements will still be provided and signed prior to MISO being notified.
- Developers will have 15 business days to provide study deposits after MISO provides their confirmation
- **Reminder** – MISO milestone dates can be seen at [Distribution\(misoenergy.org\)](https://www.misoenergy.org/planning/resource-utilization/distribution/)<sup>1</sup> under Quarterly DER AFS Study Cycle Schedules
  - Note: Screening timeline begins prior to the 90-calendar day study timeline

<sup>1</sup> <https://www.misoenergy.org/planning/resource-utilization/distribution/>

Northern States Power Company, a Minnesota corporation  
Minneapolis, Minnesota 55401

**MINNESOTA ELECTRIC RATE BOOK - MPUC NO. 2**

**MINNESOTA DISTRIBUTED ENERGY RESOURCES  
INTERCONNECTION PROCESS (MN DIP)**

Section No. 10  
Original Sheet No. 232

**Attachment 6: System Impact Study Agreement**

THIS AGREEMENT is made and entered on [[SertifiLG\_1]] by and between , a [[SertifiLG\_1]] organized and existing under the laws of the State of Minnesota, ("Interconnection Customer"), and Northern States Power Company, a Minnesota corporation, doing business as Xcel Energy ("Area EPS Operator"). Interconnection Customer and the Area EPS Operator each may be referred to as a "Party," or collectively as the "Parties."

**RECITALS**

**WHEREAS**, the Interconnection Customer is proposing to develop a Distributed Energy Resource (DER) or generating capacity addition to an existing DER consistent with the Interconnection Application completed by the Interconnection Customer on [DATE]; and

**WHEREAS**, the Interconnection Customer desires to interconnect the DER with the Area EPS Operator's electric system;

**WHEREAS**, the Interconnection Customer has requested the Area EPS Operator to perform a system impact study(s) to assess the impact of interconnecting the DER with the Area EPS Operator's electric System, and potential Affected System(s);

**NOW, THEREFORE**, in consideration of and subject to the mutual covenants contained herein the Parties agreed as follows:

- 1.0 When used in this Agreement, with initial capitalization, the terms specified shall have the meanings indicated or the meanings specified in the standard Minnesota Distributed Energy Resources Interconnection Procedures (MN DIP.)
- 2.0 The Interconnection Customer elects and the Area EPS Operator shall cause to be performed a system impact study(s) consistent with the MN DIP. The scope of a system impact study shall be subject to the assumptions set forth in this Agreement; including Attachment A.
- 3.0 A system impact study will be based upon the technical information provided by Interconnection Customer in the Interconnection Application. The Area EPS Operator reserves the right to request additional technical information from the Interconnection Customer as may reasonably become necessary consistent with Good Utility Practice during the course of the system impact study.

(Continued on Sheet No. 10-233)

Dated Filed: 12-14-18

By: Christopher B. Clark

Effective Date: 05-09-19

President, Northern States Power Company, a Minnesota Corporation

Docket No. E002/M-18-714

Order Date: 05-09-19



Northern States Power Company, a Minnesota corporation  
Minneapolis, Minnesota 55401

**MINNESOTA ELECTRIC RATE BOOK - MPUC NO. 2**

**MINNESOTA DISTRIBUTED ENERGY RESOURCES  
INTERCONNECTION PROCESS (MN DIP)**

Section No. 10  
Original Sheet No. 233

- 4.0 A system impact study may, as necessary, consist of a short circuit analysis, a stability analysis, a power flow analysis, voltage drop and flicker studies, protection and set point coordination studies, and grounding reviews. A system impact study shall state the assumptions upon which it is based, state the results of the analyses, and provide the requirement or potential impediments to providing the requested interconnection service, including a preliminary indication of the cost and length of time that would be necessary to correct any problems identified in those analyses and implement the interconnection. A system impact study shall provide a list of facilities that are required as a result of the Interconnection Application and non-binding good faith estimates of cost responsibility and time to construct.
- 5.0 A distribution system impact study shall incorporate a distribution load flow study, an analysis of equipment interrupting ratings, protection coordination study, voltage drop and flicker studies, protection and set point coordination studies, grounding reviews, and the impact on electric system operation, as necessary.
- 6.0 Affected Systems may participate in the preparation of a system impact study, with a division of costs among such entities as they may agree. All Affected Systems shall be afforded an opportunity to review and comment upon a system impact study that covers potential adverse system impacts on their electric systems.
- 7.0 If the Area EPS Operator uses a queuing procedure for sorting or prioritizing projects and their associated cost responsibilities for any required Network Upgrades, the system impact study shall consider all Distributed Energy Resources (and with respect to paragraph 7.3 below, any identified Upgrades associated with such higher queued interconnection) that, on the date the system impact study is commenced –
- 7.1 Are directly interconnected with the Area EPS Operator's electric system; or
- 7.2 Are interconnected with Affected Systems and may have an impact on the proposed interconnection; and
- 7.3 Have a pending higher queued Interconnection Application to interconnect with the Area EPS Operator's electric system.
- 8.0 A deposit of the equivalent of the good faith estimated cost of a distribution system impact study and the good faith estimated cost of a transmission system impact study shall be required from the Interconnection Customer when the signed Agreement is provided to the Area EPS Operator.
- 9.0 Any study fees shall be based on the Area EPS Operator's actual costs and will be invoiced to the Interconnection Customer within 20 Business Days after the study is completed and delivered and will include a summary of professional time.
- 10.0 The Interconnection Customer must pay any study costs that exceed the deposit without interest within 20 Business Days on receipt of the invoice or resolution of any dispute. If the deposit exceeds the invoiced fees, the Area EPS Operator shall refund such excess within 20 Business Days of the invoice without interest.

(Continued on Sheet No. 10-234)

Dated Filed: 12-14-18

By: Christopher B. Clark

Effective Date: 05-09-19

President, Northern States Power Company, a Minnesota Corporation

Docket No. E002/M-18-714

Order Date: 05-09-19

Northern States Power Company, a Minnesota corporation  
Minneapolis, Minnesota 55401

**MINNESOTA ELECTRIC RATE BOOK - MPUC NO. 2**

**MINNESOTA DISTRIBUTED ENERGY RESOURCES  
INTERCONNECTION PROCESS (MN DIP)**

Section No. 10  
Original Sheet No. 234

**11.0 Governing Law, Regulatory Authority, and Rules**

The validity, interpretation and enforcement of this Agreement and each of its provisions shall be governed by the laws of the state of Minnesota. This Agreement is subject to all Applicable Laws and Regulations. Each Party expressly reserves the right to seek changes in, appeal, or otherwise contest any laws, orders, or regulations of a Governmental Authority.

**12.0 Amendment**

The Parties may amend this Agreement by a written instrument duly executed by both Parties.

**13.0 No Third-Party Beneficiaries**

This Agreement is not intended to and does not create rights, remedies, or benefits of any character whatsoever in favor of any persons, corporations, associations, or entities other than the Parties, and the obligations herein assumed are solely for the use and benefit of the Parties, their successors in interest and where permitted, their assigns.

**14.0 Waiver**

14.1 The failure of a Party to this Agreement to insist, on any occasion, upon strict performance of any provision of this Agreement will not be considered a waiver of any obligation, right, or duty of, or imposed upon, such Party.

14.2 Any waiver at any time by either Party of its rights with respect to this Agreement shall not be deemed a continuing waiver or a waiver with respect to any other failure to comply with any other obligation, right, duty of this Agreement. Termination or default of this Agreement for any reason by Interconnection Customer shall not constitute a waiver of the Interconnection Customer's legal rights to obtain an interconnection from the Area EPS Operator. Any waiver of this Agreement shall, if requested, be provided in writing.

**15.0 Multiple Counterparts**

This Agreement may be executed in two or more counterparts, each of which is deemed an original but all constitute one and the same instrument. Electronic signatures are acceptable if the Area EPS Operator has made such a determination pursuant to MN DIP 1.2.1.1.

**16.0 No Partnership**

This Agreement shall not be interpreted or construed to create an association, joint venture, agency relationship, or partnership between the Parties or to impose any partnership obligation or partnership liability upon either Party. Neither Party shall have any right, power or authority to enter into any agreement or undertaking for, or act on behalf of, or to act as or be an agent or representative of, or to otherwise bind, the other Party.

(Continued on Sheet No. 10-235)

Dated Filed: 12-14-18

By: Christopher B. Clark

Effective Date: 05-09-19

President, Northern States Power Company, a Minnesota Corporation

Docket No. E002/M-18-714

Order Date: 05-09-19

Northern States Power Company, a Minnesota corporation  
Minneapolis, Minnesota 55401

**MINNESOTA ELECTRIC RATE BOOK - MPUC NO. 2**

**MINNESOTA DISTRIBUTED ENERGY RESOURCES  
INTERCONNECTION PROCESS (MN DIP)**

Section No. 10  
Original Sheet No. 235

**17.0 Severability**

If any provision or portion of this Agreement shall for any reason be held or adjudged to be invalid or illegal or unenforceable by any court of competent jurisdiction or other Governmental Authority, (1) such portion or provision shall be deemed separate and independent, (2) the Parties shall negotiate in good faith to restore insofar as practicable the benefits to each Party that were affected by such ruling, and (3) the remainder of this Agreement shall remain in full force and effect.

**18.0 Subcontractors**

Nothing in this Agreement shall prevent a Party from utilizing the services of any subcontractor as it deems appropriate to perform its obligations under this Agreement; provided, however, that each Party shall require its subcontractors to comply with all applicable terms and conditions of this Agreement in providing such services and each Party shall remain primarily liable to the other Party for the performance of such subcontractor.

18.1 The creation of any subcontract relationship shall not relieve the hiring Party of any of its obligations under this Agreement. The hiring Party shall be fully responsible to the other Party for the acts or omissions of any subcontractor the hiring Party hires as if no subcontract had been made; provided, however, that in no event shall the Area EPS Operator be liable for the actions or inactions of the Interconnection Customer or its subcontractors with respect to obligations of the Interconnection Customer under this Agreement. Any applicable obligation imposed by this Agreement upon the hiring Party shall be equally binding upon, and shall be construed as having application to, any subcontractor of such Party.

18.2 The obligations under this article will not be limited in any way by any limitation of subcontractor's insurance.

**19.0 Inclusion of Area EPS Operator Tariffs and Rules**

The interconnection services provided under this Agreement shall at all times be subject to the terms and conditions set forth in the tariff schedules and rules applicable to the electric service provided by the Area EPS Operator, which tariff schedules and rules are hereby incorporated into this Agreement by this reference. Notwithstanding any other provisions of this Agreement, the Area EPS Operator shall have the right to unilaterally file with the Minnesota Public Utilities Commission, pursuant to the Commission's rules and regulations, an application for change in rates, charges, classification, service, tariff, or rule or any agreement relating thereto. The Interconnection Customer shall also have the right to unilaterally file with the Minnesota Public Utilities Commission, pursuant to the Commission's rules and regulations, an application for change in rates, charges, classification, service, tariff, or rule or any agreement relating thereto. Each Party shall have the right to protest any such filing by the other Party and/or to participate fully in any proceeding before the Minnesota Public Utilities Commission in which such modifications may be considered, pursuant to the Commission's rules and regulations.

(Continued on Sheet No. 10-236)

Dated Filed: 12-14-18

By: Christopher B. Clark

Effective Date: 05-09-19

President, Northern States Power Company, a Minnesota Corporation

Docket No. E002/M-18-714

Order Date: 05-09-19

Northern States Power Company, a Minnesota corporation  
Minneapolis, Minnesota 55401

**MINNESOTA ELECTRIC RATE BOOK - MPUC NO. 2**

**MINNESOTA DISTRIBUTED ENERGY RESOURCES  
INTERCONNECTION PROCESS (MN DIP)  
(Continued)**

Section No. 10  
Original Sheet No. 236

**IN WITNESS THEREOF**, the Parties have caused this Agreement to be duly executed by their duly authorized officers or agents on the day and year first above written.

|   |  |
|---|--|
| <b>Northern States Power Company, a Minnesota corporation<br/>(Area EPS Operator)</b> | _____<br><b>(Interconnection Customer)</b> |
| Signed: _____   | Signed: _____                              |
| Name (Printed): _____   | Name (Printed): _____                      |
| Title: _____  | Title: _____                               |

N  
|  
N

**Amendment**

As allowed by paragraph 12.0 above, the Parties have agreed to amend this Agreement. With the signature of the Parties above, the Parties have agreed to this Amendment.

If the project subject to this Agreement requires screening for a Midcontinent Independent System Operator (MISO) transmission system impact study, the deposit referred to in paragraph 8.0 for the good faith estimated cost of such a transmission system impact study shall be paid within 10 Business Days after the Company informs the Interconnection Customer that the MISO screening results show that a full MISO transmission system impact study is required. Due to tight MISO timelines for payment, and the need for the Company to receive the payment and then forward that payment to MISO in a timely way, the Parties agree that notwithstanding the general provisions in MN DIP 5.2.3 for extending time, there shall be no extension requested or allowed for the above 10 Business Day required payment date. Timely payment is of the essence. The Parties agree that any failure of the Interconnection Customer to make timely payment of this amount shall cause the above application to lose its position in queue and to be withdrawn.

(Continued on Sheet No. 10-237)

|             |               |   |                 |          |
|-------------|---------------|---|-----------------|----------|
| Date Filed: | 12-14-18      | By: Christopher B. Clark  | Effective Date: | 05-09-19 |
|             |               | President, Northern States Power Company, a Minnesota corporation |                 |          |
| Docket No.  | E002/M-18-714 |   | Order Date:     | 05-09-19 |

Northern States Power Company, a Minnesota corporation  
Minneapolis, Minnesota 55401

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**MINNESOTA ELECTRIC RATE BOOK - MPUC NO. 2**

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**MINNESOTA DISTRIBUTED ENERGY RESOURCES  
INTERCONNECTION PROCESS (MN DIP)  
(Continued)**

Section No. 10  
Original Sheet No. 237

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**Attachment 6: System Impact Study Agreement (cont'd)**

**Attachment A**

**Assumptions Used in Conducting the System Impact Study**

The system impact study shall be based upon the following assumptions:

- 1) Designation of Point of Common Coupling and configuration to be studied.
- 2) Designation of alternative Points of DER Interconnection and configuration.

1) and 2) are to be completed by the Interconnection Customer. Other assumptions (listed below) are to be provided by the Interconnection Customer and the Area EPS Operator. The Area EPS Operator shall use the Reference Point for Applicability which is either the Point of Common Coupling or the Point(s) of DER Interconnection as described in IEEE 1547.

**Additional DER technical data required for System Impact Study**

Pursuant to above par. 8.0 and MN DIP 4.3.6, this is for a transmission System Impact Study and may also be part of a cluster study. The Cluster Study Guidelines attachment to this transmission System Impact Study Agreement are part of the transmission System Impact Study Agreement. This transmission System Impact Study, if part of a cluster study, would include one or more other projects.

- Consistent with tariff sheet 10-233, par. 8.0 of the System Impact Study Agreement (SISA) and tariff sheet 10-239, par 5.0 of the Facilities Study Agreement (FSA), a separate Statement of Work (SOW) has been issued to the Interconnection Customer showing the Interconnection Customer's share of the expense of the cluster System Impact Study as conveyed by the study participants to the Area EPS Operator.

- Each project above needs to have a signed System Impact Study Agreement and signed Facilities Study Agreement, with full payment delivered to the Area EPS Operator on or before the due date as communicated by the Area EPS Operator.

(Continued on Sheet No. 10-238)

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|             |               |   |                 |          |
|-------------|---------------|---|-----------------|----------|
| Date Filed: | 12-14-18      | By: Christopher B. Clark  | Effective Date: | 05-09-19 |
|             |               | President, Northern States Power Company, a Minnesota corporation |                 |          |
| Docket No.  | E002/M-18-714 |   | Order Date:     | 05-09-19 |

## CERTIFICATE OF SERVICE

I, Joshua DePauw, 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.      E002/C-25-76**

Dated this 10<sup>th</sup> day of February 2025

/s/

---

Joshua DePauw  
Regulatory Administrator

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| 12 | Derek      | Bertsch   | derek.bertsch@mrenergy.com       | Missouri River Energy Services     |        | 3724 West Avera Drive<br>PO Box 88920                                      | Electronic Service |                           | No                | Official 25-76    |

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| 79 | Adam       | Heinen    | aheinen@dakotaelectric.com      | Dakota Electric Association      |  | 4300 220th St W Farmington MN, 55024 United States                   | Electronic Service |                           | No                | Official 25-76    |
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| 81 | Jessy      | Hennesy   | jessy.hennesy@avantenergy.com   | Avant Energy                     |  | 220 S. Sixth St. Ste 1300 Minneapolis MN, 55402 United States        | Electronic Service |                           | No                | Official 25-76    |
| 82 | Joe        | Hoffman   | ja.hoffman@smmpa.org            | SMMPA                            |  | 500 First Ave SW Rochester MN, 55902-3303 United States              | Electronic Service |                           | No                | Official 25-76    |
| 83 | Ronald     | Horman    | rhorman@redwoodelectric.com     | Redwood Electric Cooperative     |  | 60 Pine Street Clements MN, 56224 United States                      | Electronic Service |                           | No                | Official 25-76    |
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| 92 | Nate       | Jones            | njones@hcpd.com                    | Heartland Consumers Power        |        | PO Box 248 Madison SD, 57042 United States                           | Electronic Service |                           | No                | Official 25-76    |
| 93 | Julie      | Jorgensen        | julie@greenmark.us.com             | Greenmark Solar                  |        | 4630 Quebec Ave N New Hope MN, 55428-4973 United States              | Electronic Service |                           | No                | Official 25-76    |
| 94 | Kevin      | Joyce            | kjoyce@tesla.com                   |                                  |        | null null, null United States  | Electronic Service |                           | No                | Official 25-76    |
| 95 | Cliff      | Kaehler          | cliff.kaehler@novelenergy.biz      | Novel Energy Solutions LLC       |        | 4710 Blaylock Way Inver Grove Heights MN, 55076 United States        | Electronic Service |                           | No                | Official 25-76    |
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| 98 | Jack       | Kegel            | jkegel@mmua.org                    | MMUA                             |        | 3025 Harbor Lane N Suite 400 Plymouth MN, 55447-5142 United States   | Electronic Service |                           | No                | Official 25-76    |
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| 103 | Jack       | Kluempke  | jack.kluempke@state.mn.us      |                                    | Department of Commerce | 85 7th Place East Suite 600 St. Paul MN, 55101 United States          | Electronic Service |                           | No                | Official 25-76    |
| 104 | Aaron      | Knoll     | aknoll@greeneespel.com         | Greene Espel PLLP                  |                        | 222 South Ninth Street Suite 2200 Minneapolis MN, 55402 United States | Electronic Service |                           | No                | Official 25-76    |
| 105 | Steve      | Kosbab    | skosbab@meeker.coop            | Meeker Cooperative Light and Power |                        | 1725 US Hwy 12 E Litchfield MN, 55355 United States                   | Electronic Service |                           | No                | Official 25-76    |
| 106 | Michael    | Krause    | michaelkrause61@yahoo.com      |                                    |                        | 1200 Plymouth Avenue Minneapolis MN, 55411 United States              | Electronic Service |                           | No                | Official 25-76    |
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| 108 | Corrina    | Kumpe     | ckumpe@mysunshare.com          |                                    |                        | null null, null United States   | Electronic Service |                           | No                | Official 25-76    |
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| 110 | Burnell    | Lauer     | blauer.sundial@gmail.com       | Sundial Solar                      |                        | 3209 W. 76th St #305 Edina MN, 55435 United States                    | Electronic Service |                           | No                | Official 25-76    |
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|     |            |               |                                  |   |        | MN, 55402<br>United States   |                    |                           |                   |                   |
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| 114 | Amy        | Liberkowsky   | amy.a.liberkowsky@xcelenergy.com | Xcel Energy                               |        | 414 Nicollet Mall 7th Floor Minneapolis MN, 55401-1993 United States | Electronic Service |                           | No                | Official 25-76    |
| 115 | Carl       | Linville      | clinville@raponline.org          |   |        | 50 State Street Suite #3 Montpelier VT, 05602 United States          | Electronic Service |                           | No                | Official 25-76    |
| 116 | Phillip    | Lipetsky      | greenenergyproductsllc@gmail.com | Green Energy Products                     |        | PO Box 108 Springfield MN, 56087 United States                       | Electronic Service |                           | No                | Official 25-76    |
| 117 | Jody       | Londo         | jody.l.londo@xcelenergy.com      | Xcel Energy                               |        | 414 Nicollet Mall 7th Floor Minneapolis MN, 55401-1993 United States | Electronic Service |                           | No                | Official 25-76    |
| 118 | Brian      | Lydic         | brian@irecusa.org                | Interstate Renewable Energy Council, Inc. |        | PO Box 1156 Latham NY, 12110-1156 United States                      | Electronic Service |                           | No                | Official 25-76    |
| 119 | Richard    | Macke         | macker@powersystem.org           | Power System Engineering, Inc.            |        | 10710 Town Square Dr NE Ste 201 Minneapolis MN, 55449 United States  | Electronic Service |                           | No                | Official 25-76    |
| 120 | Alice      | Madden        | alice@communitypowermn.org       | Community Power                           |        | 2720 E 22nd St Minneapolis MN, 55406 United States                   | Electronic Service |                           | No                | Official 25-76    |
| 121 | Gregg      | Mast          | gmast@cleanenergyeconomymn.org   | Clean Energy Economy Minnesota            |        | 4808 10th Avenue S Minneapolis MN, 55417 United States               | Electronic Service |                           | No                | Official 25-76    |
| 122 | Jason      | Maur          | jason.maur@renesolapower.com     | Renesola Power Holdings, LLC              |        | 850 Canal Street 3rd Floor Stamford CT, 06902                        | Electronic Service |                           | No                | Official 25-76    |

| #   | First Name | Last Name  | Email                          | Organization                       | Agency | Address  | Delivery Method    | Alternate Delivery Method | View Trade Secret | Service List Name |
|-----|------------|------------|--------------------------------|------------------------------------|--------|--|--------------------|---------------------------|-------------------|-------------------|
|     |            |            |                                |                                    |        | United States  |                    |                           |                   |                   |
| 123 | Jess       | McCullough | jmccullough@mnpower.com        | Minnesota Power                    |        | 30 W Superior St<br>Duluth MN, 55802<br>United States                                | Electronic Service |                           | No                | Official 25-76    |
| 124 | Sara G     | McGrane    | smcgrane@felhaber.com          | Felhaber Larson                    |        | 220 S 6th St<br>Ste 2200<br>Minneapolis MN, 55420<br>United States                   | Electronic Service |                           | No                | Official 25-76    |
| 125 | Natalie    | McIntire   | natalie.mcintire@gmail.com     | Wind on the Wires                  |        | 570 Asbury St<br>Ste 201<br>Saint Paul MN, 55104-1850<br>United States               | Electronic Service |                           | No                | Official 25-76    |
| 126 | Matthew    | Melewski   | matthew@theboutiquefirm.com    | Nokomis Energy LLC & Ole Solar LLC |        | 2639 Nicollet Ave<br>Ste 200<br>Minneapolis MN, 55408<br>United States               | Electronic Service |                           | No                | Official 25-76    |
| 127 | Thomas     | Melone     | thomas.melone@allcous.com      | Minnesota Go Solar LLC             |        | 222 South 9th Street<br>Suite 1600<br>Minneapolis MN, 55120<br>United States         | Electronic Service |                           | No                | Official 25-76    |
| 128 | Michael    | Menzel     | mike.m@sagiliti.com            | Sagiliti                           |        | 23505 Smithtown Rd.<br>Suite 280<br>Excelsior MN, 55331<br>United States             | Electronic Service |                           | No                | Official 25-76    |
| 129 | Tim        | Mergen     | tmergen@meeker.coop            | Meeker Cooperative Light And Power |        | 1725 US Hwy 12 E.<br>Suite 100<br>PO Box 68<br>Litchfield MN, 55355<br>United States | Electronic Service |                           | No                | Official 25-76    |
| 130 | Pontius    | Mike       | mpontius@mnpower.com           |                                    |        | null null, null<br>United States   | Electronic Service |                           | No                | Official 25-76    |
| 131 | Brian      | Millberg   | fwengineering@comcast.net      |                                    |        | 695 Grand Ave<br>#222<br>Saint Paul MN, 55105<br>United States                       | Electronic Service |                           | No                | Official 25-76    |
| 132 | Luther     | Miller     | luther.c.miller@xcelenergy.com | Xcel Energy                        |        | null null, null<br>United States   | Electronic Service |                           | No                | Official 25-76    |
| 133 | Marc       | Miller     | mmiller@soltage.com            | Soltage, LLC                       |        | 66 York Street, 5th Floor<br>Jersey City NJ, 07302<br>United States                  | Electronic Service |                           | No                | Official 25-76    |
| 134 | Stacy      | Miller     | stacy.miller@minneapolismn.gov | City of Minneapolis                |        | 350 S. 5th Street<br>Room M  | Electronic Service |                           | No                | Official 25-76    |

| #   | First Name | Last Name   | Email                            | Organization                         | Agency | Address  | Delivery Method    | Alternate Delivery Method | View Trade Secret | Service List Name |
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|     |            |             |                                  |                                      |        | 301<br>Minneapolis<br>MN, 55415<br>United States                                     |                    |                           |                   |                   |
| 135 | Marcus     | Mills       | marcus@communitypowermn.org      | Community Power                      |        | 2720 E<br>22nd St<br>Minneapolis<br>MN, 55406<br>United States                       | Electronic Service |                           | No                | Official 25-76    |
| 136 | Darrick    | Moe         | darrick@mrea.org                 | Minnesota Rural Electric Association |        | 11640 73rd<br>Ave N<br>Maple Grove MN,<br>55369<br>United States                     | Electronic Service |                           | No                | Official 25-76    |
| 137 | David      | Moeller     | dmoeller@allete.com              | Minnesota Power                      |        |  | Electronic Service |                           | No                | Official 25-76    |
| 138 | Dalene     | Monsebroten | dalene.monsebroten@nmpagency.com | Northern Municipal Power Agency      |        | 123 2nd St<br>W<br>Thief River Falls MN,<br>56701<br>United States                   | Electronic Service |                           | No                | Official 25-76    |
| 139 | Andrew     | Moratzka    | andrew.moratzka@stoel.com        | Stoel Rives LLP                      |        | 33 South<br>Sixth St Ste<br>4200<br>Minneapolis<br>MN, 55402<br>United States        | Electronic Service |                           | No                | Official 25-76    |
| 140 | Pouya      | Najmaie     | najm0001@gmail.com               | Cooperative Energy Futures           |        | 3416 16th<br>Ave S<br>Minneapolis<br>MN, 55407<br>United States                      | Electronic Service |                           | No                | Official 25-76    |
| 141 | Alex       | Nelson      | anelson@dakotaelectric.com       | Dakota Electric Association          |        | 4300 220nd<br>St<br>Farmington<br>MN, 55024<br>United States                         | Electronic Service |                           | No                | Official 25-76    |
| 142 | Ben        | Nelson      | benn@cmpasgroup.org              | CMMPA                                |        | 459 South<br>Grove<br>Street<br>Blue Earth<br>MN, 56013<br>United States             | Electronic Service |                           | No                | Official 25-76    |
| 143 | Darin      | Nelson      | dnelson@minnetonkamn.gov         | City of Minnetonka                   |        | 14600<br>Minnetonka<br>Bld<br>Minnetonka<br>MN, 55345<br>United States               | Electronic Service |                           | No                | Official 25-76    |
| 144 | David      | Niles       | david.niles@avantenergy.com      | Minnesota Municipal Power Agency     |        | 220 South<br>Sixth Street<br>Suite 1300<br>Minneapolis<br>MN, 55402<br>United States | Electronic Service |                           | No                | Official 25-76    |
| 145 | Michael    | Noble       | noble@fresh-energy.org           | Fresh Energy                         |        | 408 Saint<br>Peter St Ste<br>350<br>Saint Paul<br>MN, 55102<br>United States         | Electronic Service |                           | No                | Official 25-76    |
| 146 | Rolf       | Nordstrom   | rnordstrom@gpisd.net             | Great Plains Institute               |        | 2801 21ST<br>AVE S STE   | Electronic Service |                           | No                | Official 25-76    |

| #   | First Name | Last Name | Email                            | Organization                                  | Agency                      | Address   | Delivery Method    | Alternate Delivery Method | View Trade Secret | Service List Name |
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|     |            |           |                                  |   |                             | 220<br>Minneapolis<br>MN, 55407-1229<br>United States                           |                    |                           |                   |                   |
| 147 | Samantha   | Norris    | samanthanorris@alliantenergy.com | Interstate Power and Light Company            |                             | 200 1st Street SE<br>PO Box 351<br>Cedar Rapids IA, 52406-0351<br>United States | Electronic Service |                           | No                | Official 25-76    |
| 148 | Logan      | O'Grady   | logrady@mnseia.org               | Minnesota Solar Energy Industries Association |                             | 2288 University Ave W<br>St. Paul MN, 55114<br>United States                    | Electronic Service |                           | No                | Official 25-76    |
| 149 | Patty      | O'Keefe   | patty.okeefe@sierraclub.org      |   |                             | 2525 Emerson Ave S Apt 2<br>Minneapolis MN, 55405<br>United States              | Electronic Service |                           | No                | Official 25-76    |
| 150 | Timothy    | O'Leary   | toleary@llec.coop                | Lyon-Lincoln Electric Cooperative, Inc        |                             | P.O. Box 639<br>Tyler MN, 56178-0639<br>United States                           | Electronic Service |                           | No                | Official 25-76    |
| 151 | Jeff       | O'Neill   | jeff.oneill@ci.monticello.mn.us  | City of Monticello                            |                             | 505 Walnut Street<br>Suite 1<br>Monticello MN, 55362<br>United States           | Electronic Service |                           | No                | Official 25-76    |
| 152 | Russell    | Olson     | rolson@hcpd.com                  | Heartland Consumers Power District            |                             | PO Box 248<br>Madison SD, 57042-0248<br>United States                           | Electronic Service |                           | No                | Official 25-76    |
| 153 | Wendi      | Olson     | wolson@otpc.com                  | Otter Tail Power Company                      |                             | 215 South Cascade<br>Fergus Falls MN, 56537<br>United States                    | Electronic Service |                           | No                | Official 25-76    |
| 154 | Carol A.   | Overland  | overland@legalelectric.org       | Legalelectric - Overland Law Office           |                             | 1110 West Avenue<br>Red Wing MN, 55066<br>United States                         | Electronic Service |                           | No                | Official 25-76    |
| 155 | Bethany    | Owen      | bowen@mnpower.com                | Minnesota Power                               |                             | 30 West Superior Street<br>Duluth MN, 55802<br>United States                    | Electronic Service |                           | No                | Official 25-76    |
| 156 | Cezar      | Panait    | cezar.panait@state.mn.us         |   | Public Utilities Commission | 121 7th Place East<br>Suite 350<br>St. Paul MN, 55101<br>United States          | Electronic Service |                           | No                | Official 25-76    |
| 157 | Eric       | Pasi      | ericp@ips-solar.com              | IPS Solar                                     |                             | 2670 Patton Rd<br>Roseville MN, 55113   | Electronic Service |                           | No                | Official 25-76    |

| #   | First Name | Last Name | Email                              | Organization                            | Agency                 | Address  | Delivery Method    | Alternate Delivery Method | View Trade Secret | Service List Name |
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|     |            |           |                                    |   |                        | United States  |                    |                           |                   |                   |
| 158 | Dan        | Patry     | dpatry@sunedison.com               | SunEdison                               |                        | 600 Clipper Drive<br>Belmont CA, 94002<br>United States                          | Electronic Service |                           | No                | Official 25-76    |
| 159 | Jeffrey C  | Paulson   | jeff.jcplaw@comcast.net            | Paulson Law Office, Ltd.                |                        | 4445 W 77th Street<br>Suite 224 Edina MN, 55435<br>United States                 | Electronic Service |                           | No                | Official 25-76    |
| 160 | Dean       | Pawlowski | dpawlowski@otpc.com                | Otter Tail Power Company                |                        | PO Box 496<br>215 S. Cascade St.<br>Fergus Falls MN, 56537-0496<br>United States | Electronic Service |                           | No                | Official 25-76    |
| 161 | Susan      | Peirce    | susan.peirce@state.mn.us           |   | Department of Commerce | 85 Seventh Place East<br>St. Paul MN, 55101<br>United States                     | Electronic Service |                           | No                | Official 25-76    |
| 162 | Wess       | Pfaff     | wes.pfaff@mrenergy.com             |   |                        | null null, null<br>United States   | Electronic Service |                           | No                | Official 25-76    |
| 163 | DONNA      | PICKARD   | dpickard@aladdinsolar.com          | Genie Solar Support Services            |                        | 1215 Lilac Lane<br>Excelsior MN, 55331<br>United States                          | Electronic Service |                           | No                | Official 25-76    |
| 164 | Morgan     | Pitz      | morgan.pitz@us-solar.com           | US Solar                                |                        | 100 N 6th St #410B<br>Minneapolis MN, 55403<br>United States                     | Electronic Service |                           | No                | Official 25-76    |
| 165 | Crystal    | Pomerleau | crystal.r.pomerleau@xcelenergy.com | Xcel                                    |                        | null null, null<br>United States   | Electronic Service |                           | No                | Official 25-76    |
| 166 | Kristel    | Porter    | kristel@mnrenewablenow.org         | MN Renewable Now                        |                        | null null, null<br>United States   | Electronic Service |                           | No                | Official 25-76    |
| 167 | Paula      | Prahl     | paula.prahl@dominiuminc.com        | Dominium                                |                        | 2905 Northwest Blvd<br>Ste 150 Plymouth MN, 55441<br>United States               | Electronic Service |                           | No                | Official 25-76    |
| 168 | Kevin      | Pranis    | kpranis@liunagroc.com              | Laborers' District Council of MN and ND |                        | 81 E Little Canada Road<br>St. Paul MN, 55117<br>United States                   | Electronic Service |                           | No                | Official 25-76    |
| 169 | David G.   | Prazak    | dprazak@otpc.com                   | Otter Tail Power Company                |                        | P.O. Box 496<br>215 South Cascade Street<br>Fergus Falls MN, 56538-0496          | Electronic Service |                           | No                | Official 25-76    |

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|     |                |                                |                                      |                                      |   | United States   |                    |                           |                   |                   |
| 170 | Elizabeth      | Psihos                         | elizabeth.psihos@idealenergies.com   |                                      |   | null null, null United States   | Electronic Service |                           | No                | Official 25-76    |
| 171 | Bridget        | Rathsack                       | bridget.rathsack@burnsvillemn.gov    | City of Burnsville, MN               |   | 100 Civic Center Parkway Burnsville MN, 55337 United States           | Electronic Service |                           | No                | Official 25-76    |
| 172 | Peter          | Reese                          | preese@sundialsolarenergy.com        | Sundial Energy, LLC                  |   | 3363 Republic Ave Saint Louis Park MN, 55426 United States            | Electronic Service |                           | No                | Official 25-76    |
| 173 | John C.        | Reinhardt                      |                                      | Laura A. Reinhardt                   |   | 3552 26th Ave S Minneapolis MN, 55406 United States                   | Paper Service      |                           | No                | Official 25-76    |
| 174 | Generic Notice | Residential Utilities Division | residential.utilities@ag.state.mn.us |                                      | Office of the Attorney General - Residential Utilities Division | 1400 BRM Tower 445 Minnesota St St. Paul MN, 55101-2131 United States | Electronic Service |                           | No                | Official 25-76    |
| 175 | Kevin          | Reuther                        | kreuther@mncenter.org                | MN Center for Environmental Advocacy |   | 26 E Exchange St, Ste 206 St. Paul MN, 55101-1667 United States       | Electronic Service |                           | No                | Official 25-76    |
| 176 | Micah          | Revell                         | micah.revell@stinson.com             | Stinson LLP                          |   | 50 South Sixth St Ste 2600 Minneapolis MN, 55402 United States        | Electronic Service |                           | No                | Official 25-76    |
| 177 | Jonathan       | Roberts                        | jroberts@soltage.com                 | Soltage                              |   | 66 York St 5th Floor Jersey City NJ, 07302 United States              | Electronic Service |                           | No                | Official 25-76    |
| 178 | Kristi         | Robinson                       | krobinson@star-energy.com            | STAR Energy Services, LLC            |   | 1401 South Broadway Pelican Rapids MN, 56572 United States            | Electronic Service |                           | No                | Official 25-76    |
| 179 | Daniel         | Rogers                         | dan@nokomispartners.com              |                                      |   | 2639 Nicollet Ave Ste 200 Minneapolis MN, 55408 United States         | Electronic Service |                           | No                | Official 25-76    |
| 180 | Michael        | Ruiz                           | michael.ruiz@xcelenergy.com          | Xcel Energy                          |   | null null, null United States   | Electronic Service |                           | No                | Official 25-76    |

| #   | First Name | Last Name     | Email                             | Organization                              | Agency                      | Address   | Delivery Method    | Alternate Delivery Method | View Trade Secret | Service List Name |
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| 181 | Nathaniel  | Runke         | nrunke@local49.org                |   |                             | 611 28th St.<br>NW<br>Rochester<br>MN, 55901<br>United States                   | Electronic Service |                           | No                | Official 25-76    |
| 182 | Darla      | Ruschen       | d.ruschen@bcrea.coop              | Brown County Rural Electrical Association |                             | PO Box 529<br>24386 State Highway 4<br>Sleepy Eye<br>MN, 56085<br>United States | Electronic Service |                           | No                | Official 25-76    |
| 183 | Delaney    | Russell       | delaney@mnipl.org                 | Just Solar Coalition                      |                             | 4407 E Lake Street<br>Minneapolis<br>MN, 55407<br>United States                 | Electronic Service |                           | No                | Official 25-76    |
| 184 | Robert K.  | Sahr          | bsahr@eastriver.coop              | East River Electric Power Cooperative     |                             | P.O. Box 227<br>Madison<br>SD, 57042<br>United States                           | Electronic Service |                           | No                | Official 25-76    |
| 185 | Ian        | SantosMeeker  | ians@ips-solar.com                | IPS Solar                                 |                             | null null, null<br>United States  | Electronic Service |                           | No                | Official 25-76    |
| 186 | Joseph L   | Sathe         | jsathe@kennedy-graven.com         | Kennedy & Graven, Chartered               |                             | 150 S 5th St<br>Ste 700<br>Minneapolis<br>MN, 55402<br>United States            | Electronic Service |                           | No                | Official 25-76    |
| 187 | Kenric     | Scheevel      | kjs@dairynet.com                  | Dairyland Power Cooperative               |                             | 3200 East Ave S<br>PO Box 817<br>La Crosse<br>WI, 54602<br>United States        | Electronic Service |                           | No                | Official 25-76    |
| 188 | Dean       | Schiro        | dean.e.schiro@xcelenergy.com      | Xcel Energy                               |                             | null null, null<br>United States  | Electronic Service |                           | No                | Official 25-76    |
| 189 | Kay        | Schraeder     | kschraeder@minnkota.com           | Minnkota Power                            |                             | 5301 32nd Ave S<br>Grand Forks<br>ND, 58201<br>United States                    | Electronic Service |                           | No                | Official 25-76    |
| 190 | Matthew    | Schuerger     | matthew.schuerger@state.mn.us     |   | Public Utilities Commission | 121 7th Place East<br>Suite 350<br>St. Paul<br>MN, 55101<br>United States       | Electronic Service |                           | No                | Official 25-76    |
| 191 | Ronald J.  | Schwartau     | rschwartau@noblesce.com           | Nobles Electric Cooperative               |                             | 22636 U.S. Hwy. 59<br>Worthington<br>MN, 56187<br>United States                 | Electronic Service |                           | No                | Official 25-76    |
| 192 | Christine  | Schwartz      | regulatory.records@xcelenergy.com | Xcel Energy                               |                             | 414 Nicollet Mall FL 7<br>Minneapolis<br>MN, 55401-1993<br>United States        | Electronic Service |                           | No                | Official 25-76    |
| 193 | Rob        | Scott Hovland | rob.scott-hovland@mrenergy.com    | Missouri River Energy Services            |                             | 3724 W Avera Dr<br>PO Box 88920   | Electronic Service |                           | No                | Official 25-76    |

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|     |                |                |                                   |   |                             | Sioux Falls SD, 57109-8920 United States                                   |                    |                           |                   |                   |
| 194 | Dean           | Sedgwick       | sedgwick@itascapower.com          | Itasca Power Company                      |                             | PO Box 455 Spring Lake MN, 56680 United States                             | Electronic Service |                           | No                | Official 25-76    |
| 195 | Will           | Seuffert       | will.seuffert@state.mn.us         |   | Public Utilities Commission | 121 7th PI E Ste 350 Saint Paul MN, 55101 United States                    | Electronic Service |                           | No                | Official 25-76    |
| 196 | Janet          | Shaddix Elling | jshaddix@janetshaddix.com         | Shaddix And Associates                    |                             | 7400 Lyndale Ave S Ste 190 Richfield MN, 55423 United States               | Electronic Service |                           | No                | Official 25-76    |
| 197 | David          | Shaffer        | david.shaffer@novelenergy.biz     | Novel Energy Solutions                    |                             | 2303 Wycliff St Ste 300 St. Paul MN, 55114 United States                   | Electronic Service |                           | No                | Official 25-76    |
| 198 | Christopher L. | Sherman        | csherman@sherman-associates.com   | Solar Holdings LLC                        |                             | 233 Park Ave S Ste 201 Minneapolis MN, 55415 United States                 | Electronic Service |                           | No                | Official 25-76    |
| 199 | Doug           | Shoemaker      | dougs@charter.net                 | Minnesota Renewable Energy                |                             | 2928 5th Ave S Minneapolis MN, 55408 United States                         | Electronic Service |                           | No                | Official 25-76    |
| 200 | Felicia        | Skaggs         | fskaggs@meeker.coop               | Meeker Cooperative Light & Power          |                             | 1725 US Highway 12 E Suite 100 Litchfield MN, 55355 United States          | Electronic Service |                           | No                | Official 25-76    |
| 201 | Trevor         | Smith          | trevor.smith@avantenergy.com      | Avant Energy, Inc.                        |                             | 220 South Sixth Street Suite 1300 Minneapolis MN, 55402 United States      | Electronic Service |                           | No                | Official 25-76    |
| 202 | Rafi           | Sohail         | rafi.sohail@centerpointenergy.com | CenterPoint Energy                        |                             | 800 LaSalle Avenue P.O. Box 59038 Minneapolis MN, 55459-0038 United States | Electronic Service |                           | No                | Official 25-76    |
| 203 | Beth           | Soholt         | bsoholt@cleangridalliance.org     | Clean Grid Alliance                       |                             | 570 Asbury Street Suite 201 St. Paul MN, 55104 United States               | Electronic Service |                           | No                | Official 25-76    |
| 204 | Marcia         | Solie          | m.solie@bcrea.coop                | Brown County Rural Electrical Association |                             | 24386 State Hwy. 4, PO Box 529 Sleepy Eye                                  | Electronic Service |                           | No                | Official 25-76    |



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|     |            |           |                                |  |        | MN, 56085<br>United States   |                    |                           |                   |                   |
| 205 | Braden     | Solum     | braden.solum@idealenergies.com | iDEAL<br>Energies                        |        | 5810 Nicollet Ave<br>Minneapolis<br>MN, 55419<br>United States   | Electronic Service |                           | No                | Official 25-76    |
| 206 | Karl       | Sonneman  | karl17@hbc.com                 | Law Office of<br>Karl W.<br>Sonneman     |        | 111 Riverfront<br>Suite 202<br>Winona MN,<br>55987<br>United States                                      | Electronic Service |                           | No                | Official 25-76    |
| 207 | Brandon    | Stamp     | brandon.j.stamp@xcelenergy.com | Xcel Energy                              |        | 401 Nicollet<br>Mall<br>Minneapolis<br>MN, 55401<br>United States  | Electronic Service |                           | No                | Official 25-76    |
| 208 | Sky        | Stanfield | stanfield@smwlaw.com           | Shute, Mihaly<br>& Weinberger            |        | 396 Hayes<br>Street<br>San Francisco<br>CA, 94102<br>United States                                       | Electronic Service |                           | No                | Official 25-76    |
| 209 | Russ       | Stark     | russ.stark@ci.stpaul.mn.us     | City of St.<br>Paul                      |        | Mayor's<br>Office<br>15 W.<br>Kellogg<br>Blvd., Suite<br>390<br>Saint Paul<br>MN, 55102<br>United States | Electronic Service |                           | No                | Official 25-76    |
| 210 | Kristin    | Stastny   | kstastny@taftlaw.com           | Taft Stettinius<br>& Hollister<br>LLP    |        | 2200 IDS<br>Center<br>80 South<br>8th Street<br>Minneapolis<br>MN, 55402<br>United States                | Electronic Service |                           | No                | Official 25-76    |
| 211 | Eric       | Swanson   | eswanson@winthrop.com          | Winthrop &<br>Weinstine                  |        | 225 S 6th St<br>Ste 3500<br>Capella<br>Tower<br>Minneapolis<br>MN, 55402-<br>4629<br>United States       | Electronic Service |                           | No                | Official 25-76    |
| 212 | Sherry     | Swanson   | sswanson@noblesce.com          | Nobles<br>Cooperative<br>Electric        |        | 22636 US<br>Highway 59<br>PO Box 788<br>Worthington<br>MN, 56187<br>United States                        | Electronic Service |                           | No                | Official 25-76    |
| 213 | Bryant     | Tauer     | btauer@whe.org                 | Wright-<br>Hennepin                      |        | 6800 Electric Dr<br>Rockford<br>MN, 55373<br>United States   | Electronic Service |                           | No                | Official 25-76    |
| 214 | Whitney    | Terrill   | whitney@mnipl.org              | Minnesota<br>Interfaith<br>Power & Light |        | null null, null<br>United States   | Electronic Service |                           | No                | Official 25-76    |
| 215 | Anna       | Tobin     | atobin@greeneespel.com         | Greene Espel<br>PLLP                     |        | 222 South<br>Ninth Street<br>Suite 2200<br>Minneapolis   | Electronic Service |                           | No                | Official 25-76    |

| #   | First Name    | Last Name  | Email                                    | Organization                    | Agency                 | Address   | Delivery Method    | Alternate Delivery Method | View Trade Secret | Service List Name |
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|     |               |            |  |                                 |                        | MN, 55402<br>United States  |                    |                           |                   |                   |
| 216 | Emma Marshall | Torres     | emarshall-torres@convergentep.com        |                                 |                        | null null, null<br>United States  | Electronic Service |                           | No                | Official 25-76    |
| 217 | Zack          | Townsend   | zachary.townsend@brookfieldrenewable.com | Brookfield Renewable            |                        | 200 Liberty St FL 14<br>New York NY, 10281<br>United States                     | Electronic Service |                           | No                | Official 25-76    |
| 218 | Pat           | Treseler   | pat.jcplaw@comcast.net                   | Paulson Law Office LTD          |                        | 4445 W 77th Street<br>Suite 224<br>Edina MN, 55435<br>United States             | Electronic Service |                           | No                | Official 25-76    |
| 219 | Jeff          | Triplett   | triplettj@powersystem.org                | MREA                            |                        | 10710 Town Square Dr<br>NW St 201<br>Minneapolis MN, 55449<br>United States     | Electronic Service |                           | No                | Official 25-76    |
| 220 | Adam          | Tromblay   | atromblay@noblesce.com                   | Nobles Cooperative Electric     |                        | 22636 US Hwy. 59<br>P.O. Box 788<br>Worthington MN, 56187-0788<br>United States | Electronic Service |                           | No                | Official 25-76    |
| 221 | Lise          | Trudeau    | lise.trudeau@state.mn.us                 |                                 | Department of Commerce | 85 7th Place East<br>Suite 500<br>Saint Paul MN, 55101<br>United States         | Electronic Service |                           | No                | Official 25-76    |
| 222 | Alan          | Urban      | alan.m.urban@xcelenergy.com              | Xcel Energy                     |                        | null null, null<br>United States  | Electronic Service |                           | No                | Official 25-76    |
| 223 | Gary          | Van Winkle | gvanwinkle@mylegalaid.org                | Mid-Minnesota Legal Aid         |                        | 111 N Fifth St Ste 100<br>Minneapolis MN, 55403<br>United States                | Electronic Service |                           | No                | Official 25-76    |
| 224 | John          | Vaughn     | nik@rreal.org                            | Rural Renewable Energy Alliance |                        | 3963 8th Street SW<br>Backus MN, 55435<br>United States                         | Electronic Service |                           | No                | Official 25-76    |
| 225 | Ellen         | Veazey     | lveazey@solarunitedneighbors.org         | Solar United Neighbors          |                        | 1350 Connecticut Ave NW Ste 412<br>Washington DC, 20036<br>United States        | Electronic Service |                           | No                | Official 25-76    |
| 226 | Sam           | Villella   | sdvillella@gmail.com                     |                                 |                        | 10534 Alamo Street NE<br>Blaine MN, 55449<br>United States                      | Electronic Service |                           | No                | Official 25-76    |
| 227 | Wendy         | Vorasane   | wendy.vorasane@idealenergies.com         |                                 |                        | null null, null   | Electronic Service |                           | No                | Official 25-76    |

| #   | First Name  | Last Name  | Email                                | Organization                               | Agency                 | Address  | Delivery Method    | Alternate Delivery Method | View Trade Secret | Service List Name |
|-----|-------------|------------|--------------------------------------|--|------------------------|--|--------------------|---------------------------|-------------------|-------------------|
|     |             |            |                                      |  |                        | United States  |                    |                           |                   |                   |
| 228 | Robert J.V. | Vose       | rvose@kennedy-graven.com             | Kennedy & Graven, Chartered                |                        | 150 S 5th St Ste 700 Minneapolis MN, 55402 United States       | Electronic Service |                           | No                | Official 25-76    |
| 229 | Kevin       | Walker     | kwalker@beaconinterfaith.org         | Beacon Interfaith Housing Collaborative    |                        | null null, null United States                                  | Electronic Service |                           | No                | Official 25-76    |
| 230 | Robert      | Walsh      | bwalsh@mnvalleyrec.com               | Minnesota Valley Coop Light and Power      |                        | PO Box 248 501 S 1st St Montevideo MN, 56265 United States     | Electronic Service |                           | No                | Official 25-76    |
| 231 | Roger       | Warehime   | roger.warehime@owatonnautilities.com | Owatonna Municipal Public Utilities - Gas  |                        | 208 S Walnut Ave PO BOX 800 Owatonna MN, 55060 United States   | Electronic Service |                           | No                | Official 25-76    |
| 232 | Jenna       | Warmuth    | jwarmuth@mnpower.com                 | Minnesota Power                            |                        | 30 W Superior St Duluth MN, 55802-2093 United States           | Electronic Service |                           | No                | Official 25-76    |
| 233 | Samantha    | Weaver     | samantha@communitysolaraccess.org    | Coalition for Community Solar Access       |                        | 1380 Monroe St. Washington DC DC, 20010 United States          | Electronic Service |                           | No                | Official 25-76    |
| 234 | Elizabeth   | Wefel      | eawefel@flaherty-hood.com            | Missouri River Energy Services             |                        | 525 Park St Ste 470 Saint Paul MN, 55103 United States         | Electronic Service |                           | No                | Official 25-76    |
| 235 | John        | Williamson | john.williamson@state.mn.us          | Minnesota Department of Labor and Industry |                        | 443 Lafayette Rd N St. Paul MN, 55155-4341 United States       | Electronic Service |                           | No                | Official 25-76    |
| 236 | Danielle    | Winner     | danielle.winner@state.mn.us          |  | Department of Commerce | 85 7th Place East Suite 500 Saint Paul MN, 55101 United States | Electronic Service |                           | No                | Official 25-76    |
| 237 | Heidi       | Winter     | hwinter@co.murray.mn.us              | Murray County                              |                        | 2500 28th Street PO Box 57 Slayton MN, 56172 United States     | Electronic Service |                           | No                | Official 25-76    |
| 238 | Robyn       | Woeste     | robynwoeste@alliantenergy.com        | Interstate Power and Light Company         |                        | 200 First St SE Cedar Rapids IA, 52401 United States           | Electronic Service |                           | No                | Official 25-76    |
| 239 | Terry       | Wolf       | terry.wolf@mrenergy.com              | Missouri River Energy                      |                        | 3724 W Avera Dr  | Electronic Service |                           | No                | Official 25-76    |

| #   | First Name | Last Name | Email                   | Organization                   | Agency | Address  | Delivery Method    | Alternate Delivery Method | View Trade Secret | Service List Name |
|-----|------------|-----------|-------------------------|--------------------------------|--------|--|--------------------|---------------------------|-------------------|-------------------|
|     |            |           |                         | Services                       |        | PO Box<br>Sioux Falls<br>SD, 57109-8920<br>United States                               |                    |                           |                   |                   |
| 240 | Curtis     | Zaun      | curtis@cpzlaw.com       |                                |        | 3254 Rice Street<br>Little Canada<br>MN, 55126<br>United States                        | Electronic Service |                           | No                | Official 25-76    |
| 241 | Brian      | Zavesky   | brianz@mrenergy.com     | Missouri River Energy Services |        | 3724 West Avera Drive<br>P.O. Box 88920<br>Sioux Falls SD, 57108-8920<br>United States | Electronic Service |                           | No                | Official 25-76    |
| 242 | Emily      | Ziring    | eziring@stlouispark.org | City of St. Louis Park         |        | 5005 Minnetonka Blvd<br>St. Louis Park MN, 55416<br>United States                      | Electronic Service |                           | No                | Official 25-76    |