



414 Nicollet Mall
Minneapolis, MN 55401

November 22, 2022

—Via Electronic Filing—

Mr. Will Seuffert
Executive Secretary
Minnesota Public Utilities Commission
121 7th 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 August 8, 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 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 Three - August 8, 2022

Meeting Minutes

Approved by Workgroup on November 17, 2022

PRESENT INCLUDE:

Full Name	Organization
Danielle DeMarre	All Energy Solar
Sarah Whebbe	All Energy Solar
Dana Miller	Amp
Kailey Mueller	Amp Energy
Alexia Perides	Ampion
Mat Orner	Apadana
Annie	Cedar Creek
Amanda Schienebeck	Commerce
Dan Grantier	Cooperative Energy Futures
Bruce Konewko	Cooperative Energy Futures
Pouya Najmaie	Cooperative Energy Futures
Neta Eitan	Development Services, Inc.
Brian Uchtmann	Driftless Energy
Michelle Dreier	Electrical Association
Alexanadra Catozzi	Everlight Solar
Needika Adhikari	Excelsior Energy Capital
Linh Tran	FranklinWH Energy Storage Inc.
J. Drake Hamilton	Fresh Energy
Natalie Townsend	Fresh Energy
Courtney O'Connor	Gordian Energy Systems
Jonathan Middendorf	Green Street Power Partners
Russell Goetze	Green2 Electric
Joel Johnson	IBEW State Council
Amanda Werner	Ideal Energies
Wendy Vorasane	Ideal Energies
Ian Santos-Meeker	Impact Power Solutions
Jamie Borell	Impact Power Solutions
Megan Gallagher	Impact Power Solutions
Sam Ketchum	Kennedy & Graven
Kate Pearson	McKinstry
Laura Malwitz	McKinstry
Aaron Kueffer	Minnesota Power

Full Name	Organization
Kristin Berkland	MN AGO
Leah Johnson	MN Solar
Colleen Hollinger	Natural Resource Services
Andrey Tolkachev	Nautilus Solar Energy
Scott Risley	Nautilus Solar Energy
Derek Frommel	Nexamp
Tye Keppler	Nexamp
Audrey Whitmire	Nexamp
Amber Vadnais	Nokomis Energy
Amy Woldt	Nokomis Energy
Brendan Dillon	Nokomis Energy
Julian White	Nokomis Energy
Matthew Melewski	Nokomis Energy
David Shaffer	Novel Energy Solutions
Viqui Carballo	Novel Energy Solutions
Zeeshan Yasin	Novel Energy Solutions
Travis Murray	Office of the Minnesota Attorney General
Michal Lisowyj	OPPD
Phyllis A. Reha	PAR Energy Solutions LLC
Jonathan Mizrachi	Polar Racking, Inc
John Dybvig	PUC
Colin O'Neil	ReneSola
Erin Takata	Renewable Properties, LLC
Elizabeth Bremer	Sagiliti
Micah Johnson	Solar Connection Inc
Jeff Hygrell	Solar Connection Inc
Bobby King	Solar United Neighbors
Timothy Dilley	SolarGen of Minnesota
Harry Benson	Standard Solar
Steve Coleman	Sundial Energy
Holland Parker	SunShare
Cara Koontz	SunVest Solar LLC
Sarah Hussain	Syncarpha
Christy Leopold	TBR
Ben Ferkinhoff	TruNorth Solar
Donna Pickard	TruNorth Solar
James Drummond	TruNorth Solar
Jesse Royer	US Solar
Kyle Granat	US Solar

Full Name	Organization
Luke Gildemeister	US Solar
Ross Abbey	US Solar
Jillian Hansen	US Solar
Sean Mallette	Van Meter Inc
Will Kenworthy	Vote Solar
David Winkelman	Winkelman Solar Developers
Vladimir Marchenko	Wolf River Electric
Jeffrey Buttermore	Xcel Energy
Silas Cleveland	Xcel Energy
James Denniston	Xcel Energy
Matthew Hagan	Xcel Energy
Jacob Hillman	Xcel Energy
Matthew Hooley	Xcel Energy
Karl Johnson	Xcel Energy
Yashar Kenarangui	Xcel Energy
Kylie Kiecker	Xcel Energy
Leena Kurki	Xcel Energy
Patti Leaf	Xcel Energy
Kelsey Loomis	Xcel Energy
David Madigan	Xcel Energy
Brenda McDermott	Xcel Energy
Luther Miller	Xcel Energy
Jessica Peterson	Xcel Energy
Crystal Pomerleau	Xcel Energy
Mike Sans Crainte	Xcel Energy
Dean Schiro	Xcel Energy
Callie Walsh	Xcel Energy
Patricia Leaf	Xcel Energy

Total Number of Participants: 99

Total Number of Organizations: 44

AGENDA

12:00pm – 12:30pm: Welcome & Meeting Logistics/Solar*Rewards Program
12:30pm – 01:45pm: MN DER Interconnection (All Programs)
01:45pm – 02:00pm: *Intermission*
02:00pm – 02:30pm: Solar*Rewards Community Program
02:30pm – 03:00pm: Wrap Up & Open Discussion

INTRODUCTION AND WELCOME

Xcel Energy welcomed stakeholders to the meeting and reminded participants that PowerPoint presentation is to be utilized as an outline, as the purpose of the meeting is to have productive conversations. The Company's goal is to keep stakeholders informed and updated on everything that is happening across the board.

Xcel Energy supplied a reminder on who should participate and the purpose of these meetings. We started hosting these quarterly workgroup meetings in 2015 as a regulatory requirement. The purpose of these quarterly workgroup meetings is to provide all stakeholders that participate in the Company's MN DER programs an update on changes that have been implemented over the past quarter and changes that are currently expected in the next quarter, impacting the MN DER programs or the DER interconnection process. MNDIP came into effect in 2019 and we are actively improving our implementation through changes, updates, new resources, etc. If you are a developer, operator, owner, subscriber manager, or sales management for gardens or other DER, or if you are taking part in the application process, we want you to attend these quarterly workgroup meetings.

Xcel Energy reiterated that program participants are expected to stay informed of all topics covered at Quarterly Meetings, regardless of participation:

- Reviewing the PowerPoint is not a replacement for attending a Quarterly Stakeholder Workgroup Meeting ("Meeting")
- Xcel Energy's role is to host Meeting:
 - Provide information
 - Engage in discussion
 - Receive feedback
- Stakeholder's role is to participate in Meeting:
 - Retain information (and disseminate to others within their organization)
 - Engage in discussion
 - Provide feedback

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. Workgroup attendees then approved the meeting minutes from May 19, 2022, Quarter 2 Stakeholder Workgroup Meeting.

PROFESSIONAL BEHAVIOR

The Company provided a friendly reminder that we are all professionals and are expected to act as such; we reserve the right to end any interaction that is not being conducted in a civil, respectful, and professional manner:

- Respectful and truthful (full array of facts).
- Be mindful of interrupting.
- Make your point once; **do not hijack the conversation to repeat your argument.**

SOLAR*REWARDS & DISTRIBUTED GENERATION

A. 2022 PROGRAM UPDATES

Xcel Energy went through a budget overview, showcasing the incentive dollars allocated so far in the 2022 program year, as well as projections regarding the wait list and future applications. The program has allocated 99.9% of the Solar*Rewards budget as of August 8, 2022. The program has also allocated 25% of the budget for Solar*Rewards for Schools as of August 8, 2022. Xcel Energy also reiterated that there is a separate budget for State Colleges and Universities, and the program has not yet allocated any of its \$1,240,000 budget.

2022 Solar*Rewards Program Budget	Budget Allocated	Budget Available
\$9,484,872	\$9,483,111 (99.9%)	\$1,761 (0.1%)

Independent/Special School District Program Budget	Budget Allocated	Budget Available
\$7,960,000	\$2,011,706 (25%)	\$5,948,294 (75%)

The Solar*Rewards program budget has been fully allocated since May 26, 2022, and at that point created the waitlist. The waitlist has been reviewed on a bi-weekly or monthly basis as the program recovers any previously allocated funding from cancelled projects. Since the waitlist was created, the program has been able to allocate funding for about 33 applications. Currently, there are about 100 applications remaining on the waitlist for 2022. Xcel Energy will continue to monitor the waitlist and allocate funding to those projects as funds become available.

Xcel Energy commented on the number of applications received between 2021 and 2022 and where those applications are in the interconnection process. A large portion of projects that began in 2022 have already reached the Permission to Operate (PTO) stage.

Xcel Energy spoke to updated insurance documents based on requirements implemented in February 2022. The documents include more information and many frequently asked questions. There is now also a program-agnostic insurance checklist that is applicable for systems greater than 40 kW AC. The insurance checklist includes requirements that are noted within the interconnection tariff and provides a roadmap for the Program team to perform a soft check on whether insurance requirements are met. Xcel Energy does ask that the full insurance policies be submitted along with this checklist to expedite the review before we can get the meters ordered. The documents are available on Xcel Energy's Developer Resource webpage.

Xcel Energy gave a quick reminder from the metering shop and noted the preferred method for getting meters and tests scheduled is through e-mail. Scheduling through email has

become a much more efficient process for taking orders and scheduling. Xcel Energy asks for one e-mail per premise that is being scheduled and to limit those email requests to three per day per installer. This helps manage the volume cadence and ensures Xcel Energy is treating and scheduling projects in a fair manner.

Xcel Energy brought up reminders regarding the Technical Planning Standard (TPS). Xcel Energy reiterated the process and reminded everyone that the implementation date occurred on March 1, 2022. The new TPS was not applied if a project entered any study step (e.g., initial review, supplemental review, system impact study, etc.) prior to March 1, 2022, but if a project enters into a study step on or after March 1, 2022, the new TPS was applied. Xcel Energy called out that there are a lot of great resources including diagrams, filings, office hour minutes and recordings on our web page regarding the TPS transition.

Xcel Energy spoke on Phase II/ No Capacity Notices for customer-sited projects, including an update that, to date, twenty-two (22) Phase II notices have been sent to customers and/or solar installers for projects under 40 kW AC. In addition to the formal Phase II notices, Xcel Energy has also provided informal notices for other customer-sited projects behind in queue to inform them of the current capacity situation earlier in the process. Regarding this, Xcel Energy reiterated the online resources and tools that can be used before submitting an interconnection application to obtain better insight on whether a proposed project will be on a capacity constrained feeder. These online resources include the Hosting Capacity Map located on the Xcel Energy website and the Public DER Queue Report. Xcel Energy provided a friendly reminder that the Company strongly encourages customers/installers not to install the DER system until they receive a fully executed copy of the Interconnection Agreement.

Question: What is the standard turnaround time for responses for witness test scheduling requests?

Response: Unaware of specifics. Work to get back to customer within 24 hours, continuing to monitor this. Try to get back within 2 business daytime period.

Question: What is the best process for communicating when a meter order from the program is not "seen" by the meter department? This can cause weeks of delay trying to schedule tests.

Response: If a metering shop does not see your request, you can reach out to the portal directly. As soon as you hear that the meter order has not gone through-past 24-48 hours, please reach out, we will investigate the problem!

B. REGULATORY UPDATES

Xcel Energy spoke on the 2022 Solar*Rewards Tariff Modifications and their approval. Xcel Energy updated everyone on details regarding the Solar*Rewards Annual Report. Parties proposed changes to 2023 incentive and Income-Qualified Requirements. Xcel Energy decided to propose that the Department lower the incentive to spread funding further, in response to concerns raised by parties. Xcel Energy mentioned it will file comments on proposed changes on Monday, August 15.

ALL MINNESOTA DER

A. IMPROVING TRANSPARENCY

In the past, Xcel Energy has always communicated standards and practice. However, these standards and practices were not always cohesively available. In response, Xcel Energy has made a magnitude of efforts to improve communicating updates and increase transparency. Such efforts include organizing and hosting written standards and practices in one spot on its website for the ease of access, sending updates on Stakeholder Workgroup Meetings via program email address, posting information online on the Developer Resource page and Interconnection page, and discussing updates at Quarterly Meetings.

Xcel Energy shared a quick overview of what was posted in the past, as the process of improving transparency began in 2021. In 2021 there were a total of 9 resource documents on its website available for reference. By Quarter 12/2022, there were an additional 7 resource documents posted on its website for reference. Now that we are at Quarter 3, Xcel Energy highly encouraged the audience to reference the new resource documents available on the Interconnection Developer Resources webpage and the Community Solar Garden Developers Webpage. The webpages include resources from, but are not limited to, the following meetings: Group Studies Work Group Discussion #1, 2, and 3, Hosting Capacity Stakeholder Workshop 1.2 and 2.1, and Office Hour: Attachment 4. A notable resource is the amended DER Workgroup Meeting Minute Index. This spreadsheet includes key take-aways from workgroup meetings for reference internally and externally.

Xcel Energy provided the audience with reminders on the updated Renewable*Choice Program emails and events to be hosted upcoming in the remainder of 2022. Xcel Energy explained, for the purpose of uniformity and clarity across all programs and states, that the program emails have been updated to the following:

DERinterconnectionMN@xcelenergy.com, renewableconnectmn@xcelenergy.com, solarprogramm@xcelenergy.com, and SolarRewardsCommMN@xcelenergy.com. Xcel Energy advised to check these emails for program updates and events coming up as there will be invites to additional office hours and Stakeholder Discussions coming soon. Xcel Energy then shared and reviewed the Quarterly Meeting Schedule for 2022 to remind the audience to save the date for the next one on November 17th, 2022.

Xcel Energy mentioned a Trade Survey that was sent out a week prior to this meeting with the purpose of pinpointing where to focus improvement efforts. Xcel Energy stated the intent of the survey was to gather feedback from stakeholder or trade organizations that are developing or installing Solar or DER. Traction on the Trade Survey did not reach expectations as 340 emails or about 14% of the addresses were kicked back due to organizational restrictions. Xcel Energy recommended adding the email address xcelenergy@express.medallia.com to a safe senders list as a response to this to not only participate in the survey now, but for surveys in the future.

B. MARKETING REMINDER

Xcel Energy went over the DOs and DON'Ts of marketing communications.

Xcel Energy recommended everyone to provide a clear explanation of their role. The Solar Company name should be included throughout the sales pitch to discuss how the Solar Installer Company will help the customer participate in Xcel Energy solar options. Xcel Energy additionally recommended to explain how the relationships will function through the process. Xcel Energy also strongly encourages installers to check with local jurisdictions for license and participating in door-to-door sales. Lastly, Xcel Energy recommended properly representing the relationship of all parties, including the Xcel Energy Solar Interconnection Team, correctly.

Xcel Energy emphasized to not insinuate partnership with Xcel Energy either by phone or in-person. All installers are considered non-affiliated third-party solar companies. Xcel Energy does not have preferred solar providers, nor does Xcel Energy partner with any single solar provider to obtain more solar on the system. Furthermore, Xcel Energy encouraged everyone not to create the impression of replacing Xcel Energy as the utility provider. Xcel Energy remains the regulated utility company that delivers electricity and natural gas. Therefore, Xcel Energy will bill the customer as such. Regardless of if another company acts as a bill consolidator or re-packager, Xcel Energy is still the customer's utility provider unless the customer disconnects from services themselves. Lastly, Xcel Energy asked everyone to not use Xcel Energy's brand name, program names, or logos without authorization.

Xcel Energy expanded on the topic of Xcel Energy's brand and reminded everyone that they can gain authorization to use Xcel Energy's brand name, program names, or logos for marketing efforts through submitting the materials to dlAdvertisingBrand@xcelenergy.com. Within the submission, Xcel Energy recommended including clarification of who the ad is from, prominently displaying advertiser's name more frequently than Xcel Energy's brand or program names, and accurately explaining relationship between Xcel Energy and advertiser.

C. COST SHARING

The Commission has required Xcel Energy to provide a proposal for a cost sharing option for Xcel Energy's small solar customers or small DER customers. The proposal was submitted at the end of May and would need Commission approval of the cost-sharing proposal for Xcel Energy customers with <40 kW DER. This proposal aligns with the proposal from Fresh Energy, IREC, and TruNorth. This would cap individual upgrades at \$15,000. Once the program or tariff is launched, all projects of 40 kW AC or less that submit their application (and have paid the cost sharing fee) are eligible for covered upgrade costs up to \$15,000 subject to funds being available. Xcel Energy mentioned the fee will only cover Supplemental Review Fees and Upgrade Costs, excluding Study Fees, Phase II Study Fees, and Metering Costs. Xcel Energy also advised everyone to review the fee structure periodically as projects receive upgrade funding on a first come first served basis, there will be no waitlists.

ENGINEERING REVIEW

A. TOOLS TO USE

Xcel Energy spoke about resources available before applications are submitted in order to gain initial indication of feeders' potential available capacity for interconnection. All of these 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 to process those applications.

Another resource that can be requested is a Pre-application Data Report that will provide information about the feeder and the substation serving a particular area that can be used to help decide on connecting generation to various locations. However, it is informational only. The Pre-application Data Report does not guarantee anything to the applicant.

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

B. GROUP STUDIES

Xcel Energy shared a summary of the Group Study Stakeholder Workshop series. Group studies are a fast and balanced way for multiple interconnections to work their way through the study process. At the same time, group studies are mostly focused on solar gardens. The Stakeholder Workshop series concluded on June 30, 2022, and the report was filed on July 25, 2022. The report included issues matrix detailing resolved and unresolved decisions surrounding cluster study implementations, two completed cluster studies with 10+ studies in progress, and mandatory cluster studies expected to be implemented on feeders with capacity constraint or significant queued DERs on hold. The next report will be filed by September 30, 2022. Resources regarding group studies are available on the Interconnection Developer Resources webpage.

C. SMART INVERTERS

Xcel Energy spoke on Smart Inverters being considered within Xcel Energy and have been considered for a while. Xcel Energy's findings, processes, and thoughts are beginning to be published, and Xcel Energy held an Office Hour on Smart Inverters on July 27th. The PowerPoint and recording are now posted on the Interconnection webpage. Xcel Energy is expected to join a technical subgroup focused on smart inverters established by DGWG, as discussed in the August 5 DGWG meeting.

Question: In terms of inverter firmware issues, who should garden owners reach out to collaborate on possible solutions?

Response: Send an email to the program and they will loop in everyone to collaborate with.

D. SCREENING PROCESS UPDATES

Xcel Energy implemented additional automation to our process to improve our screening times and the consistency of our results that are being utilized more often. Xcel Energy reiterated the importance of providing accurate information on applications. This is essential for Xcel Energy to gather accurate results and optimize screening time. Xcel Energy reviewed discrepancies that have occurred over the past few months regarding such issues, including a service voltage. Xcel Energy reminded everyone of the voltage at the main service meter, not to be confused with the interconnection voltage. Xcel Energy has had conflicts with this in the past, so it is important to note if it is a single-phase facility connecting to a three-phase service or vice versa, a three-phase interconnection connecting to a single-phase service.

Another discrepancy that was acknowledged was existing DG size. Xcel Energy guided the audience on the application process and reminded everyone that the generation that is already on site has permission to operate. Xcel Energy reiterated the importance of such data aligning with the data on the completeness review. If data does not align, Xcel Energy will reject the completeness review to ensure that the data is consistent.

The aggregate nameplate was brought up in discussion for the purpose of reiterating what should be included in it. The nameplate should be the same as the aggregate nameplate of DER at the proposed site. However, it should include the existing DER size and the storage as well. This is aggregate nameplate capacity; it is not aggregate export capacity. So non-exporting facilities should be included in the aggregate figure as well. Xcel Energy reminded everyone to pay attention to the unit conversions as it is noticed that for scenarios such as a 5-kilowatts being written as 5000 kilowatts in the aggregate nameplate or another field manual input. It is apparent it was an error as the applicant forgot to convert watts to kilowatts. Xcel Energy is using this in automation now, so there is a risk that an error such as this could be screened. So, in order to have accurate correct results and reduce the potential for further delays downstream from the project, please make sure to review the correct information in the applications.

Question: What is the best response when Xcel Energy asks about existing DG during Completeness Review when there are no existing systems? We have had rejections, and it is hard to answer questions regarding this.

Response: Sometimes our engineers do the completeness review. They'll just copy what the completeness review requirement is into their rejection notes. So, there is a completeness review requirement to list all existing DER Systems. So, they're just making sure that you're meeting that requirement.

Question: We have seen many initial screens flagged as "fail" when we size new Ground Reference Transformer for Aggregate DER on-site because the initial screen is not built to

look at pre-existing DER and sum up the previously installed with the proposed NEW system size for the Grounding Reference Equipment Requirements. Has the Initial Screen been updated to accommodate sites with existing and proposed DER?

Response: Yes, that change was made in the updated automation.

E. UPDATE TO BLUE BOOK

Xcel Energy updated the standard for installation and use which went into effect on July 31st, 2022. There is a summary of the significant changes in the PDF on pages 202 and 203. This document is available on the Interconnection Developer Resources webpage. It is best to always use the online version of the document to make sure the most recent version is being referenced.

DESIGN AND CONSTRUCTION

A. PROPOSED MODIFICATIONS

Xcel Energy gave a few updates on Proposed Modifications. No matter what stage of the interconnection process the project is in and regardless of the size, no developer is exempt from the requirements to submit a proposed modification if there are changes to the project. A proposed modification applies to any application that has been deemed complete. Proposed modifications are much more defined in MNDIP than they were in pre-MNDIP, which is why Xcel Energy now has a more robust internal process for approval. Developers must submit their own proposed modifications; Xcel Energy will not author them for anyone.

Xcel Energy requires that the proposed modification be very detailed and specific, showing the changes from before and after. Any proposed modification that is vague will be denied. Proposed modifications must be submitted on an application specific basis, meaning that if an inverter is being changed for every project in a portfolio, a proposed modification is needed for each application.

Proposed modifications for a reduction in size, or curtailment, due to study results must also be submitted for review. Xcel Energy acknowledges that the reduction in size is due to our own study results, however, everything does need to be changed in the drawings before we can move on, including the panels. If a decision is made to change anything else during that time frame with the reduction in size, those callouts also need to be in the proposed modification. The capacity with a reduction in size must also align with the study results given by Xcel Energy.

Question: Could you simplify? ... We feel as though all the burden is on the developers and help us interphase and simplify the process.

Question: Agreed, and the timeline for acceptance and restudy of changes is vague. The program response is slow.

Response: We have 10 business days to get back to developers with modifications. Timelines are outlined in MNDIP. Clarification: If a modification is substantive, it would be a material modification, thus not allowed.

B. UPDATES AND REMINDERS

Xcel Energy gave a few updates regarding the Design and Construction process. Easements are required for all Xcel Energy equipment built on private property for community solar gardens. Depending on the size and the ownership of behind the meter projects for on-site solar, Xcel Energy may need to build and when it builds it will need an easement. Xcel Energy asks that the developers send a legal description of where facilities will be located. Xcel Energy will then write the easement and send it back to the developer for the property owner to sign and have notarized. This is then sent back to Xcel Energy to be filed.

Xcel Energy also reminded developers that permits are needed for the right of way. These permits should be obtained by designers or contractors and provided back to Xcel Energy. Xcel Energy asks that those obtaining permits do not speak on behalf of the Company. Clear lines of communication need to be maintained with permitting authorities and Xcel Energy would like to speak on its own behalf.

Xcel Energy reminded everyone that winter construction charges go into effect October 1st and run through April 15th for both community solar gardens and on-site solar projects. These charges can increase the costs of the project by anywhere from 10-30% depending on the work that must be done.

Question: Just confirming, the winter charges are applicable additional costs, depending on the actual frost line, is that correct?

Response: Correct, we don't charge if they are not applicable.

Xcel Energy commented on cost fluctuations being seen by the developers and Xcel Energy and how it is a valid concern for the Company given the needs of the industry. Xcel Energy has seen high demand for a lot of things across the utility industry and costs are still fluctuating. Lead times for equipment have not been improving and Xcel Energy is still experiencing long lead times for a variety of different pieces of equipment. Most specifically, this has been seen with regulators on both the distribution and substation side of things. Xcel Energy has also seen long lead times for transformers across the industry and these lead times continue to rise.

C. WITNESS TESTING

Xcel Energy has seen a slight uptick in incidents surrounding witness testing. For example, Xcel Energy has seen a lot of people either not being qualified to perform the test or performing the tests while not wearing the proper PPE. Xcel Energy and its contractors do not want to move forward with tests that are not performed by qualified professionals or those who are not wearing the proper safety equipment. Xcel Energy will stop the test and leave the site if this occurs, and the test will have to be rescheduled.

Energization, specifically for community solar gardens, is for developers to practice testing and to make sure all the equipment is working properly. Energization does not give developers permission to operate and back feed to Xcel Energy's system.

Xcel Energy wanted to hear feedback from the industry regarding firmware updates and inverters reverting to factory settings and not the settings that the system was tested at. Xcel Energy would like to ensure that inverter settings are put back to the originally tested settings if a firmware update does occur. This will help eliminate Xcel Energy having to disconnect an entire system or garden, so it does not have to be recommissioned every time updates happen.

Question: We have seen PTO emails delayed by several weeks. For residential systems I am assuming that we can keep the system on after testing?

Response: Smaller residential systems act as conditional PTO. We are working to get PTO out earlier.

Question: As far as planned instances are concerned, could we prevent any type of negative situation regarding damage to gardens? Typically, someone should be maintaining the animals. We do need to access the land/garden at any time 24/7, unescorted, to complete the work.

Question: How is this possible without letting the landowner know? Don't we need to schedule ahead for this?

Response: Standard contracts allow for entrance to the land/garden at any time to complete work.

SOLAR*REWARDS COMMUNITY

A. SAFETY CONCERNS

Xcel Energy has recently had some concerns about livestock grazing inside of community solar gardens. Specifically, goats have raised the most concerns including ramming vehicles, chasing employees out doing field work, and being aggressive.

B. PROGRAM UPDATES & REMINDERS

Xcel Energy presented the monthly dashboard for the Solar*Rewards Community program, showing data as of August 2022. Xcel Energy has seen over 600 applications submitted and 43 of those were submitted in 2022. There are 437 completed Solar*Rewards Community projects across the state of Minnesota for a total of 840 MW. Xcel Energy shows ~20 MW coming online in Quarter Three and an additional ~40 MW coming online in Quarter Four, before year end.

Xcel showed data regarding bill credits through June of 2022 and to date \$610 million has been paid in bill credits to Solar*Rewards Community gardens. In June 2022 alone, Xcel Energy paid out ~\$23 million in bill credits. The 2021 average dollar amount impacting a residential customer that uses about 750 kWh per month is ~\$5 per customer or ~5% of

their bill. Subscriptions for community solar gardens continue to grow, with ~29,000 individual subscriptions across ~23,000 subscribers.

Xcel Energy filed its latest CSG Quarterly compliance report on July 22, 2022. This was circulated via email and includes plenty of great information regarding the status of the program. The program has also updated the email address from SRCMN@xcelenergy.com to SolarRewardsCommMN@xcelenergy.com. Xcel Energy asks that everyone continues to copy the program on all Solar*Rewards Community related emails to ensure continuity.

Xcel Energy also reminded developers to provide bi-weekly call agendas at least 48 hours in advance of the call. A lot of times the program team will have to reach out to other internal Xcel Energy teams to get responses to questions. Having the agenda before-hand helps make this process efficient.

Xcel Energy also brought up issues surrounding annual reports from developers for each garden that is online. These reports need to be sent to both the subscribers and Xcel Energy. The annual report is a compliance requirement through the tariff and any gardens that have received mechanical completion since March 31, 2021, and have not submitted an annual report are out of compliance.

Xcel Energy acknowledged that the data privacy team has been experiencing issues processing subscriber agency agreements or SA's. The program team is aware of the problem and are doing everything possible to continue to move them along. The current processing time is 6-8 weeks.

C. PLANNED OUTAGES

Xcel Energy commented on reclosers, and the diligent work being done to get them installed. While the project is still ongoing, Xcel Energy is about 80% complete with its efforts. The end goal of December 31st could possibly move earlier to the fall, depending on any weather or supply chain issues that would cause delays. An email will be sent out once this has been completed, with the hope that this will occur prior to the November 17th meeting.

Xcel Energy provided an update regarding advanced outage notifications which are like the previous notification process through Everbridge. The notifications are provided with a 24–48-hour notice to the 24/7 emergency contact of the garden. Proposed work is hypothetical and sets a general time frame for work to begin, formal notifications will continue to be sent out 24-48 hours prior to the beginning of work.

The SRCMN Office Hour discussing planned outages continues to be the most comprehensive overview of everything outage related and can be found on the developer resources page on Xcel Energy's website.

Question: Is compensation for all planned outages still being discussed?

Response: Docket 13-867 is all planned outages information; at this time, we are not allowed to give out any sort of compensation for planned outages. (CSG docket is 13-867).

D. REGULATORY REMINDER

Xcel Energy spoke about data security and updated processes. Xcel Energy now has specific NDA's which include details about handling reports that developers receive directly from Xcel Energy. Reports that are received need to be removed or disposed of within a year of receiving them. Under these NDA's, the reports also cannot be shared with anyone else that is not included in the NDA itself. That means it cannot be shared with anyone else within the receiving company, with any consultants, or in any public setting. This continues to be a concern of grid security.

WRAP-UP

Xcel Energy closed the meeting and thanked all stakeholders in attendance for their time, noting that if stakeholders have any requests for topics for the 2022 Quarter Four meeting, they can send those to DERInterconnectionMN@xcelenergy.com, bring them up during biweekly calls, or the best place for us to consolidate all topic requests is within the quarterly meeting registration. If stakeholders have any other questions in the meantime, do not hesitate to reach out.

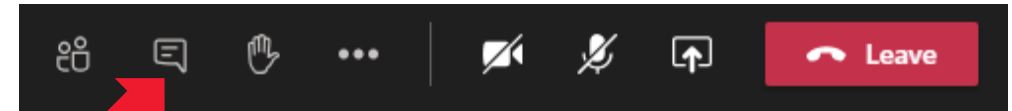


2022 Q3 MN DER STAKEHOLDER WORKGROUP

August 11, 2022

Welcome & Meeting Logistics

- Housekeeping items:
 - 12:00pm – 4:00pm Central Time
 - Intermission ~2:00pm Central Time
- Unmute and turn camera on during discussions
- Chat and Raise Hand functions are available for questions and comments
- **Goal: collaborative discussion** – PPT is outline only



Welcome & Meeting Logistics

Agenda

*Timeline is Estimated	
12:00 pm	Welcome & Meeting Logistics
	Solar*Rewards Program
12:30 pm	MN DER Interconnection (All Programs)
	Intermission
2:00 pm	Solar*Rewards Community Program
	Wrap Up & Open Discussion
3:00 pm	Close

Welcome & Meeting Logistics

Who Should Participate

All MN DER participants:

- Are you developing DER? Yes.
- Are you operating DER? Yes.
- Are you an EPC for DER? Yes.
- Do you own DER? Yes.
- Do you manage subscriptions or sales for DER? Yes.
- Are you a stakeholder in DER proceedings? Yes.

Critical attendees:

- Application Agent or Primary Application Manager (PAM)
- Engineers, Designers, etc.
- Those that work in Construction, Policy, etc.
- Those that work with Subscribers and other DER Customers

At a minimum, one representative per organization. The more the merrier!

- This is for your benefit – you are responsible for understanding and using the information presented today
- If you're not sure, ask questions! This is a collaborative environment.



Welcome & Meeting Logistics

How To Participate

- Provide information
 - Engage in discussion
 - Receive feedback
-
- Retain information (and disseminate to others within their organization)
 - Engage in discussion
 - Provide feedback



Welcome & Meeting Logistics

- Minutes provided to stakeholders:
 - o Attached to the Q3 Meeting Calendar Drop
- Once approved, Meeting Minutes will be filed in Docket 13-867
- All stakeholders are expected to know and follow topics and processes discussed at Meetings and are encouraged to refer to the Meeting Minutes for reference as needed
- Does anyone move to **approve**?

Welcome & Meeting Logistics

Code of Conduct | MnSEIA

- We are professionals and expect the developer community to act professionally as well. We may not agree on policy or standards but can achieve more through professional discourse.
 - Respectful and truthful (full array of facts).
 - Start with an assumption of positive intent.
 - Be mindful of interrupting.
 - Make your point once; **do not hijack the conversation to repeat your argument.**
- Non-fact-based claims, personal accusations, derogatory language and slander are not tolerated.
- Anyone conducting in a non-professional manner will be asked to leave.

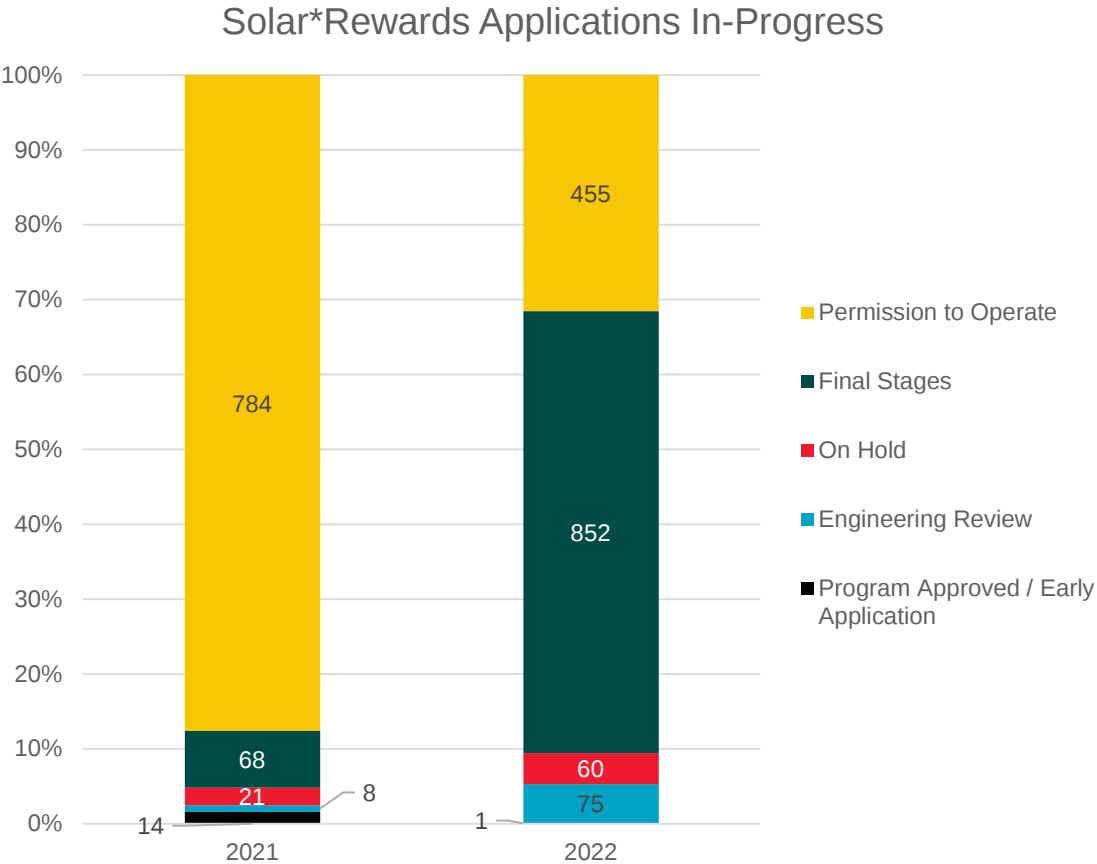
We reserve the right to end any interaction that is not being conducted in a civil, respectful, and professional manner.

SOLAR*REWARDS & DISTRIBUTED GENERATION

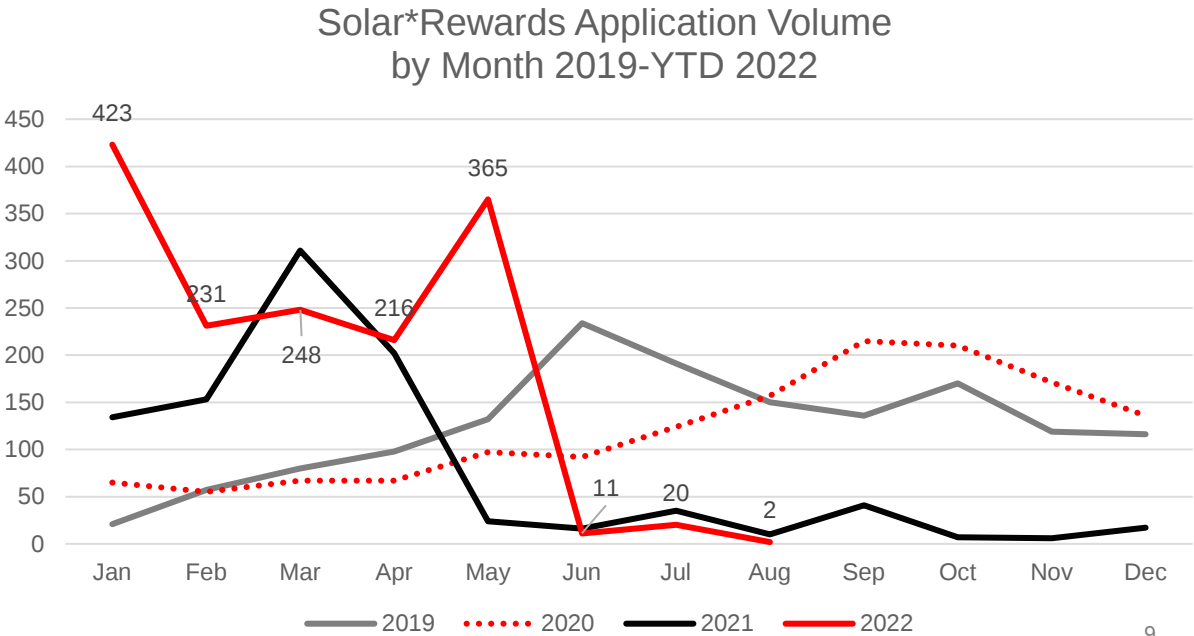
1. 2022 Program Updates
2. Regulatory Updates

Graph data as of August 8, 2022

Solar*Rewards & Solar*Rewards for Schools



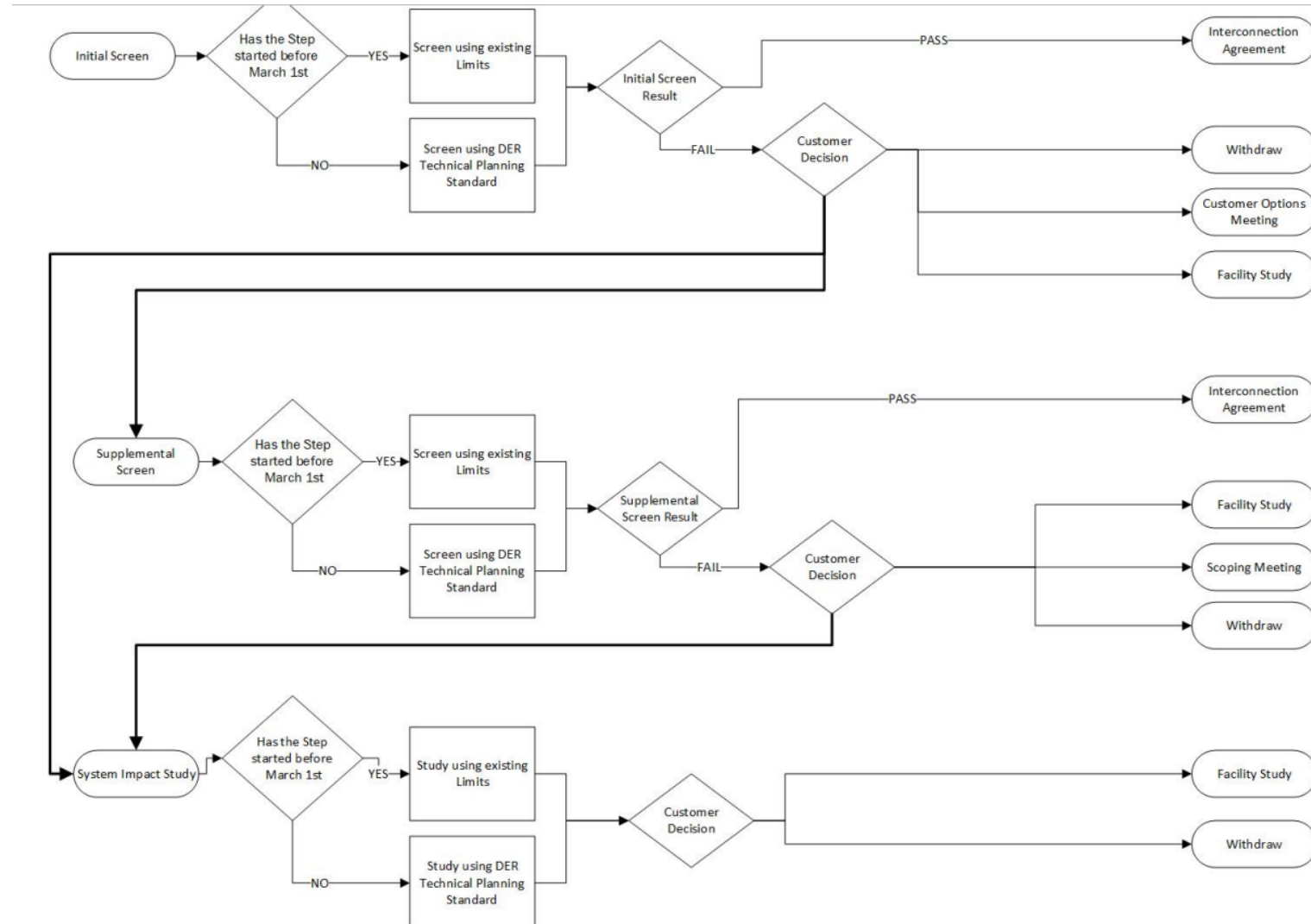
2022 Solar*Rewards Program Budget	Budget Allocated	Budget Available
\$9,484,872	\$9,483,111 (99.9%)	\$1,761 (0.1%)
Independent/Special School District Program Budget	Budget Allocated	Budget Available
\$7,960,000	\$2,011,706 (25%)	\$5,948,294 (75%)



Solar*Rewards/DER

- **Updated Insurance Information** for DER > 40 kW AC now live on the website:
 - [Insurance Guidelines for DER > 40 kW AC](#)
 - [Insurance Checklist Form](#)
- **Meter/Test Scheduling** should be done through MNElectricMeterScheduling@xcelenergy.com.
 - This is the preferred method for our metering shop team.
 - We request 1 email per premise and 3 requests/day/developer max whenever possible.
- The **Technical Planning Standard (TPS)** applies to ALL applications in the queue, not just Community Solar Gardens.
 - TPS Implementation began on March 1, 2022
 - TPS Resources are located on [Interconnection](#) webpage

Technical Planning Standard (TPS) Implementation Chart



Solar*Rewards/DER

- **Phase II / No Capacity Notices** for customer-sited customers
 - To date, 22 Phase II notices have been sent to customers and/or solar installers for projects under 40 kW AC.
 - Also providing informal notices to other customer-sited customers behind in queue to inform them of the current capacity situation earlier.
- **Check online resources** before submitting and application:
 - [Hosting Capacity Map](#)
 - [Public DER Queue Report](#)

Friendly reminder: The Company strongly encourages customers/installers to not install the system until they receive a fully executed copy of the Interconnection Agreement.

Substations within 1MW of Capacity Constraints	Feeders within 1MW of Capacity Constraints	Feeders with Aggregate DER ≥ DML	Feeders that received Notice to date
For substations with a known DER within 1MW of being ≥80% XFMR Rating + DML, new interconnection applications have a higher probability upon study completion to receive reduced capacity, or a Notice for further analysis required.	For feeders with a known DER within 1MW of being ≥80% XFMR Rating + DML, new interconnection applications have a higher probability upon study completion to receive reduced capacity, or a Notice for further analysis required.	Aggregate DER: The summation of all DER ahead in queue Daytime Minimum Load (DML): The smallest amount of load observed between the hours of 10 AM and 4 PM Feeders with a known aggregate DER that is greater than or equal to the Daytime Minimum Load (DML) will likely fail the initial review (MN DTP screen 3.2.1.2) and require a supplemental review be performed prior to proceeding further in the process. This could result in more substantial upgrades in comparison to feeders not on this list.	Types of Notice: Pre-MNDIP Substation or SD MNDIP System Impact Study MNDIP Dedicated Feeder
Last updated: August 2022 Near Capacity Constrained Subs: 17 % of Total Substations: 7.05% % Constrained Last Month: 6.22%	Last updated: August 2022 Near Capacity Constrained Feeders: 27 % of Total Feeders: 2.35% % Constrained Last Month: 2.45%	Last updated: August 2022 Feeders with Aggregate DER ≥ DML: 193 % of Total Feeders: 16.80% % of Total Feeders Last Month: 15.78%	Last updated: June 2022 % of Total Feeders: 16.80% % Constrained Last Month: 15.78%
BEG BFL DAN DLO FRM GRI LAF MEK MNL RNV SED SOH STW WEB	ALB022 BE0001 BFL021 BRO021 COK061 CSR001 CTF021 DLO021 EGL021 GPO021 GRI001 HEC001 JOR022 LAC062 LAF001 MNL001 MNV211 MPK064 MPN081 MRN021 MYN021 NOF071 RAP081 ROC090 SED061 SOH001 TSS061	ALB021 ALB022 ALB023 ALT021 ANV021 ATW051 ATW052 AVN021 AVR081 BCK072 BE0001 BEL062 BFL021 BIS001 BLH061 BLL071 BRO021 BUR032 CGR063 CHE075 CHI011 CKG041 CLC022 CLC221 COK061 CTF021 DAN021 DAS061 DBL064 DOC061 DLO021 DND071 DND072 DOC211 DOC031 EDA085 EDP081 EGL021 ERK021 ELP081 ELP085 ELP054 ESW073 FAB063 FAP061 FAP062 FIC021 FIC022 FIC031 FIC031 FRM062	ALB022 ALT021 BIS001 BRO021 BUR032 CGR063 CHI011 CTF022 DGC061 DOC211 DOC031 FAB063 FRO021 GLD021 KAN022 KAN031 KEN021 LAF001 LAF011 LCR011 LIL021 LOW021 MRN021 MTV021 MTV022 MTW021 MYN021 NER021 NOP081 PIL021 PIP090 SCA021 RAP081 SCH211 SGL322 SWN022 TSS061 VES021 WAT021 WEB021 WEF071 WTB021 ZUF021 ZUM022
Application by Substation	Application by Feeder	Known Capacity Constraints	+

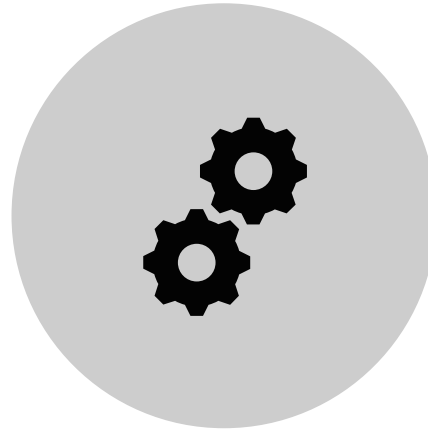
Solar*Rewards/DER

- **2022 Solar*Rewards Tariff Modifications Approved**
- **Solar*Rewards Annual Report – Comments & Reply**
 - Parties proposed changes to 2023 incentive and Income-Qualified Requirements
 - Xcel Energy will file their Comments on Monday, August 15
 - Proposed changes to 2023 incentive – dropping incentive to spread funding further
 - Response to concerns raised by Parties

MN DER Interconnection Process



**MN DER GENERAL
UPDATES**



**ENGINEERING
REVIEW**



**DESIGN &
CONSTRUCTION**

ALL MINNESOTA DER

Improving Transparency

In the past: Standards and practices communicated, but not cohesively available.

In response:

- Organize and host written standards and practices in one spot for ease of access.
- Send updates to Stakeholder Workgroup via Program email addresses.
- Post online on the Developer Resource Page and/or How to Interconnect page.
- Discuss updates at Quarterly Meetings.

Improving Transparency

2021

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](#)

Improving Transparency

- New documents available on the [Interconnection Developer Resources](#) & [Community Solar Garden Developers](#) webpages include but are not limited to:
 1. [Group Studies Work Group Discussion #2 PowerPoint \(May 26, 2022\)](#)
 2. [Group Studies Workgroup Discussion #2 Recording \(May 26, 2022\)](#)
 3. [Group Studies Work Group Discussion #3 PowerPoint \(June 30, 2022\)](#)
 4. Group Studies Work Group Discussion #3 Recording (June 30, 2022) (Coming soon!)
 5. [Unilateral Confidentiality Agreement for Engineering Studies](#)
 6. [Hosting Capacity Stakeholder Workshop 1.2 PowerPoint \(May 24, 2022\)](#)
 7. [Hosting Capacity Stakeholder Workshop 1.2 Recording \(May 24, 2022\)](#)
 8. [Hosting Capacity Stakeholder Workshop 2.1 PowerPoint \(June 22, 2022\)](#)
 9. [Hosting Capacity Stakeholder Workshop 2.1 Recording \(June 22, 2022\)](#)
 10. [MN DER Workgroup Meeting Minute Index \(XLSX\)](#)
 11. [Office Hour: Attachment 4 PowerPoint \(May 20, 2022\)](#)
 12. [Office Hour: Attachment 4 Recording \(May 20, 2022\)](#)
 13. [Developer Section 10 Tracker](#)

This list is not exhaustive

Email Addresses

Updates across all
Renewable*Choice
Programs and all states

- Uniformity
- Clarity

Minnesota

Program: MN Distributed Energy Resources (DER)

Email Address: derinterconnectionmn@xcelenergy.com

Common/appropriate inquiries: General inquiries about the interconnection process in MN, Hosting Capacity Analysis (HCA)

Note*: Use the MN Solar Program or MN Solar Rewards Community email addresses for program-specific inquiries.

Program: MN Renewable*Connect

Email Address: renewableconnectmn@xcelenergy.com

Common/appropriate inquiries: General inquiries about the Renewable*Connect program, sign-up inquiries, removal issues

Program: MN Solar Program

Email Address: solarprogramm@xcelenergy.com

Common/appropriate inquiries: 120% rule, meter orders/status, retriggering E-signatures, application process/status inquiries, general program inquiries, solar rates, how to read a solar bill

Program: MN Solar Rewards Community (SRC)

Email Address: solarrewardscommmn@xcelenergy.com

Common/appropriate inquiries: Subscriber errors, bill credit status/delays, planned or unplanned outages inquiries, application status/results ETA, meeting requests, design and construction requirement updates or requests, escalating issues

Events

Hosted YTD 2022:

	Stakeholder Discussions	Office Hours	Quarterly Meetings	TOTAL
Q1	3	3	1	7
Q2	8	3	1	12
Q3	2	2	1	4
TOTAL	13	8	3	24

Upcoming in 2022:

Watch for invites to additional Office Hours and Stakeholder Discussions coming soon!

Potential topics:

- Tools to Use
- Insurance Requirements
- Cost Sharing Program

Quarterly Meetings



Trade Survey

xcelenergy@express.medallia.com earlier this week

Marketing Reminder

- Provide a clear explanation of your role. The Solar Company name should be included throughout the sales pitch to discuss how the [Solar Installer Company] will help the customer participate in Xcel Energy solar options
- Explain how the relationships will function throughout the process. For example, how the [Solar Installer] can help manage the solar interconnection application within Xcel Energy's portal on behalf of the customer
- We strongly encourage installers to check with local jurisdictions to confirm if a peddler's license or permission is needed prior to participating in door-to-door sales
- Properly represent the relationship of all parties, including the Xcel Energy Solar Interconnection Team, correctly

Marketing Reminder

- Insinuate that you are working with or on behalf, of Xcel Energy either by phone or in-person. All installers are considered non-affiliated third-party solar companies. Xcel Energy does not have preferred solar providers, nor do we partner with any single solar provider to obtain more solar on our system
- Create the impression that you replace Xcel Energy as the utility provider. Xcel Energy remains the regulated utility delivering electricity (and natural gas for some customers) and will bill the customer as such. Even if your company acts as a bill consolidator or re-packager, Xcel Energy is still the customer's utility provider unless they completely disconnect from our services. As a regulated provider, we deliver mandatory customer notices via customer bills. There are also important customer protections and obligations that surround this relationship. We appreciate your help ensuring customers fairly understand the roles of the parties
- Use Xcel Energy's brand name, program names, registered trademarks or logo without prior written authorization and if approved, only within authorized uses

Marketing Reminder

Xcel Energy requires all third parties to get approval prior to referencing the company or program names in their marketing efforts. Our brand review is solely focused on the appropriate use of our brand; the content is not reviewed or approved for factual accuracy with respect to overall representation of the program or claimed subscriber benefits.

Please submit all materials for approval to: dlAdvertisingBrand@xcelenergy.com

- It must be clear who the ad is from
- The advertiser's name must be more prominently displayed and more frequently referenced than Xcel Energy's name or program names
- The relationship between the advertiser and Xcel Energy must be clearly and accurately explained if using Xcel Energy's brand name
- Xcel Energy's logo is seldom approved for third-party use outside of sponsorships with written authorization. Approval is always required before any use

DGWG

Order Point: Commission approves cost-sharing proposal for Xcel Energy customers with <40 kW DER created by Fresh Energy, IREC, and TruNorth with a plan by Xcel Energy to implement within 60 days of this Order, capping individual upgrades at \$15,000.

Proposed: Once program / tariff launched, all projects 40 kW AC or less that submit their application (and have paid the cost sharing fee) are eligible for covered upgrade costs up to \$15,000.

1. Fee will only cover Supplemental Review fees and upgrade costs (it excludes Study fees, Phase II Study fees, and metering costs)
2. Projects receive upgrade funding on a first come, first served basis
3. MN DIP timelines apply; there will be no waitlist for funds
4. Review fee structure on a periodic basis

Comments Received: Waitlist, Seed Funding, Exclusion of certain customer groups, Reporting on cost allocations

Next steps: Awaiting Commission hearing

ENGINEERING REVIEW

Tools to Use

Suggested Tools to Use Before Submitting an Interconnection Application

1. Hosting Capacity **Map** | Hosting Capacity Analysis (HCA) Docket No. 21-767
 - Join the Hosting Capacity Analysis [Stakeholder Workshop Series](#) [here](#).
2. Public DER Queue and the "**Known Capacity Constraints**" tab
3. Pre-Application **Data** Report:
 - Data presented is existing, readily available data that utility has desk-top access to
 - Informational only, does not guarantee anything to applicant
 - Developer analysis of data presented does not guarantee capacity
 - Formal Interconnection Application and study determine actual interconnection feasibility

Office Hour on this topic coming soon!

Group Studies

- Stakeholder Workshop series concluded on June 30, 2022
- Report filed on July 25, 2022
 - Included issues matrix detailing resolved and unresolved decisions surrounding cluster study implementation
 - 2 completed cluster studies, with 10+ in progress
 - Mandatory cluster studies expected to be implemented on feeders with capacity constraint or significant queued DERs on hold
- **Next steps:** Will file our next report by September 30, 2022

Group Studies

General Resources on the [Interconnection Developer Resources](#) webpage:

- [Batch Study Guidelines](#)
- [Cluster Study Guidelines](#)
- [Unilateral Confidentiality Agreement](#)

Workgroup Discussions:

- [Discussion #1 March 11, 2022 PowerPoint](#)
- [Discussion #1 March 11, 2022 Recording](#)
- [Discussion #2 May 26, 2022 PowerPoint](#)
- [Discussion #2 May 26, 2022 Recording](#)
- [Discussion #3 June 30, 2022 PowerPoint](#)
- Discussion #3 June 30, 2022 Recording (Coming soon!)

Questions?

Smart Inverters

Initial Engineering Screens Updates

- **"Service Voltage"** - at main service meter
- **"Existing DG Size (kW AC)"** - generation on site that already has permission to operate
- **"Aggregate Nameplate"** - including Storage, even if non-exporting, and existing DG
- **"New or Modified DER"** - are inverters being replaced or upgraded?

Update to Blue Book

- Xcel Energy Standard for Electric Installation and Use is available on the Interconnection Developer Resources webpage
- Always use the web-version to ensure most recent revision
- Update Effective July 31, 2022
- Summary of significant changes on PDF pages 202 and 203

XCEL ENERGY STANDARD FOR ELECTRIC INSTALLATION AND USE SUMMARY OF SIGNIFICANT CHANGES - 2021 and 2022	
Year	STANDARD SECTION AND CHANGES
	Exception Request
21	Exception requests not submitted before construction begins or without supporting documents will be denied.
	Definitions
21	GROUND ROD(s) - New. All ground electrodes must be of the rod type or supplemented with the rod type. All rod type electrodes and the ground electrode conductor must be copper or copper clad.
21	MECHANICAL MEANS TO DISCONNECT - New. Manual handle, no tools, no live parts exposed.
21	METER RISER SLEEVE - New. Slip sleeve on the bottom of meter housing. Not to be confused with expansion coupling/joint. Changed document wide.
21	SERVICE RISER - Changed. Added for UG riser.
21	SUP SLEEVE - New. Slip sleeve at ground level.
	Section 2 - General Information
22	2.3 Application for Service/Guides. Fixed links for CO, MI, MN, ND, NM, SD, TX, and WI.
22	New Electric Inspection Certificates for all States.
21	2.8 (4) Equipment Restrictions between meter & socket exception for CO to use only Company approved Meter Collar Adapters. Customer & manufacturer instructions included.
	Section 3 - Character of Service Available
21	3.1.1. - 277/480 V 1Ø 3W served from 3ph transformers only in WI.
22	3.1.1. - All OPGC's 120/240 V 3Ø 4W are with Prior Approval for OVERHEAD ONLY.
	Section 4 - Service Facilities
21	4.1 - Multiple Company transformers may not be tied together
21	4.2.1(4) - Included MI for snow and ice.
21	4.2.1(7) - Clarifications
21	4.3.1(3) - Included MI for snow and ice.
21	4.3.1(4)a - UG. In WI & MI, conduit sweeps must be in 3" concrete.
21	4.3.1(4)e - UG. Service conduit in gray sch 80 PVC. All Eils in 3" concrete.
21	4.3.1(5) - UG. WI and MI slip/meter riser sleeve required on commercial installations.
21	4.3.1(6)(7) - Clarifications.
21	4.5 Table - Last 2 entries Cable Size from "750 AL/CL" to "500 CU or 750 AL".
21	4.7(3) - Transformer truck accessibility and location clarification.
22	4.7(7) - Add padmount reference to clearance and installation dwgs.
21	4.10.3.4 - Clarification temporary conductors not passing through SCC or CT cabinet.
21	4.10.6 - 480V & 480/277V metering for CL320 must use CT metering.
21	4.10.7 Clarification for single phase max amperage at 800.
21	4.12.1 - CT Cabinets. Clarification for single phase max amperage at 800.
21	4.12.2 - SCC. Clarification for not serving multiple customers.
21	4.14.1 - Meter location clarification. Fenced in meters must go through exception.
21	4.14.1(3) - Indoor. Placarding for location purposes indoor metering.
21	4.14.1(5) - Meters shall not be installed. Added drive-through
21	4.6 - New Meter Socket Identification for TX & NM conforming to ASTM D4956 class 4.
21	4.14.6 - General Note Meters will not be install until all units are permanently marked.
21	4.16 - Clarification of 18" working space on each side of meter which is wider than NEC.
22	4.17.1 & 3 Cold Sequence for MN Network allowance.
	Section 5 - Transformers
21	5.4(4) - Arc Flash. New. Typical percent impedance Table IX referenced.
21	Table 1A - Added 167 KVA not available for new construction.
21	Table 1B - Updated some table values and added fuse part numbers.
21	Table II - Updated some table values and added fuse part numbers.
21	Table IX - New. Typical transformer impedance ranges for determination of maximum fault currents used for arc flash studies.

XCEL ENERGY STANDARD FOR ELECTRIC INSTALLATION AND USE SUMMARY OF SIGNIFICANT CHANGES - 2021 and 2022		Page
Year	STANDARD SECTION AND CHANGES	Page
	Section 6 - Utilization Equipment	
21	6.2 - Harmonics. Update Table heading.	74
21	6.2 - Clarification on info below table.	74
21	6.4.5 - Clarification on motor horsepower rating.	77
	Section 7 - Special Types of Service - No changes made	
	Section 8 - Distributed Energy Resource (DER)	
21	8.3.2(5) - Production meter service must match the original customer service voltages. Any other service than the original will be handled on a case by case basis.	82
	Illustrations Section	
21	Added reference new SC-208 heavy snow/ice requirements.	SC-20 1-1.3
21	Added MI to ice and snow requirements.	SC-20 1-1.5
21	Added MI to ice and snow requirements.	SC-20A 1-1.5A
21	New drawing showing requirement for heavy snowfall and ice loading requirements.	SC-208 1-1.5B
21	Added reference new SC-208 heavy snow/ice requirements. Snow elbow encased with 3" concrete add Note 4 schedule 80 PVC under handspike. Drawing cleanup.	SC-30 1-1.7
21	Added reference new SC-208 heavy snow/ice requirements. Snow elbow encased with 3" concrete add Note 4 schedule 80 PVC under handspike. Drawing cleanup.	SC-40 1-1.9
21	Added to Note 2 elbow encased with 3" concrete & schedule 80 PVC under handspike.	SC-40 1-1.13
21	Changed reference to meter socket identification to 4.14.3 to 4.14.6. Rearranged drawing.	SC-40 1-1.17
21	Changed reference to meter socket identification to 4.14.3 to 4.14.6. Rearranged drawing.	SC-90 1-1.19
21	Changed reference to meter socket identification to 4.14.3 to 4.14.6. Rearranged drawing.	SC-100 1-2.1
21	Changed reference to meter socket identification to 4.14.3 to 4.14.6. Rearranged drawing.	SC-110 1-2.3
21	Changed OH 7 terminal socket drawing to show all 6 load exits.	SC-120 1-2.5
21	Changed OH 5 terminal 3 wire socket drawing to show all 6 load exits.	SC-130 1-2.7
21	Changed UG 7 terminal socket drawing line conductor comment to "bottom left knockout".	SC-140 1-3.1
21	Changed UG 3 terminal 3 wire drawing line conductor comment to "bottom left knockout".	SC-150 1-3.29
21	Changed OH 5 terminal 2 wire socket drawing to show all 6 load exits.	SC-160 1-3.33
21	Changed UG 5 terminal 2 wire drawing line conductor comment to "bottom left knockout".	SC-170 1-3.35
21	Added to Note 4 3 wire 3 phase and 2 wire 1 phase services.	PM-10 1-3.2
21	Added to Note 3 WI & MI paid for by customer.	PM-40 1-3.8
21	Added top comment meter installation is on property that is under development.	TM-20 1-4.2
21	Added 5 & 7 terminal bypass required for 1 and 3 phase respectively.	TM-20 1-4.4
21	Added 5 & 7 terminal bypass required for 1 and 3 phase respectively.	TM-30 1-4.6
21	Remove wiring diagram and showed area only of Company & customer control wiring.	IR-30 1-5.2
21	Remove drawing of Company control wiring.	IR-40 1-5.6
21	Correct drawing block of US service for EV.	EV-30 1-5.12
21	Added Note 7 maximum load limitation is 4000A per phase.	CC-10 1-6.20
21	Added Note 8 maximum load limitation is 4000A per phase.	CC-20 1-6.40
21	Corrected drawing dimensions. Added notes.	CC-50A-E 1-6.61-96
21	Clarifying drawing dimensions primary opening.	CC-60A-E 1-6.102-106
21	Added sump pump outlets & any possible venting leading into structure to beyond 6' from the gas regulator.	CH-10 1-7.1
21	Location of pad-mounted transformers updated.	CR-20A 1-7.3A
21	Multiple Transformer Clearances 2 Story and Higher updated.	CR-20B 1-7.3B
21	Location of pad-mounted transformers Near Buildings updated.	CR-40 1-7.4
21	Clearance of Company Owned Structures and Service Drops updated.	CR-20C 1-7.3C
21	Added NEC minimum clear distance conditions 1, 2, & 3 with table and notes.	CR-110 1-7.12

DESIGN AND CONSTRUCTION

1. Proposed Modifications
2. Updates & Reminders
3. Witness Testing

Reminders

- No developer is exempt of the requirements, and applies to any changes to a deemed complete application.
- Proposed modifications are much more defined now in MN DIP than pre-MN DIP
 - The process for submitting a modification for review is outlined in the MNDIP
 - Found in Section 1.6
 - The requirements for a modification qualifying as material is also outlined in the MNDIP
- Developer must author their own proposed modifications; this cannot be delegated to Xcel Energy.
- A Proposed Modification that is vague will be rejected
- All Proposed Modifications must be submitted on an application specific basis; prior reviews for other applications are not precedent setting.

Reminders

- Proposed Modifications for a reduction in size due to SIS Results must be submitted timely; other Modifications that would result in a restudy would be deemed Material and thus not allowed.
 - Capacity must align with the capacity indicated in the SIS Results
- This information has been covered at multiple past quarterly meetings
- **Why are we still seeing issues? Help us understand.**

Design & Construction

- Easements are needed for all Xcel Energy equipment placed on private property for CSGs
- Permits are needed to be obtained by Xcel Energy if we locate our facilities in the public ROW. Xcel Energy will obtain our own permits and the Interconnection customer shall not speak on behalf of Xcel Energy when gaining their permits.
- Winter Construction Charges in effect October 1 – April 15th
 - Applied to both CSG and On-Site
 - Can increase overall interconnection final costs by 10-30% over the initial estimate
- Cost Fluctuation – still a valid concern for all stakeholders given the industry needs
- Lead Times for equipment continue to be a concern



Design & Construction



Safety & Expectations

PPE
Qualified Personal
Energization is not PTO



Inverters

Firmware Updates
Factory vs Xcel Energy Settings
Recommissioning

**CUSTOMER-SITED INSTALLERS
CAN DROP HERE**

Before we dive in

Let's talk about goats

Emerging concern

How to keep this safe and predictable for our workers

- Signage
- Fencing
- Other?



SOLAR*REWARDS COMMUNITY

1. Program Updates & Reminders
2. Planned Outages
3. Regulatory Reminder

SOLAR*REWARDS COMMUNITY

UPDATES & REMINDERS

Solar*Rewards Community

Minnesota Solar*Rewards Community®

Status Report | August 2022

PROJECT STATUS

- MNDIP Applications = 664 (438 remain active)
- New Applications (2022) = 43 (40 remain active)
- Total No. of Applications under the VOS = 820 (560 remain active)

	Project Sites	MW (AC)
TOTAL	871	*1,250+
Completed Projects	437	841
In Progress Applications	434	*409+
IN PROGRESS APPLICATION SUMMARY		
Application	37	*21+
Engineering Review	284	281
On Hold for Sequential Review (4 Dispute)	165	164
In Process (11 Modification Review)	106	104
Interconnection Agreement	11	11
Pre-MNDIP	2	2
Design & Construction	113	107
*Applications prior to submission may not have a value, therefore this is a minimum.		

PROGRAM RESOURCES

Upcoming Events:

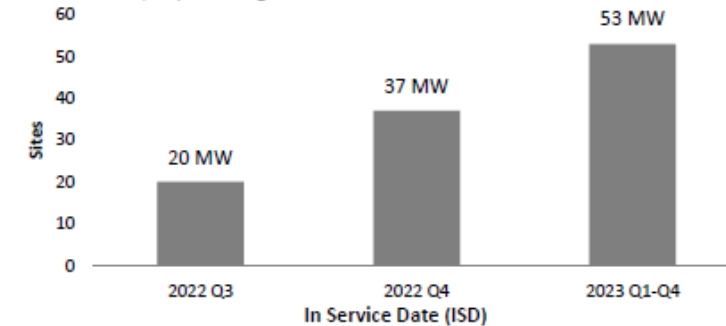
- MN DER 2022 Q3 Workgroup Meeting: August 11; register [here](#)

Reminders & Updates:

- 2022 Q3 Compliance Report available on our Solar Garden Developers webpage: [here](#)
- Group Studies Work Group resources now available on our [Interconnection Developer Resources](#) webpage
- Public DER Queue available on our [Interconnection Developer Resources](#) webpage: [here](#)

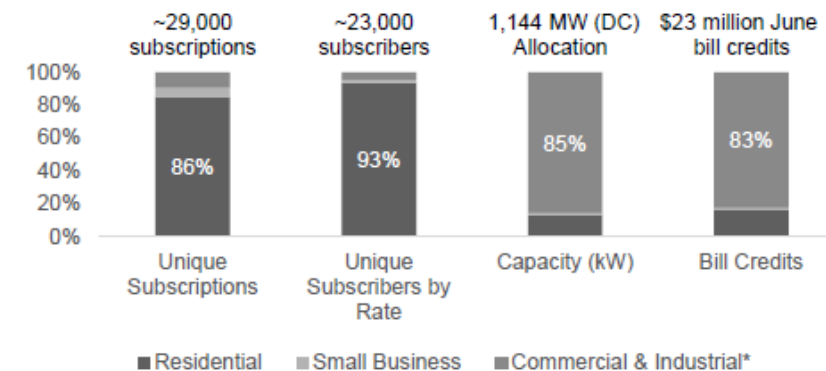
SOLAR GARDENS IN DESIGN & CONSTRUCTION

- 110 MW (AC) in Design & Construction across 117 sites



ACTIVE SOLAR GARDENS

- Details below are through June 2022
- Total Bill Credits paid ~\$610 million
- 2021 Bill Credits cost ~\$5/mo. or ~5% of 750kWh residential customer bill



Solar*Rewards Community

- [2022 Q3 Compliance report](#) filed July 22, 2022
- Available on [Community Solar Garden Developers](#) webpage under Additional Information

Topics (including but not limited to):

1. Subscriptions
2. Timelines
3. Disconnected Gardens
4. Mediation Requests
5. Planned Outages
6. Program Updates

All Solar*Rewards Community participants are expected to stay up-to-date with topics covered.

Questions?

Solar*Rewards Community

Reminders from 2021 & Q1/Q2 2022; **we are still running into these issues:**

- CC (Our new program inbox!) SolarRewardsCommMN@xcelenergy.com on all Solar*Rewards Community related correspondence
- Provide call agendas **at least** 48 hours, or 2 business days, in advance
 - o Reach out to SolarRewardsCommMN@xcelenergy.com to setup bi-weekly calls
 - o Applies to all scheduled calls including but not limited to: bi-weekly calls, scoping meetings and customer options meetings
 - o If agendas are not provided 48 hours in advance, Xcel Energy may reschedule the call
 - o Technical resources may require scheduling further into the future

Solar*Rewards Community

- Deadline was March 31, 2022
- Applicable to gardens achieved Commercial Operation on or before March 1, 2021
- Any outstanding are out of compliance
 - Send a copy of the annual report to SolarRewardsCommMN@xcelenergy.com immediately
 - Next steps may include a Notice to Cure or Disconnect

Data Privacy

- Extended lead times in Data Privacy submitted requests being processed
- SRC MN team is aware
- Apologies for the unexpected timelines
- Delays due to understaffing that is being experienced broadly
- Current processing expectations 6-8 weeks

We understand this is a global problem and we appreciate everyone's patience as we work through this.

SOLAR*REWARDS COMMUNITY

PLANNED OUTAGES

Planned Outages

- Electronic Reclosers and timeline for implementation on all CSGs & Viper Installation
 - Hotline work required; mitigating by installing in batches where practicable
 - Process in progress and will continue throughout the year until it is complete; on track for YE goal barring procurement and/or weather challenges.
 - Will send SRCMN Update Email with additional information and implementation date once available
- Advanced Notifications are in place
 - Advanced Notifications help to provide earlier notice of **proposed** work only
 - Formal notifications will continue to be sent 24-48 hours when a Switch Plan is officially initiated for any of this proposed work that moves forward.
 - Please only send inquiries for Planned Outage details for the confirmed 24-48 hour Notifications.

Planned Outages

Review [SRCMN Office Hour - Planned Outage Notifications \(PPT\)](#) available at [Community Solar Garden Developers](#) for a comprehensive overview.

Planned outage will receive a notification:

- Send inquiries to SolarRewardsCommMN@xclenergy.com with template:
- [SCRMN Planned Outage Inquiry - Garden Name](#)

Unplanned Outages do not receive a notification:

- If you experience an unplanned or momentary outage, call **1-800-895-1999**

Please do not contact our Control Centers at any time

Questions?

Planned Outages

- Sent anytime Severe Weather is expected in MN Territory
- Severe Weather results in escalated operations and can delay or extend any Planned Outage or Notification
- If you experience an Unplanned Outage call 1-800-895-1999 to report and **not** our Operations Center

Severe Weather in MN Territory - Report Unplanned Outages to 1-800-895-1999



 This message was sent with High importance.

Hello,

Much of the NSP territory will be impacted by severe weather between today **Monday, May 9, 2022 – Friday, May 13, 2022**. As a result, some of the NSP territory is experiencing outages. Since these outages are not planned, we will not be notifying garden operators when an outage has occurred.

If your Community Solar Garden power is out, immediately notify us of the outage via phone call. You will need to have your Xcel Energy account number, premise number, garden address, and garden name so we can appropriately identify your location.

- Call **1-800-895-1999**

Please **DO NOT** call the Operations Center, even if it is listed in your Interconnection Agreement packet. Our crews will be working escalated operations, and Xcel Energy will be very focused on quickly and safely restoring power to all impacted customers, including community solar gardens.

Please pass these notices along immediately to your field and other team members who might be reaching out to us in the near future. This will help the right teams focus on the work of restoration, and the customer support center will gladly help with your outage related inquiries.

Thank you for understanding and helping us be proactive, especially during this critical time.

Thank you,

The Solar Rewards Community Program Team
Xcel Energy
E: SRCMN@xcelenergy.com

REGULATORY

DATA SECURITY

Data Security

Data Security: Reminder: We used to make people come into the office to view confidential information. Since then, we have transitioned to a trusted electronic NDA process. If we continue to see confidentiality breaches/violations, we will return to the past process of only physical viewing.

- Violations include:
 - Sharing with consultants or employees not on the NDA
 - Sharing in public locations
 - Saving in shared locations accessible by other employees
 - Not destroying copies after 1-year
- Relates to Grid Security docket

Thank you!



HOW DID THIS GO



TOPICS FOR 2022 Q4



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; or

xx by electronic filing.

Docket No.: E002/M-13-867

Dated this 22nd day of November 2022.

/s/

Joshua DePauw
Regulatory Administrator

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Gabriel	Chan	gabechan@umn.edu	University of Minnesota	130 Hubert H. Humphrey Center 301 19th Ave S Minneapolis, Minnesota 55455	Electronic Service	No	OFF_SL_13-867_Official
Generic Notice	Commerce Attorneys	commerce.attorneys@ag.state.mn.us	Office of the Attorney General-DOC	445 Minnesota Street Suite 1400 St. Paul, MN 55101	Electronic Service	Yes	OFF_SL_13-867_Official

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Paula	Prahl	paula.prahl@dominiuminc.com	Dominium	2905 Northwest Blvd Ste 150 Plymouth, MN 55441	Electronic Service	No	OFF_SL_13-867_Official
Generic Notice	Residential Utilities Division	residential.utilities@ag.state.mn.us	Office of the Attorney General-RUD	1400 BRM Tower 445 Minnesota St St. Paul, MN 551012131	Electronic Service	Yes	OFF_SL_13-867_Official
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