



414 Nicollet Mall
Minneapolis, MN 55401

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

July 9, 2021

—Via Electronic Filing—

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

RE: SUPPLEMENTAL FILING
SHERCO SOLAR PROJECT
DOCKET NO. E002/M-20-891

Dear Mr. Seuffert:

Northern States Power Company, doing business as Xcel Energy, submits to the Minnesota Public Utilities Commission the enclosed Compliance filing in regard to the Commission's July 5, 2021 Order in the above referenced docket.

Portions of this filing and Attachment A are marked "NOT PUBLIC" as they contain information the Company considers to be trade secret data as defined by Minn. Stat. §13.37(1)(b). This information includes confidential pricing, bid information, and contractual terms. This information has independent economic value from not being generally known to, and not being readily ascertainable by, other parties who could obtain economic value from its disclosure or use.

We have electronically filed this document with the Commission, and copies have been served on the parties on the attached service list. Please contact me at bria.e.shea@xcelenergy.com or (612) 330-6064 if you have any questions regarding this filing.

Sincerely,

/s/
BRIA E. SHEA
DIRECTOR, REGULATORY & STRATEGIC ANALYSIS

Enclosures
c: Service List

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

STATE OF MINNESOTA
BEFORE THE
MINNESOTA PUBLIC UTILITIES COMMISSION

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

IN THE MATTER OF THE PETITION OF
XCEL ENERGY FOR APPROVAL OF THE
ACQUISITION OF SOLAR GENERATION
AT XCEL ENERGY’S SHERBURNE
COUNTY SITE

DOCKET No. E002/M-20-891

COMPLIANCE FILING

INTRODUCTION

Northern States Power Company, doing business as Xcel Energy, submits to the Minnesota Public Utilities Commission this Compliance filing in regard to the Commission’s July 6, 2021 Order in the above referenced docket. In response to the Order’s requirements and to further address questions raised in the Commission’s June 3, 2021 hearing, we discuss the need for the Sherco Solar project, generator replacement considerations, our capacity expansion modeling, and the Company’s proposed jurisdictional cost allocation method.

COMPLIANCE

I. TIMING OF THE SHERCO SOLAR PROJECT

In the June 3, 2021 Commission hearing, there was discussion around the urgency of the Sherco Solar project. The Company believes it is important to consider and approve the Project this year for several reasons.

The Sherco Solar project represents a pivotal opportunity at a critical moment for Minnesota’s economic and energy future. As Minnesota’s largest solar development, the Project will not only play a key part in the state’s transition to clean energy—producing enough clean energy to power approximately 100,000 homes in the Upper Midwest each year—it also will help drive economic relief and recovery in the wake of COVID-19.

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

If approved, we expect the Sherco Solar project will provide an estimated \$115 million in wages from nearly 900 union construction jobs over the course of three years- which would start as early as next summer, depending on the timing of the Siting and Route Permit docket.¹ The project would also create more than \$240 million in local benefits (including landowner payments and state and local taxes) over the life of the project, which is critical for the local economy as the substantial tax base associated with the retiring coal units goes away. Furthermore, the Sherco Solar project will also be the first project opportunity for participants in the soon-to-be proposed Workforce Training and Development Program, which will help provide utility industry and trade-related skills and training to women and members of Black, Indigenous and People of Color (BIPOC) communities. Any delays to the Project would also delay these important benefits in the wake of COVID-19 pandemic.

Additionally, as discussed below, the Project presents a unique and time-sensitive opportunity to reutilize the interconnection rights at the current Sherco coal site and contribute to fulfillment of the significant solar power resources identified in our Integrated Resource Plan (IRP). With our recently filed Alternate Plan identifying a need for 3,150 MW of utility scale solar by 2034 (starting in 2024), including significant additions that reuse the existing interconnection rights for our retiring coal units, the Sherco Solar project is a critical first step in meeting those solar needs as well as surpassing our carbon reduction goal of 80% by 2030. With so many renewable additions being added to the system over the next 15 years, it is important to get started now and smooth the project timelines to the extent possible to account for workforce availability and general project management.

Finally, setting aside the economic recovery benefits, from a development perspective, we need to execute on projects that reuse these interconnection rights 2026, or else we expect the rights will be lost permanently. And while 2026 may seem far away, the Company faces potential pressures on project costs, procurement of materials and securing a contractor to support the build timeline. By targeting an in-service date of 2024 for the Sherco Solar project, we ensure that we can reutilize the majority of the valuable interconnection rights from Sherco Unit 2, while retaining sufficient time and flexibility to identify additional projects that can use the remainder. Given the size and scale of this Project, any significant delays from the detailed project schedule put forth in our initial filing could put at risk the proposed in-service and total costs associated with all 460 megawatts (MW) of the Sherco Solar project.

¹ Docket Nos. E002/TL-21-189, E002/TL-21-190, E002/GS-21-191

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

II. GENERATOR REPLACEMENT CONSIDERATIONS

As discussed in our IRP Reply Comments, in total, we are planning nearly 6,000 MW of renewable additions over the course of our 15-year plan.² However, given the current status of the MISO interconnection queue, achieving this level of renewable additions will require thoughtful, strategic, and opportunistic implementation -- including, at a minimum, the reuse of every available interconnection made possible by retiring generation units. In fact, even when we account for the reuse of all interconnections on our system over the next 15 years, we still cannot achieve even half of the renewable additions that we, and others, are suggesting we add in the IRP docket.

Given the relatively high costs to interconnect greenfield renewables, and the fact that we expect constraints to continue for some time, the reuse of interconnection rights the Company currently holds provides a path to achieving the renewable additions we need to meet our and the state's renewable goals without overreliance on the MISO interconnection queue. Because we currently hold these rights and want to ensure we make the best use of this opportunity to reutilize them to the benefit of our customers and further reduce carbon emissions, we believe our proposed project to repower the majority of a coal unit with the largest solar development in the state's history is a win-win.

Below we discuss the rules regarding both the ownership and the type of replacement resources.

A. MISO Rules Regarding Ownership of Generator Replacement Resources

As discussed in our IRP Reply Comments, there are specific requirements governing generator replacement and the ownership of resources that reutilize these interconnection rights. MISO's generator replacement rules are set out in Attachment X of the MISO Tariff, which contains MISO's Generator Interconnection Procedures or "GIPs." The general timing rules of generator interconnection replacement under the MISO Tariff require (1) that a request for generator interconnection replacement be submitted *at least one year prior* to the date that an existing generation facility will cease operation, Attach. X § 3.7.1(ii), and (2) the expected commercial operation date for a replacement facility must be *within three years* of the date that the existing facility

² Docket No. E002/RP-19-368

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

ceases operation, Attach. X § 3.3.1.³ These generator interconnection rules allow for the owner of an existing facility to request to replace the facility itself with another facility. The rules do not allow the owner of an existing facility to submit a request for a third party to interconnect a replacement facility that will use the owner's existing interconnection rights. This reflects FERC's policy against the buying and selling of interconnection rights.

These rules, therefore, have the effect of requiring approximately the first 2,000 MW of Sherco interconnection reuse to be owned by the Company.

B. MISO and FERC Rules Regarding Generator Replacement Type

In the June 3, 2021 Commission hearing, a question was raised as to whether a Sherco generating unit could be replaced by solar generation under the Federal Energy Regulatory Commission (FERC) or Midcontinent Independent System Operator (MISO) rules. While it is certainly an important consideration, there are no specific FERC or MISO rules that prohibit replacing the interconnection rights utilized by a coal-fired unit with a renewable resource.

FERC has granted the current generation owners the right to utilize the associated transmission interconnection for new generation at those sites as the old generation retires as part of the energy transition. This is an important attribute for us to utilize to ensure our customers retain the maximum value from our prior investment in the bulk power system, a right only the owners of the sites can utilize.

With regards to MISO rules, while there are requirements for using the same point of interconnection and conducting an analysis to assess the impact of replacing a generating facility—which would include considering the capacity, energy, and other attributes of the various facilities—there is no specific requirement mandating that a generating facility must be replaced by the same (or similar) type of facility. Indeed, other Minnesota utilities have also proposed reusing coal interconnection rights to build large solar projects as well.⁴

³ Additionally, § 3.3.1 states that “For Existing Generating Facility that is in suspension pursuant to Section 38.2.7 of the Tariff or in Forced Outage, the start date of suspension or outage shall be considered the date of cessation of operation of the Existing Generating Facility for purposes of calculating the three (3) year limit.”

⁴ Docket No. E017/M-20-844, Otter Tail Power Company's Hoot Lake Solar Project

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

III. ECONOMIC MODELING RESULTS

Per the Commission’s July 6, 2021 Order, the Company discusses below how the Sherco Solar project fits into our recently submitted Alternate Plan in our 2020-2034 Integrated Resource Planning proceeding (Docket No. E002/RP-19-368). Below, we discuss our approach to including the project in capacity expansion and production cost modeling, as well as a discussion of the project’s annual revenue requirements and potential changes to its estimated revenue requirements under two tax reform sensitivities.

A. EnCompass Modeling

The Company has taken a two-step approach to modeling the Sherco Solar project costs in the context of our recently proposed Alternate Plan. Here, the Alternate Plan forms the basis of our “base case,” and the Alternate Plan with the Sherco Solar project added into our resource portfolio as our “change case.” Step one of the process is conducting capacity expansion modeling in the change case, to determine whether the addition of this project would change the type or timing of other additions in our expansion plan. Second, we conduct production cost modeling, wherein we simulate system dispatch costs for both our base case and change case and attempt to isolate the cost impacts of adding the Sherco Solar project to our portfolio.

Our modeling shows that the addition of the Sherco Solar project does not change our expansion plan, with the exception that the project replaces a portion of the generic additions indicated in our plan for 2024. The addition of the Sherco solar project also does not materially impact the results of our production cost modeling, which shows that the Alternate Plan including the addition of this specific project still results in significant PVSC savings, and is effectively cost-neutral on a PVRP basis, relative to our IRP “business as usual” case. In Section B, we also discuss the expected revenue requirement for the Project under current policy and evaluate the potential impact of federal tax policy changes currently under consideration that could have significant beneficial impacts on the cost of this Project.

1. Capacity expansion results

In order to evaluate whether the addition of the Sherco Solar project would affect our capacity expansion plan, the Company compared the Alternate Plan presented in our IRP Reply Comments on June 25, 2021 to a change case in which the Sherco Solar project specifically was added to our portfolio. The result of this change is that, from

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

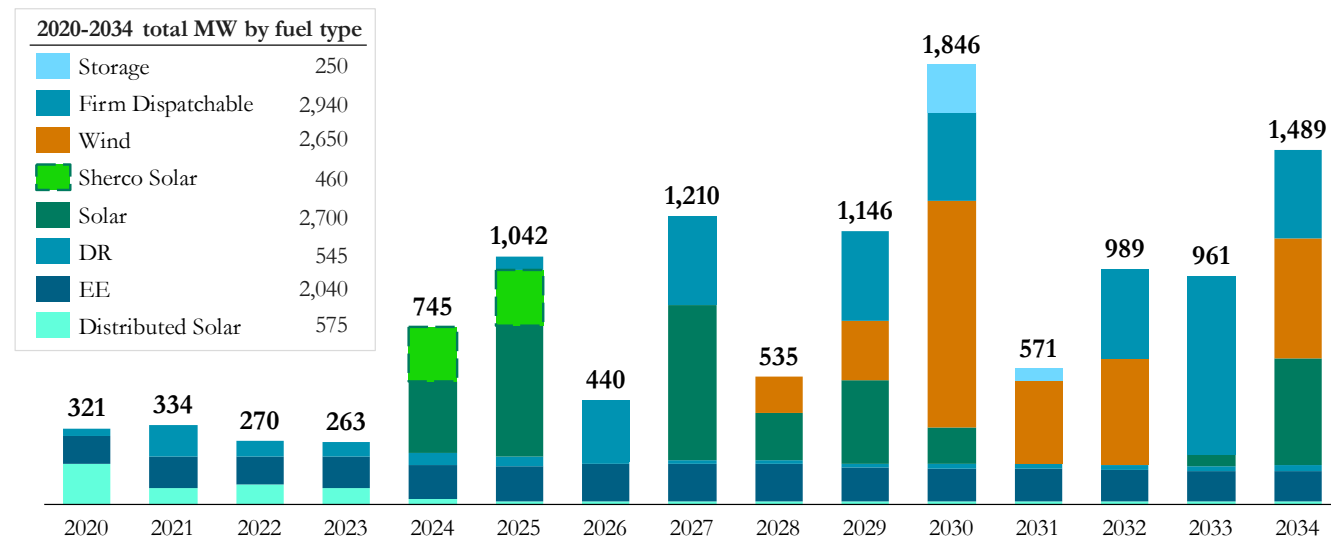
2020-2034, the remaining expansion plan does not change with the exception of the amount of incremental solar still left to add. In other words, the Sherco Solar project fulfills the first 460 MW of solar indicated in our Alternate Plan and does not result in a substantive change in the remaining additions. Some individual units do move to different years in the simulation, but over the course of the full planning period, the additions are effectively identical.

Table 1: Total 2020-2034 Additions in the Base Case and Change Case

Resource Type	Base Case (Alternate Plan)	Change Case (Alternate Plan including Sherco Solar)
Storage	250	250
Wind	2,650	2,650
Solar	3,150	3,160
- Sherco Solar	- n/a	- 460
- All other solar	- 3,150	- 2,700
Firm Dispatchable	2,937	2,937
DR	545	545
EE	2,041	2,041
Distributed Solar	575	575

Figure 1: Alternate Plan with Sherco Solar Expansion Plan 2020-2034

Alternate Plan + Sherco Solar Annual Expansion Plan
(MW of additions)



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

2. *Production cost analysis*

After addressing the capacity expansion modeling the Company then analyzes the relative cost of a case with the Sherco Solar project included (change case) versus the base case without it. Because the Sherco Solar replaces generic solar additions in our Alternate Plan presented in the IRP, the production cost analysis is essentially a comparison of the costs of the Sherco Solar project to the costs for the generic solar resources assumed in our IRP. As further described below, the nature of this Project's revenue requirements and the manner in which the Company can utilize ITCs presents some methodological challenges for appropriately assessing the project's cost in the context of our Plan. As a result, we made some adjustments to the method by which we analyze the Sherco Solar project for EnCompass purposes, so that we are evaluating the costs of the project in a similar method to the way generics are modeled. We describe this method and the outcome of our analyses below. We also discuss the Project's estimated annual revenue requirements as they will be incurred below.

a. Modeling method background and application to solar revenue requirement

In our EnCompass modeling, the Company currently simulates the cost of resources on our system for the 2020-2045 timeframe. For resources already on our system, we include the estimated revenue requirements for these resources as we expect them to occur. For the set of resources from which the model can choose for future resource additions we model their all-in costs as escalating streams of "economic carrying charges (ECC)," intended to represent the all-in cost to build and produce energy from that particular resource over the course of the modeling period, on a \$/MWh or \$/kw-month basis. This method is beneficial for comparing generic resources for future portfolio decisions, in that it allows us to compare 1) a broad set of future potential resources that have differing mixes of capital and variable operating costs on a more level playing field, and 2) resource additions over time, that may not be fully depreciated by the end of our cost analysis period. In addition, using an ECC consistently for future resource options ensures resources are evaluated on an even playing field regardless of assumptions regarding ownership or other variations in the timing of resource costs.

When it comes to comparing actual project revenue requirements in reference to generics, however, this approach can create some challenges. A project that is owned by the Company, like the one proposed in this docket, will have annual revenue

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

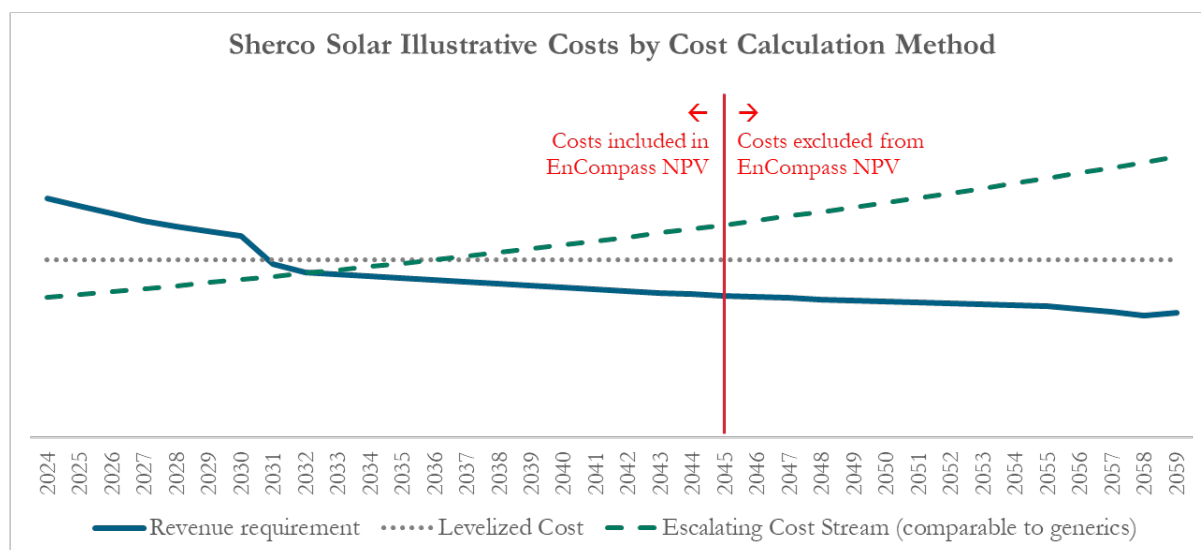
requirements that start relatively high and decline over time, in part because the lifetime costs of the project are predominantly incurred as upfront capital and in part because solar investment tax credits are spread across the life of the project, rather than accumulated in the first years of operation like for wind projects. Further, for a project that begins operation in the mid-2020's, the cost analysis period (2020-2045), will only capture costs that are incurred in the first, and most expensive, half of the project's life. These issues are more pronounced when comparing revenue requirements versus ECC costs for resources that are not eligible for the PTC (i.e. resources other than wind). The lower costs in the earlier years for owned PTC eligible projects more closely align with the escalating cost stream of the ECC, although even in this case there is some level of the same inconsistency when comparing the costs over a period less than the full life of the resource.

These two factors make it difficult to make direct comparisons in EnCompass between an actual project and generics and generate appropriate comparisons. In other words, even if we assumed the exact same set of lifetime costs for a project modeled as an escalating stream versus one that represents annual revenue requirements as they are incurred, the analysis would systematically disadvantage the latter because it does not analyze the full lifetime of the project. Figure 2 below illustrates this issue; both the ECC stream and the annual revenue requirement shown below result in the same LCOE and roughly the same NPV over the full life of the project; but cutting off the costing analysis at 2045 – as our EnCompass modeling does – will make the annual revenue requirement method look more expensive over the analysis period because many of the years where it is lower than the ECC stream are not considered in the calculation.⁵

⁵ We note that this temporal issue has not yet been a complicating factor for any proposed owned wind projects because, to date, they have all had an end of life within, or very close to, the end of the planning period.

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

Figure 2: Illustrative Solar Revenue Requirements as Compared to Levelized or Escalating Cost Stream Method, Under Current Tax Policy



b. Production cost modeling results

For the reasons discussed above, the Company determined that the most appropriate way to evaluate the cost differences between a case with the Sherco Solar project included and a case with only generic representations of solar costs would be to convert the Sherco Solar project's revenue requirements into an escalating ECC stream. In this way, while all the Sherco-specific costs are incorporated into the calculation, we alleviate the temporal challenges of the model not assessing costs through the full life of the project. Said a different way, this method allows us to provide an "apples to apples" comparison of the Sherco Solar project with the generic resources the model has selected.

The results of this analysis are included in the tables below, both on a Present Value of Societal Cost (PVSC) and Present Value of Revenue Requirement (PVRP) basis. Here, we compare both the IRP Alternate Plan (or Sherco Solar Base Case) and the IRP Alternate Plan with Sherco Solar included back to the IRP's Reference (or business-as-usual) case.

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

Table 2: PVSC Results

Analysis Case	2020-2045 Total system cost result (\$ millions, PVSC)	2020-2045 Delta from Reference Case (\$ millions, PVSC)
IRP Reference Case	41,067	-
Sherco Solar Base Case (IRP Alternate Plan)	40,461	(606)
Sherco Solar Change Case (IRP Alternate Plan + Sherco Solar Project)	40,524	(543)

Table 3: PVRR Results

Analysis Case	2020-2045 Total system cost result (\$ millions, PVRR)	2020-2045 Delta from Reference Case (\$ millions, PVRR)
IRP Reference Case	37,165	-
Sherco Solar Base Case (IRP Alternate Plan)	37,120	(46)
Sherco Solar Change Case (IRP Alternate Plan + Sherco Solar Project)	37,170	5

The tables above show that, on a PVSC basis the IRP Alternate Plan with the Sherco Project included generates significant savings relative to our “business as usual” IRP Reference Case and is effectively cost-neutral on a PVRR basis. This finding reinforces that early coal retirements and interconnection re-use is a prudent path forward for ensuring we can make maximum use of our interconnection rights and transition the Sherco site to increasingly be used to inject clean electricity into the grid. The findings above also show that the Sherco Solar project is only slightly more expensive over the long run than our assumptions for generic solar resources used in our IRP modeling. This should not be concerning because, as discussed below, actual project costs always deviate from generic assumptions. Additionally, as discussed in the initial Petition to this docket, our competitive solicitation did not produce any project that was less expensive than the one proposed here, and the costs of the project on a per/kW basis are lower than any other recent solar addition in the Upper Midwest for which such cost information is publicly available.

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

There are several reasons for the divergence between the Sherco Solar project costs and our generic assumptions. As a threshold matter, we note that generic representations of solar resources in our IRP modeling are intended to be broad and based on publicly available sources, and as such, they make certain generalizing assumptions regarding inputs that affect the LCOE and, therefore, are not intended to perfectly align with project and regionally specific inputs. Said another way, models that use generic cost assumptions based on external, public sources will inherently not take into account project specific factors that can only be known once a specific project is under development and bid into a solicitation. We use the National Renewable Energy Laboratory's *Annual Technology Baseline* to inform our generic cost assumptions, and there are factors specific to the Sherco Solar project that are likely to vary from this public resource and these factors can have varying effects on costs. For example, it is possible that the cost of acquiring land in a relatively more developed area exceeds the cost included in the NREL assumptions; while this increased cost may be applicable to solar developed nearby to the Sherco site, it will not necessarily apply to every future project proposed for generator interconnection re-use. This project is also scheduled to span multiple construction seasons, which can have an effect on several cost parameters underlying the generic resources that NREL may not capture. There are several other factors such as cost of construction and operational labor, project-specific transmission investments, the type and yield of solar panels chosen, balance of system costs, and other components that, even if relatively small individually, can add up to differences of a larger magnitude over the full analysis period, and in aggregate could certainly account for differences in comparing generic costs to specific projects.

B. Project Revenue Requirements and Tax Policy Sensitivities

In addition to the EnCompass results shown above, and because we had to make certain cost calculation adjustments to compare the project to generic assumptions from our IRP modeling, we believe it is appropriate to provide the Commission with additional information regarding the annual revenue requirements we expect to incur for the Project, as well as discuss how various tax policy proposals may change these costs.

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

1. *Annual project revenue requirements*

As noted in the Company's initial petition in this docket, the Sherco Solar project is expected to cost approximately **[PROTECTED DATA BEGINS
PROTECTED DATA ENDS]** to install, for an estimated levelized cost of **[PROTECTED DATA BEGINS
PROTECTED DATA ENDS]**. Under current tax policy, the Company begins being able to utilize ITCs associated with the project around the 2030-2031 timeframe and subsequently applies them to the project over the remaining life of the project. We expect the full life of the project to be 35 years, and thus the two halves of the project are anticipated to retire (thus revenue requirements cease) in 2058 and 2059 respectively.

Figure 3 below illustrates our estimated annual revenue requirement for the project over its lifetime. Consistent with the discussion above and the illustrated \$/MWh annual revenue requirement of the project, under current tax policy, the highest level of revenue requirements will be incurred in the first several years of the project, after which it will decline steadily until the project's end of life. On a net present value basis, we estimate that the total revenue requirement under current tax policy will be approximately **[PROTECTED DATA BEGINS
PROTECTED DATA ENDS]**. This value is preliminary and subject to change as the project is further developed and constructed.

Figure 3: Sherco Solar Estimated Annual Revenue Requirements

[PROTECTED DATA BEGINS

PROTECTED DATA ENDS]

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

2. *Tax policy sensitivities*

Based on discussion at the June 3, 2021 Commission hearing, and consistent with the analysis presented in our IRP Reply Comments, the Company has also analyzed the potential cost savings for the Sherco Solar project if federal tax reform is passed. As we noted in the IRP Reply Comments, there are several potential tax credit policy changes proposed in Congress, some of which are currently moving through committee. Some of these proposals would have the effect of increasing customer savings by eliminating solar Investment Tax Credit (ITC) normalization requirements. Other proposals include allowing renewable energy owners to take tax credits as a “direct pay” incentive, extending the solar ITC further into the future, and allowing solar owners to opt to receive Production Tax Credits (PTCs) rather than ITCs.

Importantly, Company ownership of this project, and any project for that matter, ensures that customers reap the benefits of these potential policy changes, should any of them come to fruition. For example, with the extension of the wind PTC last year, we were able to take actions that allowed the Dakota Range project to qualify for the 100 percent PTC level rather than the 80 percent PTC, and flow the benefits of these tax credits back to customers.⁶ If tax reform is passed and the Sherco Solar project becomes less expensive, the benefits of that change will flow back to customers. This is different than an instance in which the Company would sign a PPA for a project; in that case, the energy payment rate agreed to in the PPA is inclusive of any taxes and impositions during the term of the agreement, and the Seller assumes all risks – and receives all benefits – of changes in taxes.

While it is too early to determine if any of these policies will ultimately be signed into law, we present two cost sensitivities below; one consistent with the tax reform sensitivity discussed in our IRP and one consistent with the “Clean Energy For America Act” proposal, currently moving through committee. A summary of the annual revenue requirement trajectories for these sensitivities, relative to our estimated costs under current policy, is included in Figure 4 below.

⁶ See Updates to Wind Portfolio, Oct. 9, 2020, Dockets Nos. E002/M-16-777, E002/M-17-694.

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

Figure 4: Annual Revenue Requirements Estimates for Tax Policy Sensitivities

[PROTECTED DATA BEGINS

PROTECTED DATA ENDS]

- a. Normalization opt-out and direct pay sensitivity

In our IRP, we showed that a change in tax policy that provided a normalization opt out and an option for direct pay would result in substantial additional savings relative to the Plan under current policy. For the Sherco Solar project specifically, we estimate that these two policy changes would reduce the estimated LCOE of the Project by approximately **[PROTECTED DATA BEGINS PROTECTED DATA ENDS]**. Over the full life of the Project, we estimate this would save customers over **[PROTECTED DATA BEGINS PROTECTED DATA ENDS]** on a net present value basis.

- b. Clean Energy for America Act sensitivity

The Company also noted in our IRP Reply Comments that there is legislation currently moving through the Senate Finance Committee that makes a host of changes to current renewable tax credit policy. This bill – the Clean Energy for America Act – is sponsored by Senator Ron Wyden and co-sponsored by many others, including Minnesota Senators Amy Klobuchar and Tina Smith. In its current form this bill proposes to replace existing wind and solar energy credits with a

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

technology neutral credit for clean energy, as well as increases the level of credits available back to approximately their pre-stepdown amounts. This change would allow the Company to choose credits for the Sherco Solar project either in the form of PTCs or ITCs. From our perspective, a PTC option would be the most beneficial to customers because we would be able to pass the benefits of those credits onto customers earlier in the project's life than the current ITC rules allow.

We did not model this option in our IRP because it would have involved making a number of assumptions based on uncertain policy outcomes, such as the number of years into the future for which projects would be eligible for credits, whether PTCs or ITCs should be applied to generics, and other factors. However, for the Sherco Solar project specifically – in an instance in which we assume we could opt to take PTCs, elect direct pay, and the PTC level was increased back to its original amount (as this bill proposes) – we estimate the resulting LCOE could be as low as **[PROTECTED DATA BEGINS PROTECTED DATA ENDS]**, with over **[PROTECTED DATA BEGINS PROTECTED DATA ENDS]** of savings on a net present value basis over the life of the project relative to currently estimated costs.

IV. COST ALLOCATION PROPOSAL

In Compliance with the Commission's July 6, 2021 Order in this docket, below we provide additional information on our proposed cost allocation methodology. As the Company noted in our response on April 2, 2021 to Information Request No. 6 from the Office of the Attorney General, the Company filed an Application for Advance Determination of Prudence (ADP) for the Sherco Solar project with the North Dakota Public Service Commission, in Case No. PU-21-152 We provide the ADP as Attachment A to this Compliance Filing for reference.

As explained in the Application, to account for the capacity provided by the Sherco Solar project, the Company has proposed to recover from North Dakota customers the North Dakota jurisdictional share of the cost of a generic greenfield CT – beginning at the time of the capacity need in 2026 – rather than the full cost of the Sherco Solar Project. This is consistent with North Dakota planning requirements. The Company has further proposed determining the cost of a generic new CT using MISO's planning year 2024 Cost of New Entry (CONE) price, which would be multiplied by the MISO capacity value of the Sherco Solar plant and then allocated to North Dakota based on the traditional 12 coincident peak (12CP) jurisdictional allocator in place in 2025.

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

To account for the energy provided by the Sherco Solar project, the Company has proposed charging North Dakota customers a proxy price using the day-ahead locational marginal price (LMP) at the Project site. The energy generated by the Project would be priced on an hourly basis using the day-ahead LMP at the Sherco Solar site, and North Dakota's share of these costs would be allocated to the North Dakota jurisdiction.

Because South Dakota does not have a statute authorizing advance determinations of prudence, we have not proposed a specific proxy price methodology for South Dakota at this time. That said, the approach outlined above is consistent with the proxy price the South Dakota Public Utilities Commission approved for the Marshall Solar and North Star Solar projects, and we anticipate seeking similar treatment at an appropriate time.

Using the proposed methodology referenced above, the Company estimated the notional value of our proposed cost assignment method over the full life of the Sherco Solar project. For the CONE and Minn Hub prices we have used representative values for 2021. For the accredited capacity of the Sherco Solar project, we assume that the effective load carry capacity (ELCC) value assigned to the Sherco Solar project declines over time, starting from 50 percent in 2023 and leveling out at 30 percent by 2033 – consistent with the assumptions in our pending Integrated Resource Plan. We do not propose to assign any costs for the Sherco Solar's capacity value prior to the year in which we indicate a capacity need on our system if Sherco Solar was not added (here, 2026). The net present value of this valuation approach for both North and South Dakota is **[PROTECTED DATA BEGINS PROTECTED DATA ENDS]** over the life of the Sherco Solar project.

Under our proposal, we will continue to operate our Upper Midwest System on an integrated basis. The Sherco Solar project would serve all jurisdictions in our integrated system and would be treated as a system resource for planning purposes. However, for cost recovery, we proposed to recover costs in North and South Dakota based on the proxy prices for energy and capacity discussed above. We have discussed our proposal with the Department and will provide the Department with any additional information needed for their review.

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

CONCLUSION

The Company appreciates this opportunity to provide additional detail on the Sherco Solar project as well as the considerable time and effort put forth by the Commission, Department and other stakeholders in reviewing this ambitious and groundbreaking solar proposal. As noted in the June 3, 2021 Commission hearing, we remain committed to working closely with the Department and other stakeholders in a timely manner to further aid in the review process.

The Sherco Solar project represents a pivotal opportunity for Minnesota’s economic and energy future. As Minnesota’s largest solar development, the Project will not only play a key part in the state’s transition to clean energy—producing enough clean energy to power approximately 100,000 homes in the Upper Midwest each year—it also will help drive economic relief and recovery in the wake of COVID-19, support well-paying union construction jobs, reutilize valuable interconnection rights, and fulfill the solar power needs identified in the Company’s IRP.

Dated: July 9, 2021

Northern States Power Company

ZEV SIMPSE
Partner
(612) 492-6129
simpser.zev@dorsey.com

April 26, 2021

VIA ELECTRONIC MAIL AND
FEDERAL EXPRESS

Mr. Steven M. Kahl
Executive Director
North Dakota Public Service Commission
State Capitol Building, Department 408
600 East Boulevard
Bismarck, ND 58505-0480

Re: NORTHERN STATES POWER COMPANY
ADVANCE DETERMINATION OF PRUDENCE
460 MW SHERCO SOLAR FACILITY
CASE NO. PU-21-____

Dear Mr. Kahl:

Northern States Power Company, doing business as Xcel Energy (the Company), respectfully submits this Application for an Advance Determination of Prudence (ADP) for 460 MW of grid-scale solar photovoltaic (PV) capacity to be developed at the Company's Sherburne County (Sherco) generation facility site (Sherco Solar Project) subject to the Company's proposed cost assignment methodology.

The Company's Application and supporting testimony contain trade secret information. In accordance with Section 69-02-09-02 of the North Dakota Administrative Code (N.D.A.C.), an Application for Trade Secret Protection is being provided along with a single copy of the trade secret version of the Application and supporting testimony in a sealed envelope marked **PROTECTED INFORMATION – PRIVATE**.

An original and ten copies of the public version of our Application are also being provided, along with the following:

- Direct testimonies of Company witnesses Mr. Greg P. Chamberlain and Ms. Farah L. Mandich, supporting the Company's Application;
- Verifications for the testimonies of Mr. Chamberlain and Ms. Mandich; and
- CD containing the public version of the Application, testimonies and verifications, and Application for Trade Secret Protection.



Mr. Steven M. Kahl
April 26, 2021
Page 2

The Company is providing the \$175,000 filing fee required by N.D.C.C. § 49-05-16(1)(b) under separate cover.

Please contact me at (612) 492-6129 or simpser.zev@dorsey.com or David Sederquist at (701) 241-8632 or dave.sederquist@xcelenergy.com if you have any questions regarding this filing.

Sincerely,

DORSEY & WHITNEY LLP

ZEV SIMPSON

Enclosures

- cc: Via Email – Public Version Only:
- Jack Schuh (jschuh@nd.gov)
 - Patrick J. Fahn (pfahn@nd.gov)
 - Jerry Lein (jlein@nd.gov)
 - Victor Schock (vschock@nd.gov)
 - John Hamre (jghamre@nd.gov)
 - Brian Johnson (brljohanson@nd.gov)
 - Adam Renfandt (arenfandt@nd.gov)
 - Dave Sederquist (dave.sederquist@xcelenergy.com)

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

**BEFORE THE PUBLIC SERVICE COMMISSION
OF THE STATE OF NORTH DAKOTA**

NORTHERN STATES POWER COMPANY
ADVANCE DETERMINATION OF PRUDENCE –
460 MW SHERCO SOLAR FACILITY

CASE NO. PU-21-_____

**APPLICATION FOR
ADVANCE DETERMINATION OF PRUDENCE**

I. INTRODUCTION

Northern States Power Company, a Minnesota corporation, doing business as Xcel Energy (NSP or Xcel Energy or the Company), submits to the North Dakota Public Service Commission (Commission) this Application for an Advance Determination of Prudence (ADP) for 460 MW of grid-scale solar photovoltaic (PV) capacity at the Company's Sherburne County (Sherco) Generating Station site (Sherco Solar or Project). The Project is composed of a solar site under development by National Grid Renewables (NG Renewables, f/k/a Geronimo Energy), combined with a site of similar size under development by the Company adjoining the existing Sherco Generating Station to the west and east, respectively.

The Company is proposing to add the Sherco Solar resource to fill a capacity need on the NSP System that is expected to arise in 2026 and grow thereafter. The Company has had an identified capacity need in the mid-2020s dating back to our 2011-2025 Resource Plan (filed in Case No. PU-10-589), and this need has remained through our two more recent Integrated Resource Plans (IRP), which have been filed with the Commission in Case Nos. PU-15-019 and PU-19-220. Sherco Solar also presents an opportunity to replace a portion of the generation capacity of Sherco Unit 2, which is currently planned for retirement in 2023, and to reutilize the Company's valuable existing interconnection rights associated with that retiring facility.

The Company is pursuing Sherco Solar to fill this capacity need consistent with the selection of solar resources pursuant to our most recent IRP Preferred Plan, which is a Minnesota-based resource planning analysis. Further, development of solar resources

PUBLIC DOCUMENT
NOT PUBLIC DATA HAS BEEN EXCISED

at the Sherco site in Becker, Minnesota advances Minnesota state clean energy policy goals by meeting the state's preference for renewable energy resources,¹ and helping meet the state's greenhouse gas emissions targets,² Renewable Energy Standard (RES),³ and Solar Energy Standard (SES).⁴ Additionally, the Sherco Solar Project was initially proposed in response to the Minnesota Public Utilities Commission's (MPUC) investigation to identify investments that utilities could undertake to support economic relief and recovery in the wake of the COVID-19 pandemic. Xcel Energy thus fully acknowledges that this resource addition is driven by Minnesota policy priorities.

The Company further recognizes that the selection of a solar resource to meet this capacity need is not consistent with North Dakota planning priorities. Specifically, when externality values are excluded from the modeling, as required under North Dakota law,⁵ Sherco Solar is not the least cost option for filling the identified capacity need in 2026. Rather, the "North Dakota Plan" resource planning analysis in our most recent IRP selected a dispatchable resource, modeled as a greenfield combustion turbine (CT), to meet the identified capacity need.

Nonetheless, the Project will provide needed capacity and emissions-free energy to the integrated NSP System that will benefit all of our customers, including those in North Dakota. For this reason, and in the interest of maintaining the integration of the NSP System for the benefit of all our customers, the Company is proposing a cost assignment methodology be applied to the Sherco Solar project that would reconcile the different planning priorities of Minnesota and North Dakota. To do so, the Company is requesting an ADP for the Sherco Solar project that would institute a cost assignment methodology to ensure North Dakota customers pay for costs consistent with North Dakota planning priorities – namely costs that are representative of a dispatchable resource such as a CT – while allowing Minnesota customers to take advantage of the policy attributes of a solar resource. To that end, instead of applying the traditional interjurisdictional demand and energy allocators to the full cost of the Project, the Company proposes to assign a smaller share of the costs of the Project to North Dakota via market-based proxy prices for both the capacity of and energy from the Sherco Solar project.

¹ Minn. Stat. § 216B.2422, subd. 4.

² Minn. Stat. Ch. 216H.

³ Minn. Stat. § 216B.1691, subd. 2a.

⁴ Minn. Stat. § 216B.1691, subd. 2f.

⁵ N.D.C.C. § 49-02-23.

PUBLIC DOCUMENT
NOT PUBLIC DATA HAS BEEN EXCISED

As a result, while the Company is requesting an ADP for the Sherco Solar resource addition in this Application, we are not requesting a determination that the entire Project and all associated costs are prudent under North Dakota planning principles. Rather, as discussed below, the Company proposes to recover from North Dakota customers costs based on a generic new resource addition and market prices for the energy generated by the Project.

In the Company's Preferred Plan in our most recent IRP, the planning model selected a 500 MW solar resource as the optimal resource to add in 2025 to fill a capacity need in 2026. However, under North Dakota planning assumptions which prohibit consideration of externality values, the model selected 374 MW of firm dispatchable capacity as the optimal resource to fill this identified need. To reflect the costs of this North Dakota modeled resource and maintain the NSP System structure, the Company proposes to use a proxy pricing mechanism to ensure North Dakota rates are not adversely impacted by the energy preferences of another state but rather reflect North Dakota law and policy priorities.

Specifically, the Company proposes to assign to the North Dakota jurisdiction only the North Dakota share of the costs of a generic, new, and firm dispatchable resource (*i.e.*, a greenfield CT) in the year before the capacity need arises, consistent with the IRP. To establish a proxy capacity price for a generic CT, the Company proposes to use the Midcontinent Independent System Operator's (MISO) Cost of New Entry (CONE) value. The CONE is an industry-standard, all-in estimate of the cost of constructing a new power plant, represented as a cost per MW-year installed. The CONE is locationally specific based on each zone within MISO and is updated annually. We propose to use CONE as a proxy price for the capacity provided by Sherco Solar, and to allocate the North Dakota share of those repriced capacity costs using the Company's jurisdictional demand allocator in effect at the time.

Similar to the capacity costs, the Company proposes to use a proxy price for the energy that Sherco Solar provides to North Dakota customers. Specifically, the Company proposes to charge the North Dakota jurisdiction for its share of the energy produced by the Project using the day-ahead locational marginal price (LMP) at the Sherco Solar site. Thus, even if the levelized cost of the Sherco Solar Project is above the market price of energy, North Dakota customers will only pay LMP for the energy that is produced. These energy costs will be passed to North Dakota customers through the Fuel Cost Rider (FCR). This is the same methodology the Company uses today for the energy produced by Minnesota-based Community Solar Gardens.

PUBLIC DOCUMENT
NOT PUBLIC DATA HAS BEEN EXCISED

The end result of this proposal is that North Dakota customers will pay for only the North Dakota share of the capacity costs from what would be a least-cost resource addition to meet an identified capacity need in the mid-2020s, and market prices for its share of energy produced by the Project. Because the incremental costs associated with the Project being a solar facility to meet Minnesota policy preferences are borne by Minnesota customers, all non-capacity and energy related attributes of Sherco Solar will be for the benefit of Minnesota customers. The Company's analysis indicates that North Dakota customers could save nearly \$7 million over the life of the Sherco Solar project compared to being allocated the North Dakota portion of the full value of the Project. We believe this is a prudent, fair, and efficient way to ensure that both North Dakota and Minnesota policy preferences are acknowledged and that the NSP System remains intact. As a result, the Company's addition of Sherco Solar, subject to these pricing conditions, is a prudent resource addition to meet an identified capacity need.

In support of the Company's Application, Xcel Energy provides the following Direct Testimony:

- Policy Testimony – Mr. Greg P. Chamberlain
- Resource Planning Testimony – Ms. Farah L. Mandich

The remainder of this Application addresses the following:

- Description of Applicant;
- Communication and Service;
- Standard of Review;
- Authority for Relief Requested;
- Project Background, Need, and Selection Process
- Cost Assignment Proposal;
- Economic Analysis;
- Prudence of the Sherco Solar Project; and
- Conclusion.

PUBLIC DOCUMENT
NOT PUBLIC DATA HAS BEEN EXCISED

II. COMPLIANCE MATTERS

A. Description of Applicant

Xcel Energy is a Minnesota corporation duly authorized to conduct business in the State of North Dakota as a foreign corporation. The Company conducts business in the State of North Dakota as a public utility subject to the jurisdiction and regulation of the Commission pursuant to Title 49 of the North Dakota Century Code (N.D.C.C.). The name and address of Xcel Energy is:

Northern States Power Company, a Minnesota corporation
414 Nicollet Mall
Minneapolis, Minnesota 55401

Xcel Energy also operates in North Dakota from the following address:

Northern States Power Company
2302 Great Northern Drive
Fargo, North Dakota 58102

The Company's Certificate of Incorporation with amendments and Certificate of Authority were filed with the Commission on September 30, 2009, and October 12, 2009, respectively, in Case No. PU-09-664. Current Certificates of Good Standing issued by the North Dakota and Minnesota Secretaries of State were filed in the same case on January 8, 2021, and are incorporated herein by reference.

Xcel Energy has service territory in five upper Midwest states including North Dakota. The Company presently serves approximately 95,000 retail electric customers in and around Fargo, Grand Forks, and Minot, North Dakota, and owns approximately 1,450 conductor miles of transmission and 3,810 conductor miles of electric distribution lines in North Dakota.

B. Communication and Service

The Company respectfully requests that the following persons be placed on the Commission's official service list for all official communications in this case:

David H. Sederquist	Regulatory Records
Senior Consultant, Regulation and Finance	Records Specialist

PUBLIC DOCUMENT
NOT PUBLIC DATA HAS BEEN EXCISED

Xcel Energy
2302 Great Northern Drive
Fargo, North Dakota 58102
dave.sederquist@xcelenergy.com

Xcel Energy
414 Nicollet Mall
Minneapolis, Minnesota 55401
regulatory.records@xcelenergy.com

C. Standard of Review

North Dakota Century Code section 49-05-16(1)(d) authorizes the Commission to issue an ADP if it “determines that the resource addition is prudent.” This standard is similar to the “honestly and prudently invested” standard that the Commission uses for ratemaking.⁶ The general prudence standard calls for determining whether the utility action was reasonable at the time it was taken under all relevant circumstances.⁷ Under Section 49-05-16(1), the Commission may issue an order approving the prudence of a proposed project if four conditions are met:

- a. The public utility files with its application a projection of costs to the date of the anticipated commercial operation of the resource addition;
- b. The public utility files with its application a fee in the amount of one hundred seventy-five thousand dollars;
- c. The commission provides notice and holds a hearing, if appropriate, in accordance with section 49-02-02; and
- d. The commission determines that the resource addition is prudent. For facilities located or to be located in this state the commission, in determining whether the resource addition is prudent, shall consider the benefits of having the resource addition located in this state.

D. Authority for Relief Requested

North Dakota Century Code section 49-05-16 allows a public utility to seek an ADP from the Commission at the utility’s discretion. Pursuant to the Settlement Agreement in Case No. PU-07-776, the Company is obligated to file an application for an ADP for any proposed new construction or acquisition of a generating resource above 50 MW

⁶ See N.D.C.C. § 49-06-02.

⁷ See Charles F. Philips, Jr., *The Regulation of Public Utilities – Theory and Practice* at 292 (Public Utility Reports 1988); see also David J. Muchow & William A. Mogel, *Energy Law and Transactions* at § 4.02[3][b] (2009).

PUBLIC DOCUMENT
NOT PUBLIC DATA HAS BEEN EXCISED

where the Company proposes to assign all or part of the costs to the North Dakota jurisdiction.⁸ In Case No. PU-12-59, Xcel Energy committed to filing its ADP applications within fourteen days of seeking similar approvals from the MPUC.⁹

With this Application, the Company has met its filing obligations. This Application complies with the requirements of N.D.C.C. § 49-05-16 and the Settlement Agreement in Case No. PU-07-776. Additionally, the Company is submitting this Application within fourteen days of the April 12, 2021 filing of a similar application with the MPUC.

Xcel Energy is requesting an ADP for the Sherco Solar project with costs and benefits assigned as proposed by the Company in this Application and supporting testimony.

III. DESCRIPTION AND PURPOSE OF FILING

A. Project Background

Sherco Solar is a joint development between NG Renewables and Xcel Energy that will be located adjacent to the Company's Sherco Generating Station in Becker, Minnesota. As part of the Project, the Company is acquiring a 230 MW site west of the existing Sherco Generating Station from NG Renewables (West Block), and combining it with a project developed on land to the east for which Xcel Energy holds leases (East Block), bringing the overall Project to 460 MW. The proposed solar generation site boundary encompasses approximately 3,480 acres of land which is predominantly used for agriculture, with a mix of hay/pasture, row crops, and irrigated farmland.

The Project will include two collector substations, one for each block of land that will be developed, and two 345 kV generation-tie (gen-tie) lines which will connect the collector substations to the point of interconnection at the existing Sherburne County Substation. NG Renewables will continue to develop the Project and secure, on Xcel Energy's behalf, Minnesota permits for the Project site and routes for the high voltage transmission lines connecting the Project to the Sherburne County Substation. A key factor in the selection process was the Project's proximity to existing electrical and transportation infrastructure, including the Sherco Generating Station, existing

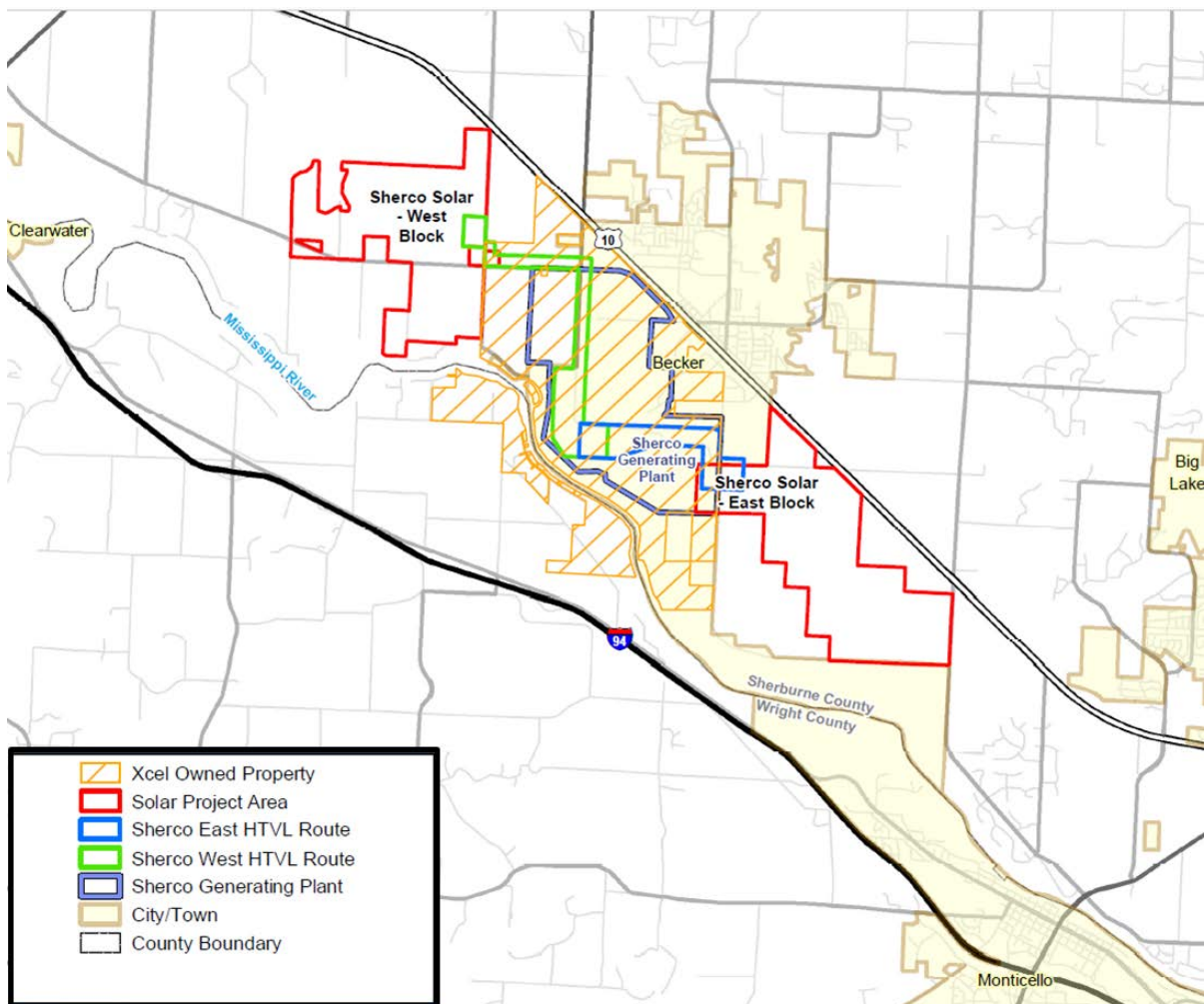
⁸ *N. States Power Co. Elec. Rate Increase Application*, Case No. PU-07-776, ORDER ADOPTING SETTLEMENT AGREEMENT at 6 of attached Settlement Agreement (Dec. 31, 2008).

⁹ *N. States Power Co. Advance Prudence – Geronimo Wind Application*, Case No. PU-12-59, LETTER OF COMMITMENT (Nov. 5, 2012).

PUBLIC DOCUMENT
NOT PUBLIC DATA HAS BEEN EXCISED

transmission lines, and the Sherburne County Substation, which will soon have available capacity due to the retirement of Sherco Unit 2. Figure 1 below shows the Sherco Solar Project site boundary, including the East and West Blocks outlined in red.

Figure 1: Sherco Solar Project Site Boundary



B. Project Need

The 460 MW Sherco Solar Project will partially fill a capacity need on the NSP System that the Company's most recent 2020-2034 IRP forecasts for 2026. The Company has been forecasting a large capacity need arising in the mid-2020s for over a decade, due to an evolving set of factors. Indeed, this capacity shortage was initially forecasted by

PUBLIC DOCUMENT
NOT PUBLIC DATA HAS BEEN EXCISED

the Company in our 2011-2025 Resource Plan.¹⁰ At that time, we estimated that 2,003 MW of additional capacity would be needed in 2025, primarily due to the expiration of large hydroelectric contracts in that year.¹¹ In our following resource planning cycle (2016-2030), the Company similarly identified a capacity shortage on the NSP System in the mid-2020s, noting deficits of 1,341 MW in 2025 and 1,936 MW in 2026.¹² In the Supplement to our 2016-2030 IRP, we noted that this capacity need arising in 2024 and expanding significantly in 2025 and 2026 was caused primarily by the Company's plan to cease coal operations at Sherco Units 1 and 2 in 2026 and 2023, respectively, along with other changes to our generating resources.¹³ In our most recent 2020-2034 Upper Midwest IRP Supplement, filed with the Commission on June 30, 2020, we forecasted a 92 MW net capacity deficit on the system arising in 2026 and growing to 1,016 MW by 2030, caused in part by unit retirements.¹⁴

To partially fill this identified capacity need in the mid-2020s, the Company's preferred generation expansion plan in our most recent IRP Supplement (Preferred Plan) selected 500 MW of large scale solar to be added to the NSP System in 2025.¹⁵ The Preferred Plan factors in the externality values of various generation types, carbon-reduction goals set by the Company, and other Minnesota policy priorities, and in our view best positions the Company to achieve our carbon goals while maintaining a reliable system and keeping our customers' bills low. As the Commission is aware, however, the Settlement in Case No. PU-07-776 requires the Company to include in its Resource Plans an analysis of a Resource Plan scenario compliant with Federal and North Dakota laws only (North Dakota Plan). Under the North Dakota Plan in the most recent IRP Supplement, the model selected 374 MW of Firm Dispatchable capacity to fill the

¹⁰ Filed with the Commission in Case No. PU-10-580 (Aug. 3, 2010).

¹¹ *N. States Power Co. Integrated Resource Plan*, Case No. PU-10-589, 2011-2025 RESOURCE PLAN at p. 3-21 (Aug. 3, 2010). As discussed further in the testimony of Company Witness Ms. Farah Mandich, the capacity need in the 2011-2025 Resource Plan was calculated slightly differently than in the subsequent plans, due to MISO guidance in place at the time.

¹² *N. States Power Co. Integrated Resource Plan*, Case No. PU-15-019, 2016-2030 UPPER MIDWEST INTEGRATED RESOURCE Plan at p. 55 (Jan. 1, 2015).

¹³ *N. States Power Co. Integrated Resource Plan*, Case No. PU-15-019, 2016-2030 UPPER MIDWEST INTEGRATED RESOURCE Plan at p. 11-12 (Jan. 1, 2015).

¹⁴ *N. States Power Co. Integrated Resource Plan*, Case No. 19-220, 2020-2034 UPPER MIDWEST INTEGRATED RESOURCE PLAN SUPPLEMENT at Att. A, p. 15-16 (June 30, 2020). In our currently-pending 2021 Electric Rate Case (Case No. PU-20-441), the Company has requested the Commission adjust the remaining lives of Sherco Units 1 and 2 to reflect these revised retirement dates.

¹⁵ *N. States Power Co. Integrated Resource Plan*, Case No. 19-220, 2020-2034 UPPER MIDWEST INTEGRATED RESOURCE PLAN SUPPLEMENT, Table 3-1 (June 30, 2020).

PUBLIC DOCUMENT
NOT PUBLIC DATA HAS BEEN EXCISED

capacity need in 2025.¹⁶ Regardless of how this capacity need is filled, in both scenarios the Company has a significant capacity need beginning in 2026.

C. Project Selection Process

In light of this identified capacity need, and in response to the MPUC's request that the Company explore projects which might provide economic stimulus in light of current recessionary conditions resulting from the COVID-19 pandemic,¹⁷ the Company issued a Request for Proposals (RFP) and conducted a competitive solicitation for solar projects at the Sherco site. There was substantial interest in the RFP, generating many questions, and it ultimately resulted in three bid submissions that we reviewed under the oversight of our independent auditor (IA). Our IA, Guidehouse, validated our process, certifying that it believes the goals of our RFP were achieved, that project assessments were performed in a fair and consistent manner, and that there is no evidence that we unfairly advantaged any interested party or respondent to the RFP. The RFP process used for the Sherco Solar Project, consistent with prior MPUC orders and under the supervision of the IA, included protections to ensure that the Company's self-build proposals were not unfairly advantaged or given preferential consideration.

The RFP was specific to the Sherco site to ensure that the Company's existing interconnection rights at the Sherco site are reused by the new project. As noted in our ADP Application for the Heartland Divide II wind project (Case No. PU 20-433), greenfield renewable projects in the MISO West region currently face substantial cost uncertainty due to uncertainty surrounding MISO-assigned transmission upgrades, and many proposed projects have withdrawn from the queue as a result. As discussed in more detail below, the expected retirement of Sherco Unit 2 in 2023 will free up substantial interconnection capacity at the Sherco site that, under MISO rules, must be reused by the Company within three years, otherwise the Company will lose this valuable asset. Due to the current state of the MISO West queue, in order to develop new generation resources, it is essential that the Company make efficient use of its existing interconnection rights.

The general timing rules for generator interconnection replacement set forth in Attachment X of the MISO Tariff require that: (1) a request for generator interconnection replacement be submitted *at least one year prior* to the date that an existing

¹⁶ N. States Power Co. Integrated Resource Plan, Case No. 19-220, 2020-2034 UPPER MIDWEST INTEGRATED RESOURCE PLAN SUPPLEMENT, Table 3-1 (June 30, 2020).

¹⁷ See MPUC Docket No. E,G999/CI-20-492.

PUBLIC DOCUMENT
NOT PUBLIC DATA HAS BEEN EXCISED

generation facility will cease operation,¹⁸ and (2) the expected commercial operation date for a replacement facility must be *within three years* of the date that the existing facility ceases operation.¹⁹ The rules allow *the owner* of an existing facility to request *itself* replace the facility with another facility. The rules do not allow the owner of an existing facility to submit a request for a third party to build a replacement facility that will use the owner's existing interconnection rights. This is why the Company needed to purchase the West Block of the Project from NG Renewables and why we only solicited Build-Transfer proposals (not PPAs) in our RFP.

The planned retirement of Sherco Unit 2 in 2023 will free up nearly 700 MW of interconnection capacity to be reused at the Sherco site. However, under the MISO rules described above, if a replacement resource is not put in service within three years of Sherco Unit 2's retirement the Company will lose these valuable interconnection rights forever. Based on current constraints in the MISO interconnection queue and the Company's observation of recent planning study cycles and assigned interconnection upgrade costs, we estimate that the potential opportunity cost of foregoing full reutilization of the interconnection rights associated with Sherco Unit 2 is approximately \$140 million to \$350 million.²⁰

After conducting the thorough and competitive RFP process described above, the Company's combined bid with NG Renewables offered the most beneficial project to meet our solar needs under Minnesota law and the Company's own goals. Sherco Solar as proposed was the cheapest project bid and will be the cheapest utility scale solar on the NSP System. By leveraging the expertise of both companies, we will be able to ensure the project maximizes benefits to customers. In addition to the RFP, which offered valuable insight to alternative project pricing, we compared the Project to other solar resources on our system and in the region. This evaluation found that the proposed Sherco Solar project would provide lower cost energy than any solar facility currently operating on the NSP system and is less than half the price of the average Community Solar Garden project.

¹⁸ MISO Tariff Attach. X § 3.7.1(ii).

¹⁹ MISO Tariff Attach. X § 3.3.1. Additionally, § 3.3.1 states that "For Existing Generating Facility that is in suspension pursuant to Section 38.2.7 of the Tariff or in Forced Outage, the start date of suspension or outage shall be considered the date of cessation of operation of the Existing Generating Facility for purposes of calculating the three (3) year limit."

²⁰ Our IRP assumes that greenfield solar or combustion turbine interconnection costs (*i.e.* projects that go through the MISO queue) will be approximately \$200/kW over the planning period and wind or combined cycle interconnection costs are \$500/kW. As noted above, there are approximately 700 MW coming available when Sherco Unit 2 ceases operation in 2023.

PUBLIC DOCUMENT
NOT PUBLIC DATA HAS BEEN EXCISED

Company Witness Mr. Greg Chamberlain discuss the resource solicitation and selection process further in his Direct Testimony.

IV. PROJECT COSTS, OUTPUT, AND SCHEDULE

1. Project Costs

The total installed capital costs for the Project are estimated to be approximately [TRADE SECRET BEGINS

TRADE SECRET ENDS]. Importantly, the Project is positioned to take advantage of the recent solar investment tax credit (ITC) extension, and we expect the Project to qualify for [TRADE SECRET BEGINS

TRADE SECRET ENDS].

Table 1 below presents a breakdown of project costs by category and block:

Table 1: Sherco Solar Project Costs

Category	East Block	West Block	Total
	[TRADE SECRET BEGINS		
Capital			
Transmission			
Interconnection Substation			
AFUDC			
Total			TRADE SECRET ENDS]

The Company has made every effort to ensure that our estimated project costs are reasonable and justified. However, as with other projects, the final project costs can vary from our estimates as they are dependent on several different variables, including

PUBLIC DOCUMENT
NOT PUBLIC DATA HAS BEEN EXCISED

equipment costs and/or supply chain issues (for panels, inverters, trackers and racking systems), changes in taxes, incentives or tariffs (*i.e.* steel or equipment tariffs), and timing of the site permit review and final regulatory approval. The Company will continue to make every effort to ensure that project costs remain as close to these estimates as possible.

2. Project Output

As noted earlier, the Sherco Solar project will have a total installed capacity of 460 MW. The Company estimates that the net annual delivered energy will be **[TRADE SECRET BEGINS TRADE SECRET ENDS]** after both the West and East Blocks are placed in-service.

Furthermore, the net capacity factor (NCF) is expected to be within the range of **[TRADE SECRET BEGINS TRADE SECRET ENDS]**. This range in the NCF was calculated by using manufacturer's supplied equipment performance data modeled using the PVSyst tool with third-party commercial meteorological data projections for the site. The Company believes this range is reasonable. The approximate midpoint of this range, **[TRADE SECRET BEGINS TRADE SECRET ENDS]**, was used for the purposes of calculating project performance and costs.

Based on the project lifetime costs and expected production, the Company has calculated the levelized cost of energy (LCOE) to be **[TRADE SECRET BEGINS TRADE SECRET ENDS]**. As with other cost components, the actual LCOE can shift depending on any changes in final project costs, tax benefits, and actual project production

3. Project Schedule

We currently expect primary construction activities for the Sherco Solar project will occur in **[TRADE SECRET BEGINS TRADE SECRET ENDS]**. However, other engineering and procurement activities **[TRADE SECRET BEGINS TRADE SECRET ENDS]**.

The project will be placed in service on a rolling basis, with full Project operation by the fourth quarter of 2024. The Company anticipates beginning commercial operations

PUBLIC DOCUMENT
NOT PUBLIC DATA HAS BEEN EXCISED

for portions of the Project via a phased approach beginning in 2023 to accommodate the planned in-service date for the entire Project.

V. COST ASSIGNMENT PROPOSAL

While the Sherco Solar Project is the least-cost resource under a Minnesota view including externality costs and comports with Minnesota state policy priorities in filling the established capacity need, we recognize that it is not the least-cost resource to fill this need under North Dakota law.²¹ For this reason, and because the Project was developed in response to the MPUC's request for utility proposals to support economic recovery during the global pandemic, the Company is proposing to recover in North Dakota only the traditionally allocated costs that are representative of a similarly sized least-cost resource under North Dakota law, with the difference being offset by additional recovery in the policy-setting state, Minnesota.

While we recognize this ADP request is unique, the use of proxy costs/pricing is not unprecedented. In fact, assigning project costs to Minnesota customers due to the direct link to Minnesota policy goals is how Community Solar Garden (CSG) costs are currently handled. That is, we recover all CSG costs from our Minnesota customers because cost-causation for CSG resources is firmly tied to Minnesota policy goals. Here, as noted above, the Sherco Solar Project advances clean energy policy goals in Minnesota by meeting the state's preference for renewable energy resources²² and progressing toward compliance with the state's greenhouse gas emissions targets,²³ RES,²⁴ and SES.²⁵

In exchange for recovering a higher proportion of the Project's capacity and energy costs in Minnesota, the Company will assign all of the corresponding attributes from the Project to Minnesota, including all Renewable Energy Certificates (RECs), ancillary services, and any other renewable attributes of the energy generated by the Project. Included in these benefits would be any cost reductions that would accrue to the project from changes in tax law currently under consideration by the United States Congress.

²¹ See, e.g., N.D.C.C. § 49-02-23 ("The commission may not use, require the use of, or allow electric utilities to use environmental externality values in the planning, selection, or acquisition of electric resources or the setting of rates for providing electric service.").

²² Minn. Stat. § 216B.2422, subd. 4.

²³ Minn. Stat. Ch. 216H.

²⁴ Minn. Stat. § 216B.1691, subd. 2a.

²⁵ Minn. Stat. § 216B.1691, subd. 2f.

PUBLIC DOCUMENT
NOT PUBLIC DATA HAS BEEN EXCISED

The remainder of this Section discusses how the Company proposes to assign the costs of the capacity and energy of the Project to North Dakota customers.

A. Capacity Costs

As noted above, the Sherco Solar Project will help fill an identified capacity need on the Company's system beginning in the 2025 timeframe. To ensure equitable contribution to the capacity costs and value of the Project consistent with state policy priorities, the Company proposes to recover from North Dakota customers only the costs of what would be a least-cost resource under North Dakota law. As specified in the most recent IRP Supplement, under North Dakota planning requirements Firm Dispatchable capacity (modeled using generic greenfield CT costs) is selected as the least-cost resource to fill the 2025 capacity need. As a result, for North Dakota ratemaking and as a means to maintain the NSP System, the Company proposes to develop a capacity charge to North Dakota based on greenfield firm dispatchable capacity that would be applied to the Sherco Solar capacity value. In other words, the Company proposes to recover from the North Dakota customers only the North Dakota jurisdictional share of the cost of a generic greenfield CT – beginning at the time of the capacity need in 2026 – rather than the full cost of the Sherco Solar project.

The Company proposes that the cost of a generic new CT will be determined using MISO's planning year 2024-2025 CONE price. The MISO CONE is an industry-standard, all-in estimate of the cost of constructing a new CT. MISO determines an appropriate CONE value for each of its Local Resource Zones (LRZ) on an annual basis, using, among other things, the most recent Energy Information Administration (EIA) report on Capital Cost Estimates for Utility Scale Electricity Generation Plant (EIA Report). The EIA Report contains detailed specifications for a hypothetical advanced CT, including information regarding the differences in project costs for an advanced CT with a nominal capacity of 237 MW, based upon the state where the facility is constructed. We believe the MISO CONE price provides an appropriate, third-party developed basis for identifying the capacity cost of adding a new, generic, and least-cost resource under North Dakota policy principles. The MISO CONE price, which is provided in terms of \$/MW-year, will be multiplied by the MISO accredited capacity value of the Sherco Solar plant and then allocated to North Dakota based on the traditional 12 coincident peak (12CP) jurisdictional allocator in place in 2025.

To accomplish this proposal from a ratemaking perspective, the Company proposes to calculate the capacity charge amounts and make the corresponding line item

PUBLIC DOCUMENT
NOT PUBLIC DATA HAS BEEN EXCISED

adjustments in future North Dakota rate case Test Years. The expected life of the Sherco Solar Project is 35 years, which is comparable to the 40-year book life of a generic CT. The Company's proposed ratemaking treatment for the Sherco Solar Project is discussed further in the Direct Testimony of Company witness Mr. Greg Chamberlain.

B. Energy Costs

For energy produced by the Project, the Company proposes to charge North Dakota customers a proxy price using the day-ahead LMP at the Project site. The energy generated by the Project will be priced on an hourly basis using the day-ahead LMP at the Sherco Solar site and these costs will be assigned to the North Dakota jurisdiction and recovered through the FCR. Because the Project is being developed in part to meet Minnesota policy objectives and all renewable attributes of the Project will flow to Minnesota customers, North Dakota customers should pay no more than market rates for the energy that is generated by the Project, and our proposed structure would accomplish this aim. This is the same structure we have used for the energy provided by the Minnesota-based Community Solar Gardens program resources.

VI. ECONOMIC ANALYSIS

Because the Company is not requesting that the full costs of Sherco Solar be deemed prudent in this ADP and the Project is proposed to fulfill capacity additions already indicated in our IRP Preferred Plan, we did not conduct additional capacity expansion and production cost modeling for the project using the EnCompass tool. However, under North Dakota planning principles, a 374 MW firm dispatchable unit (represented by a greenfield CT) was selected as the least-cost resource to fill the identified capacity need. Because we are choosing to fill our capacity need with the Sherco Solar project, rather than firm dispatchable capacity, we are proposing to "price" a firm dispatchable resource to determine the amount that North Dakota rates should reflect to meet the overall system need.

Typically, the Company acquires resources by examining the result of the IRP and subsequently seeking to either self-build or acquire the least cost resource available to fulfill that need, according to the size, type, and timing of the resources in the IRP. To acquire those resources, the Company surveys the market – including opportunities for expansion at Company owned resources – and determines the least-cost option for

PUBLIC DOCUMENT
NOT PUBLIC DATA HAS BEEN EXCISED

moving forward. The Company used that process to acquire Sherco Solar as well; however, the resource identified to fill our capacity need per the North Dakota Plan is a greenfield CT, whereas in the IRP Preferred Plan, it is a solar resource. In order to execute on our Preferred Plan while also respecting the policy preferences of North Dakota, we are proposing to “price” a firm dispatchable resource to determine the amount that North Dakota rates should reflect to meet the overall system need. We performed this valuation with a model that analyzes several potential proxy resources, in order to determine which would best represent the cost of a generic dispatchable resource to be recovered from North Dakota.

In this instance, the Company would need to determine a reasonable proxy for the cost of capacity that it would otherwise have incurred but for meeting its need with the Sherco Solar Project. To develop this pricing, we analyzed several potential proxy resources in order to determine which would best represent the cost of a generic dispatchable resource to be recovered from North Dakota. Ultimately, we determined that MISO CONE is the most appropriate proxy value.

A. Methodology

The Company used a cost assignment valuation model to analyze several different potential proxy pricing options and determine which would best represent a “least cost” resource under North Dakota law and policies. The Company sometimes uses bespoke models to analyze alternative resource selection opportunities in light of different options available. The cost assignment model developed here assesses resource alternatives in light of the Company’s costs to procure similar capacity and energy options; specifically, we compared the costs of several different potential proxy options over the expected life of the Sherco Solar facility.

The first step to be able to compare potential capacity price proxies to Sherco Solar’s actual costs was to determine how best to normalize the different types of values and units across the different options. This was necessary because Sherco Solar’s marginal energy costs are zero, and therefore the cost of energy is a function of the revenue requirement calculation for the capital placed in rate base for the Project, ongoing O&M and tax treatment, and other ancillary costs. To that end, the Company set all pricing based on the energy and capacity proxy to create two outputs: (1) the Levelized Cost of Energy, which priced each resource on a \$/MWh basis; and (2) a notional value which is the present value of the total cost of the resource to North Dakota customers over

PUBLIC DOCUMENT
NOT PUBLIC DATA HAS BEEN EXCISED

its life. These values allow us to compare the different resources notwithstanding their different cost structures.

The Company analyzed four different options to use as a proxy price for Sherco Solar:

1. MISO CONE;
2. A generic brownfield combustion turbine (CT);
3. The Mankato Energy Center II PPA (MEC II PPA); and
4. A combination of maintaining Sherco Unit 2 in service through 2034—its current remaining depreciable life in North Dakota—and replacing it with a generic CT thereafter.

MISO CONE

MISO CONE is an independent, third-party generated value of the cost of installing new capacity in MISO Load Zone 1. MISO CONE is developed using information from the EIA. Ultimately, MISO CONE is a valuable, independent, proxy for the actual cost of installing new greenfield CT capacity in the Company's service territory (*i.e.*, in MISO Load Zone 1). MISO calculates a CONE value for each LRZ for each Planning Year according to the formula provided in MISO Business Practice Manual No. 11, Resource Adequacy. The CONE value used for our analysis here is for the 2020-2021 Planning Year, but ultimately the Company proposes to use the 2024-2025 Planning Year CONE value as a proxy because the Sherco Solar project will be placed fully into service by the end of 2024, and our IRP indicates capacity additions in 2025 in order to meet our impending capacity needs. The 2020-2021 CONE value is consistent with recent years and it is reasonable to assume that the 2024-2025 value will be similar to this value.

Generic Brownfield CT

The forecasted capacity costs of a generic brownfield CT are set forth in our most recent IRP Supplement. While the firm dispatchable resource selected in the North Dakota Plan is representative of a greenfield CT, the generic brownfield CT represents an appropriate proxy if the Company were to be able to repower an existing site. Consequently, the brownfield generic CT represents a helpful additional comparison point for the pricing proposal presented here.

PUBLIC DOCUMENT
NOT PUBLIC DATA HAS BEEN EXCISED

MEC II PPA

The MEC II PPA represents the most recent increment of large-scale firm dispatchable installed capacity on the NSP System and therefore is indicative of the cost of firm dispatchable capacity to the Company. Further, because the MEC II project consisted of the installation of an additional CT at an existing combined cycle facility, MEC II also provides a useful benchmark to represent approximate pricing for a combustion turbine at a brownfield site. Consequently, the MEC II PPA provides a reasonable baseline for actual capacity costs to the Company.

Sherco Unit 2 + Generic CT

The Company analyzed a proxy resource of keeping Sherco Unit 2 operational through 2034 and replacing it with a generic CT because, pursuant to the Settlement in Case No. PU-07-776, the remaining life for Sherco Unit 2 is currently set at 2034 in North Dakota. Thus this proxy option reflects North Dakota policy as it stands today. The Company has asked the Commission to revise the remaining life of Sherco Unit 2 to its currently-scheduled retirement date in 2023 in our 2021 Electric Rate Case (Case No. PU-20-441). At the request of Commission staff in the 2021 Electric Rate Case, the Company prepared estimates of the costs of keeping Sherco Unit 2 operational through 2034. To price this proxy resource here, we used those estimates combined with the forecasted cost of a generic CT from our most recent IRP.

For all of these proxy options, the model begins charging for capacity in 2026, the first year of the capacity need.

B. Results of Analysis

Table 2 below shows the results of our analysis of these potential proxy price options. From left to right, the columns in Table 2 show the levelized energy costs, levelized capacity costs, LCOE, and net present value of the total costs of each potential proxy option, as compared to Sherco Solar.

The levelized energy costs are based on forecasted LMPs and are the same for all proposed proxy options because the Company has proposed to charge North Dakota customers the day-ahead LMP at the Project site. The levelized capacity costs have some variation based on the expected cost to add each resource in 2026. The levelized energy and capacity cost values are added together to form the LCOE for each option.

PUBLIC DOCUMENT
NOT PUBLIC DATA HAS BEEN EXCISED

The LCOE is an important metric for providing an apples-to-apples comparison of the proxy options to Sherco Solar because it normalizes the different capacity factors of the resources against Sherco Solar and better indicates the true cost to North Dakota customers since the energy proxy would be paid for each MWh produced by Sherco Solar. Additionally, the LCOE provides a means to compare various capacity types to Sherco Solar because solar generation effectively does not have any marginal energy costs.

The last column shows the net present value of the total costs (capacity and energy) of each resource. This is an important metric because it shows the net present value savings that could flow to North Dakota customers by using each proxy price, in lieu of direct cost recovery for Sherco Solar.

Table 2: Comparison of Potential Capacity Proxy Options

[TRADE SECRET BEGINS...

...TRADE SECRET ENDS]

As discussed above, the Company believes CONE is the most appropriate proxy to use for determining recovery in North Dakota for several reasons. The CONE value represents an unbiased calculation of the true cost of a greenfield CT in each MISO LRZ, based on EIA data, and it is updated annually by a third party. Because it is issued annually, there will be an updated CONE value available for the 2024-2025 Planning Year, when the capacity need that we are filling with Sherco Solar arises. Further,

PUBLIC DOCUMENT
NOT PUBLIC DATA HAS BEEN EXCISED

CONE is an appropriate proxy for the greenfield CT selected in the North Dakota Plan in the IRP. For these reasons and others, the South Dakota Public Utilities Commission has previously approved the Company's use of MISO CONE as a proxy price for the Marshall Solar and North Star Solar projects.

The other proxy options that we analyzed are less appropriate to stand in for the firm dispatchable energy that the North Dakota Plan calls for in 2025. For example, the levelized cost of a generic brownfield CT as provided in the IRP likely understates the actual cost of constructing new greenfield firm dispatchable capacity in 2025, as indicated in the North Dakota Plan, and it is not certain that the Company could construct a brownfield CT on that timeframe. Similarly, the MEC II PPA represents the pricing of the second unit that was added at the MEC facility, meaning it was able to realize efficiencies and reduce costs by taking advantage of existing infrastructure on site.

The Company's analysis as shown in Table 2 indicates that the MISO CONE is virtually identical to our estimated cost of keeping Sherco Unit 2 operational and replacing it with a generic CT thereafter. This is important because it reflects North Dakota policy as it stands today—Sherco Unit 2 has a remaining life through 2034. The fact that MISO CONE closely reflects these costs provides further confidence that it accurately represents the costs of filling this capacity need under North Dakota policy principles.

As shown in Table 2, using the CONE proxy for capacity costs and LMP for energy costs, we estimate that North Dakota customers could save nearly \$7 million on a NPV basis as compared to Sherco Solar. These savings are heavily dependent on the relationship between LMP and Sherco Solar and the assumptions around Sherco Solar's capacity accreditation. If Sherco Solar is well above LMP, the savings of the proposed proxy pricing mechanism will increase. If the capacity value assigned to Sherco Solar once constructed varies from the values used in our analysis, the proxy price mechanism would also change to reflect that value. Ultimately, this analysis demonstrates that CONE is an appropriate proxy to use for determining North Dakota's share of the costs of the Sherco Solar project.

VII. PRUDENCE OF THE SHERCO SOLAR PROJECT AS PROPOSED

The Sherco Solar Project helps the Company address a significant capacity need on our system in the mid-2020s, as identified in our most recent Resource Plan. While it is not

PUBLIC DOCUMENT
NOT PUBLIC DATA HAS BEEN EXCISED

the optimal resource to fill this capacity need according to the IRP's North Dakota Plan, the Company's proposed cost assignment mechanism would ensure that North Dakota customers only pay the costs of an equivalent least-cost resource as defined by North Dakota law – in this case a generic greenfield natural gas CT.

The proxy price for the generic CT will be determined using the widely-accepted MISO CONE value for the 2024-2025 planning year. Additionally, North Dakota customers would only be responsible for paying the market price for the energy generated by the Project, even if the levelized cost of the Project is above market. As with any Company resource, the North Dakota jurisdiction's share of the Project's proxy demand and energy costs will be determined according to the applicable jurisdictional allocator in effect at the time the Project commences operations. Under this proposed cost assignment and ratemaking structure, the share of the Sherco Solar project that North Dakota customers are responsible for is equivalent to a least-cost resource, thus the resource addition is prudent and the ADP should be approved.

VIII. CONCLUSION

For all the reasons set forth above, Xcel Energy respectfully requests the Commission grant an ADP for the proposed 460 MW Sherco Solar Project, subject to the cost assignment conditions discussed above.

Dated: April 26, 2021

Northern States Power Company

Respectfully submitted,

/s/ Greg P. Chamberlain

GREG P. CHAMBERLAIN

REGIONAL VICE PRESIDENT, REGULATORY & GOVERNMENT AFFAIRS

CERTIFICATE OF SERVICE

I, Mustafa Adam, hereby certify that I have this day served copies or summaries 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/M-20-891

Dated this 9th day of July 2021

/s/

Mustafa Adam
Regulatory Administrator

First Name	Last Name	Email	Company Name	Address	Delivery Method	View Trade Secret	Service List Name
Tamie A.	Aberle	tamie.aberle@mdu.com	Great Plains Natural Gas Co.	400 North Fourth Street Bismarck, ND 585014092	Electronic Service	No	OFF_SL_20-891_Official
Michael	Ahern	ahern.michael@dorsey.co m	Dorsey & Whitney, LLP	50 S 6th St Ste 1500 Minneapolis, MN 554021498	Electronic Service	No	OFF_SL_20-891_Official
Kristine	Anderson	kanderson@greatermngas.com	Greater Minnesota Gas, Inc.& Greater MN Transmission, LLC	1900 Cardinal Lane PO Box 798 Faribault, MN 55021	Electronic Service	No	OFF_SL_20-891_Official
Alison C	Archer	aarcher@misoenergy.org	MISO	2985 Ames Crossing Rd Eagan, MN 55121	Electronic Service	No	OFF_SL_20-891_Official
James J.	Bertrand	james.bertrand@stinson.co m	STINSON LLP	50 S 6th St Ste 2600 Minneapolis, MN 55402	Electronic Service	No	OFF_SL_20-891_Official
Brenda A.	Bjorklund	brenda.bjorklund@centerpointenergy.com	CenterPoint Energy	505 Nicollet Mall Minneapolis, MN 55402	Electronic Service	No	OFF_SL_20-891_Official
James	Canaday	james.canaday@ag.state.mn.us	Office of the Attorney General-RUD	Suite 1400 445 Minnesota St. St. Paul, MN 55101	Electronic Service	No	OFF_SL_20-891_Official
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_20-891_Official
Cody	Chilson	cchilson@greatermngas.com	Greater Minnesota Gas, Inc. & Greater MN Transmission, LLC	1900 Cardinal Ln PO Box 798 Faribault, MN 55021	Electronic Service	No	OFF_SL_20-891_Official
Ray	Choquette	rchoquette@agp.com	Ag Processing Inc.	12700 West Dodge Road PO Box 2047 Omaha, NE 68103-2047	Electronic Service	No	OFF_SL_20-891_Official

First Name	Last Name	Email	Company Name	Address	Delivery Method	View Trade Secret	Service List Name
John	Coffman	john@johncoffman.net	AARP	871 Tuxedo Blvd. St. Louis, MO 63119-2044	Electronic Service	No	OFF_SL_20-891_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_20-891_Official
Riley	Conlin	riley.conlin@stoel.com	Stoel Rives LLP	33 S. 6th Street Suite 4200 Minneapolis, MN 55402	Electronic Service	No	OFF_SL_20-891_Official
Brooke	Cooper	bcooper@allete.com	Minnesota Power	30 W Superior St Duluth, MN 558022191	Electronic Service	No	OFF_SL_20-891_Official
Hillary	Creurer	hcreurer@allete.com	Minnesota Power	30 W Superior St Duluth, MN 55802	Electronic Service	No	OFF_SL_20-891_Official
George	Crocker	gwillc@nawo.org	North American Water Office	PO Box 174 Lake Elmo, MN 55042	Electronic Service	No	OFF_SL_20-891_Official
Bridget	Dockter	Bridget.Dockter@xcelenergy.com		N/A	Electronic Service	No	OFF_SL_20-891_Official
Marie	Doyle	marie.doyle@centerpointenergy.com	CenterPoint Energy	505 Nicollet Mall P O Box 59038 Minneapolis, MN 554590038	Electronic Service	No	OFF_SL_20-891_Official
Michelle	Dreier	mdreier@electricalassociation.com		N/A	Electronic Service	No	OFF_SL_20-891_Official
Brian	Edstrom	briane@cubminnesota.org	Citizens Utility Board of Minnesota	332 Minnesota St Ste W1360 Saint Paul, MN 55101	Electronic Service	No	OFF_SL_20-891_Official

First Name	Last Name	Email	Company Name	Address	Delivery Method	View Trade Secret	Service List Name
Ron	Elwood	relwood@mnlisap.org	Mid-Minnesota Legal Aid	2324 University Ave Ste 101 Saint Paul, MN 55114	Electronic Service	No	OFF_SL_20-891_Official
James C.	Erickson	jericksonkbc@gmail.com	Kelly Bay Consulting	17 Quechee St Superior, WI 54880-4421	Electronic Service	No	OFF_SL_20-891_Official
John	Farrell	jfarrell@ilsr.org	Institute for Local Self-Reliance	2720 E. 22nd St Institute for Local Self-Reliance Minneapolis, MN 55406	Electronic Service	No	OFF_SL_20-891_Official
Eric	Fehlhaber	efehlhaber@dakotaelectric.com	Dakota Electric Association	4300 220th St W Farmington, MN 55024	Electronic Service	No	OFF_SL_20-891_Official
Sharon	Ferguson	sharon.ferguson@state.mn.us	Department of Commerce	85 7th Place E Ste 280 Saint Paul, MN 551012198	Electronic Service	No	OFF_SL_20-891_Official
Lucas	Franco	lfranco@liunagroc.com	LIUNA	81 Little Canada Rd E Little Canada, MN 55117	Electronic Service	No	OFF_SL_20-891_Official
Daryll	Fuentes	energy@usg.com	USG Corporation	550 W Adams St Chicago, IL 60661	Electronic Service	No	OFF_SL_20-891_Official
Brian	Gardow	bgardow@greatermngas.com	Greater Minnesota Gas, Inc. & Greater MN Transmission, LLC	1900 Cardinal Ln PO Box 798 Faribault, MN 55021	Electronic Service	No	OFF_SL_20-891_Official
James	Garness	james.r.garness@xcelenergy.com		N/A	Electronic Service	No	OFF_SL_20-891_Official
Edward	Garvey	edward.garvey@AESLconsulting.com	AESL Consulting	32 Lawton St Saint Paul, MN 55102-2617	Electronic Service	No	OFF_SL_20-891_Official

First Name	Last Name	Email	Company Name	Address	Delivery Method	View Trade Secret	Service List Name
Bruce	Gerhardson	bgerhardson@otpc.com	Otter Tail Power Company	PO Box 496 215 S Cascade St Fergus Falls, MN 565380496	Electronic Service	No	OFF_SL_20-891_Official
Janet	Gonzalez	Janet.gonzalez@state.mn.us	Public Utilities Commission	Suite 350 121 7th Place East St. Paul, MN 55101	Electronic Service	No	OFF_SL_20-891_Official
Anita	Grace	anita@gracemulticultural.com	GRACE Multicultural	12959 196th LN NW Elk River, MN 55330	Electronic Service	No	OFF_SL_20-891_Official
Bill	Grant	billgrant@minncap.org	Minnesota Community Action Partnership	MCIT Building 100 Empire Dr Ste 202 St. Paul, MN 55103	Electronic Service	No	OFF_SL_20-891_Official
Todd J.	Guerrero	todd.guerrero@kutakrock.com	Kutak Rock LLP	Suite 1750 220 South Sixth Street Minneapolis, MN 554021425	Electronic Service	No	OFF_SL_20-891_Official
Adam	Heinen	aheinen@dakotaelectric.com	Dakota Electric Association	4300 220th St W Farmington, MN 55024	Electronic Service	No	OFF_SL_20-891_Official
Annete	Henkel	mui@mutilityinvestors.org	Minnesota Utility Investors	413 Wacouta Street #230 St. Paul, MN 55101	Electronic Service	No	OFF_SL_20-891_Official
Shane	Henriksen	shane.henriksen@enbridge.com	Enbridge Energy Company, Inc.	1409 Hammond Ave FL 2 Superior, WI 54880	Electronic Service	No	OFF_SL_20-891_Official
Corey	Hintz	chintz@dakotaelectric.com	Dakota Electric Association	4300 220th Street Farmington, MN 550249583	Electronic Service	No	OFF_SL_20-891_Official
Michael	Hoppe	lu23@ibew23.org	Local Union 23, I.B.E.W.	445 Etna Street Ste. 61 St. Paul, MN 55106	Electronic Service	No	OFF_SL_20-891_Official

First Name	Last Name	Email	Company Name	Address	Delivery Method	View Trade Secret	Service List Name
MJ	Horner	mj.horner@xcelenergy.com		N/A	Electronic Service	No	OFF_SL_20-891_Official
Lori	Hoyum	lhoyum@mnpower.com	Minnesota Power	30 West Superior Street Duluth, MN 55802	Electronic Service	No	OFF_SL_20-891_Official
Travis	Jacobson	travis.jacobson@mdu.com	Great Plains Natural Gas Company	400 N 4th St Bismarck, ND 58501	Electronic Service	No	OFF_SL_20-891_Official
Alan	Jenkins	aj@jenkinsatlaw.com	Jenkins at Law	2950 Yellowtail Ave. Marathon, FL 33050	Electronic Service	No	OFF_SL_20-891_Official
Richard	Johnson	Rick.Johnson@lawmoss.com	Moss & Barnett	150 S. 5th Street Suite 1200 Minneapolis, MN 55402	Electronic Service	No	OFF_SL_20-891_Official
Sarah	Johnson Phillips	sarah.phillips@stoel.com	Stoel Rives LLP	33 South Sixth Street Suite 4200 Minneapolis, MN 55402	Electronic Service	No	OFF_SL_20-891_Official
Stacey	Karels	skarels@local563.org	Mankato Area Bldg & Construction Trades Council	310 McKinzie St Mankato, MN 56001	Electronic Service	No	OFF_SL_20-891_Official
Mark J.	Kaufman	mkaufman@ibewlocal949.org	IBEW Local Union 949	12908 Nicollet Avenue South Burnsville, MN 55337	Electronic Service	No	OFF_SL_20-891_Official
Thomas	Koehler	TGK@IBEW160.org	Local Union #160, IBEW	2909 Anthony Ln St Anthony Village, MN 55418-3238	Electronic Service	No	OFF_SL_20-891_Official
Brian	Kolbinger	brian@beckertownship.org	Becker Township Board	PO Box 248 12165 Hancock St Becker, MN 55308	Electronic Service	No	OFF_SL_20-891_Official

First Name	Last Name	Email	Company Name	Address	Delivery Method	View Trade Secret	Service List Name
Michael	Krikava	mkrikava@taftlaw.com	Taft Stettinius & Hollister LLP	2200 IDS Center 80 S 8th St Minneapolis, MN 55402	Electronic Service	No	OFF_SL_20-891_Official
Nicolle	Kupser	nkupser@greatermngas.com	Greater Minnesota Gas, Inc. & Greater MN Transmission, LLC	1900 Cardinal Ln PO Box 798 Faribault, MN 55021	Electronic Service	No	OFF_SL_20-891_Official
Peder	Larson	plarson@larkinhoffman.com	Larkin Hoffman Daly & Lindgren, Ltd.	8300 Norman Center Drive Suite 1000 Bloomington, MN 55437	Electronic Service	No	OFF_SL_20-891_Official
James D.	Larson	james.larson@avantenergy.com	Avant Energy Services	220 S 6th St Ste 1300 Minneapolis, MN 55402	Electronic Service	No	OFF_SL_20-891_Official
Amber	Lee	Amber.Lee@centerpointenergy.com	CenterPoint Energy	505 Nicollet Mall Minneapolis, MN 55402	Electronic Service	No	OFF_SL_20-891_Official
Annie	Levenson Falk	annief@cupminnesota.org	Citizens Utility Board of Minnesota	332 Minnesota Street, Suite W1360 St. Paul, MN 55101	Electronic Service	No	OFF_SL_20-891_Official
Ryan	Long	ryan.j.long@xcelenergy.com	Xcel Energy	414 Nicollet Mall 401 8th Floor Minneapolis, MN 55401	Electronic Service	No	OFF_SL_20-891_Official
Susan	Ludwig	sludwig@mnpower.com	Minnesota Power	30 West Superior Street Duluth, MN 55802	Electronic Service	No	OFF_SL_20-891_Official
Kavita	Maini	kmairi@wi.rr.com	KM Energy Consulting, LLC	961 N Lost Woods Rd Oconomowoc, WI 53066	Electronic Service	No	OFF_SL_20-891_Official
Pam	Marshall	pam@energycents.org	Energy CENTS Coalition	823 7th St E St. Paul, MN 55106	Electronic Service	No	OFF_SL_20-891_Official

First Name	Last Name	Email	Company Name	Address	Delivery Method	View Trade Secret	Service List Name
Brian	Meloy	brian.meloy@stinson.com	STINSON LLP	50 S 6th St Ste 2600 Minneapolis, MN 55402	Electronic Service	No	OFF_SL_20-891_Official
Joseph	Meyer	joseph.meyer@ag.state.mn.us	Office of the Attorney General-RUD	Bremer Tower, Suite 1400 445 Minnesota Street St Paul, MN 55101-2131	Electronic Service	No	OFF_SL_20-891_Official
Stacy	Miller	stacy.miller@minneapolismn.gov	City of Minneapolis	350 S. 5th Street Room M 301 Minneapolis, MN 55415	Electronic Service	No	OFF_SL_20-891_Official
David	Moeller	dmoeller@allete.com	Minnesota Power	30 W Superior St Duluth, MN 558022093	Electronic Service	No	OFF_SL_20-891_Official
Andrew	Moratzka	andrew.moratzka@stoel.com	Stoel Rives LLP	33 South Sixth St Ste 4200 Minneapolis, MN 55402	Electronic Service	No	OFF_SL_20-891_Official
David	Niles	david.niles@avantenergy.com	Minnesota Municipal Power Agency	220 South Sixth Street Suite 1300 Minneapolis, Minnesota 55402	Electronic Service	No	OFF_SL_20-891_Official
Samantha	Norris	samanthanorris@alliantenergy.com	Interstate Power and Light Company	200 1st Street SE PO Box 351 Cedar Rapids, IA 524060351	Electronic Service	No	OFF_SL_20-891_Official
Nate	O'Reilly	nate@iron512.com	Ironworkers Local #512	851 Pierce Butler Route St Paul, MN 55104	Electronic Service	No	OFF_SL_20-891_Official
Matthew	Olsen	molsen@otpc.com	Otter Tail Power Company	215 South Cascade Street Fergus Falls, MN 56537	Electronic Service	No	OFF_SL_20-891_Official
Carol A.	Overland	overland@legalelectric.org	Legalelectric - Overland Law Office	1110 West Avenue Red Wing, MN 55066	Electronic Service	No	OFF_SL_20-891_Official

First Name	Last Name	Email	Company Name	Address	Delivery Method	View Trade Secret	Service List Name
John	Pacheco	johnpachecojr@gmail.com		N/A	Electronic Service	No	OFF_SL_20-891_Official
Greg	Palmer	gpalmer@greatermngas.com	Greater Minnesota Gas, Inc. & Greater MN Transmission, LLC	1900 Cardinal Ln PO Box 798 Faribault, MN 55021	Electronic Service	No	OFF_SL_20-891_Official
Ben	Passer	Passer@fresh-energy.org	Fresh Energy	408 St. Peter Street Ste 220 Saint Paul, MN 55102	Electronic Service	No	OFF_SL_20-891_Official
Jose	Perez	jose@hispanicsinenergy.com		1017 L Street #719 Sacramento, CA 95814	Electronic Service	No	OFF_SL_20-891_Official
Jennifer	Peterson	jjpeterson@mnpower.com	Minnesota Power	30 West Superior Street Duluth, MN 55802	Electronic Service	No	OFF_SL_20-891_Official
Catherine	Phillips	Catherine.Phillips@wecenergygroup.com	Minnesota Energy Resources	231 West Michigan St Milwaukee, WI 53203	Electronic Service	No	OFF_SL_20-891_Official
Kevin	Pranis	kpranis@liunagroc.com	Laborers' District Council of MN and ND	81 E Little Canada Road St. Paul, Minnesota 55117	Electronic Service	No	OFF_SL_20-891_Official
Greg	Pruszinske	gpruszinske@ci.becker.mn.us	City of Becker	PO Box 250 12060 Sherburne Ave Becker, MN 55308	Electronic Service	No	OFF_SL_20-891_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_20-891_Official
Kevin	Reuther	kreuther@mncenter.org	MN Center for Environmental Advocacy	26 E Exchange St, Ste 206 St. Paul, MN 551011667	Electronic Service	No	OFF_SL_20-891_Official

First Name	Last Name	Email	Company Name	Address	Delivery Method	View Trade Secret	Service List Name
Isabel	Ricker	ricker@fresh-energy.org	Fresh Energy	408 Saint Peter Street Suite 220 Saint Paul, MN 55102	Electronic Service	No	OFF_SL_20-891_Official
Susan	Romans	sromans@allete.com	Minnesota Power	30 West Superior Street Legal Dept Duulth, MN 55802	Electronic Service	No	OFF_SL_20-891_Official
Richard	Savelkoul	rsavelkoul@martinsquires.com	Martin & Squires, P.A.	332 Minnesota Street Ste W2750 St. Paul, MN 55101	Electronic Service	No	OFF_SL_20-891_Official
Larry L.	Schedin	Larry@LLSResources.com	LLS Resources, LLC	332 Minnesota St, Ste W1390 St. Paul, MN 55101	Electronic Service	No	OFF_SL_20-891_Official
Elizabeth	Schmiesing	eschmiesing@winthrop.com	Winthrop & Weinstine, P.A.	225 South Sixth Street Suite 3500 Minneapolis, MN 55402	Electronic Service	No	OFF_SL_20-891_Official
Kevin	Schwain	Kevin.D.Schwain@xcelenergy.com	Xcel Energy	404 Nicollet Mall Minneapolis, MN 55401	Electronic Service	No	OFF_SL_20-891_Official
Will	Seuffert	Will.Seuffert@state.mn.us	Public Utilities Commission	121 7th PI E Ste 350 Saint Paul, MN 55101	Electronic Service	Yes	OFF_SL_20-891_Official
Colleen	Sipiorski	Colleen.Sipiorski@wecenergygroup.com	Minnesota Energy Resources Corporation	700 North Adams St Green Bay, WI 54307	Electronic Service	No	OFF_SL_20-891_Official
Ken	Smith	ken.smith@districtenergy.com	District Energy St. Paul Inc.	76 W Kellogg Blvd St. Paul, MN 55102	Electronic Service	No	OFF_SL_20-891_Official

First Name	Last Name	Email	Company Name	Address	Delivery Method	View Trade Secret	Service List Name
Peggy	Sorum	peggy.sorum@centerpointenergy.com	CenterPoint Energy	505 Nicollet Mall Minneapolis, MN 55402	Electronic Service	No	OFF_SL_20-891_Official
Jamez	Staples	jstaples@renewablepartners.com	Renewable Energy Partners	3033 Excelsior Blvd S Minneapolis, MN 55416	Electronic Service	No	OFF_SL_20-891_Official
Byron E.	Starns	byron.starns@stinson.com	STINSON LLP	50 S 6th St Ste 2600 Minneapolis, MN 55402	Electronic Service	No	OFF_SL_20-891_Official
Richard	Stasik	richard.stasik@wecenergygroup.com	Minnesota Energy Resources Corporation (HOLDING)	231 West Michigan St - P321 Milwaukee, WI 53203	Electronic Service	No	OFF_SL_20-891_Official
Kristin	Stastny	kstastny@taftlaw.com	Taft Stettinius & Hollister LLP	2200 IDS Center 80 South 8th St Minneapolis, MN 55402	Electronic Service	No	OFF_SL_20-891_Official
Cary	Stephenson	cStephenson@otpc.com	Otter Tail Power Company	215 South Cascade Street Fergus Falls, MN 56537	Electronic Service	No	OFF_SL_20-891_Official
James M	Strommen	jstrommen@kennedy-graven.com	Kennedy & Graven, Chartered	150 S 5th St Ste 700 Minneapolis, MN 55402	Electronic Service	No	OFF_SL_20-891_Official
Eric	Swanson	eswanson@winthrop.com	Winthrop & Weinstine	225 S 6th St Ste 3500 Capella Tower Minneapolis, MN 554024629	Electronic Service	No	OFF_SL_20-891_Official
Lynnette	Sweet	Regulatory.records@xcelenergy.com	Xcel Energy	414 Nicollet Mall FL 7 Minneapolis, MN 554011993	Electronic Service	Yes	OFF_SL_20-891_Official
Stuart	Tommerdahl	stommerdahl@otpc.com	Otter Tail Power Company	215 S Cascade St PO Box 496 Fergus Falls, MN 56537	Electronic Service	No	OFF_SL_20-891_Official

First Name	Last Name	Email	Company Name	Address	Delivery Method	View Trade Secret	Service List Name
Thomas	Tynes	jjazynka@energyfreedomcoalition.com	Energy Freedom Coalition of America	101 Constitution Ave NW Ste 525 East Washington, DC 20001	Electronic Service	No	OFF_SL_20-891_Official
Analeisha	Vang	avang@mnpower.com	Minnesota Power	30 W Superior St Duluth, MN 558022093	Electronic Service	No	OFF_SL_20-891_Official
Lisa	Veith	lisa.veith@ci.stpaul.mn.us	City of St. Paul	400 City Hall and Courthouse 15 West Kellogg Blvd. St. Paul, MN 55102	Electronic Service	No	OFF_SL_20-891_Official
Samantha	Williams	swilliams@nrdc.org	Natural Resources Defense Council	20 N. Wacker Drive Ste 1600 Chicago, IL 60606	Electronic Service	No	OFF_SL_20-891_Official
Joseph	Windler	jwindler@winthrop.com	Winthrop & Weinstine	225 South Sixth Street, Suite 3500 Minneapolis, MN 55402	Electronic Service	No	OFF_SL_20-891_Official
Patrick	Zomer	Pat.Zomer@lawmoss.com	Moss & Barnett a Professional Association	150 S. 5th Street, #1200 Minneapolis, MN 55402	Electronic Service	No	OFF_SL_20-891_Official