

Northern States Power Company  
Doing business as Xcel Energy

MINNESOTA PUBLIC UTILITIES COMMISSION

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DIRECT TESTIMONY OF WILLIAM RISSE

APRIL 6, 2022

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**SCHEDULES**

- **Schedule A**: Curriculum Vitae
- **Schedule B**: Minnesota Department of Natural Resource’s (“MDNR”) Considerations for Siting Solar Power Facilities near Lakes and Rivers
- **Schedule C**: April 6, 2022, Sherco Shoreland Ordinance Stormwater Memo, prepared by Westwood Professional Services, Inc. (“Westwood”)

**I. INTRODUCTION AND QUALIFICATIONS**

**Q. Please state your name and business address.**

A. My name is William Risse, and my business address is 8400 Normandale Lake Boulevard, Suite 1200, Bloomington, MN 55437.

**Q. With whom are you employed?**

A. I am employed by National Grid Renewables Development ("NG Renewables").

**Q. What is your position with NG Renewables?**

A. I am a Senior Permitting Specialist.

**Q. Please briefly describe your educational and professional background.**

A. I hold a Bachelor's of Science in Natural Resource Management, Land Use Planning from the University of Wisconsin-Stevens Point and a Master of Urban and Regional Planning, with a focus on Environmental Planning, from the Humphrey School of Public Affairs at the University of Minnesota. In my time at NG Renewables, I have successfully permitted nearly half a gigawatt of solar projects in the Midwest, and am actively involved in the development for many more. My responsibilities as a Senior Permitting Specialist include, but are not limited to: scoping projects early in the development process to identify all plans and permits necessary for regulatory approval; assembling and managing consulting teams to prepare all necessary studies, reports, and applications to ensure compliance at the local, state, and federal level; coordinating with the NG Renewables internal team to ensure we are presenting full and accurate information to regulators; and ensuring compliance with permit conditions and regulatory requirements leading up to and during construction of our facilities. A copy of my curriculum vitae is provided as **Schedule A**.

**Q. Please describe your role with respect to the proposed solar project and associated transmission lines.**

A. I assisted in the preparation of the joint site and route permit applications ("Application") submitted by Northern States Power Company, doing business as Xcel Energy ("Xcel Energy"), for the proposed up to 460 Megawatt ("MW") Sherco Solar Project and two associated 345 kV transmission lines in Sherburne County, Minnesota ("Project"), including retaining and managing environmental firms to conduct desktop and field analyses. I also coordinate with local, state, and federal agencies and entities, and provide input on ways that the Project's design can avoid or minimize potential impacts to environmental features.

**Q. Please describe NG Renewables' role with respect to the Project.**

A. NG Renewables and Xcel Energy are jointly developing the Project. NG Renewables was developing a solar project on the west side of the existing Sherco Generating Plant while Xcel Energy was developing a solar project on the east side of the Sherco Generating Plant. The companies entered into a Purchase and Sale Agreement on January 15, 2021 whereby NG Renewables agreed to act as an authorized representative on behalf of Xcel Energy to secure a site permit and two routes permits for the Project. Xcel Energy will construct, own and operate the Project after applicable permits are received.

## **II. OVERVIEW**

**Q. What is the purpose of your Direct Testimony?**

A. The purpose of my Direct Testimony is to address the following topics:

- Consideration of local zoning and the environment during Project design
- Project benefits to shoreland areas and associated public waters
- Screening of adjacent residences
- The availability of land for commercial and industrial development outside of the Project footprint.

**Q. What schedules are attached to your Direct Testimony?**

A. The following schedules are attached to my Direct Testimony:

- **Schedule A**: Curriculum Vitae
- **Schedule B**: Minnesota Department of Natural Resource's Considerations for Siting Solar Power Facilities near Lakes and Rivers
- **Schedule C**: April 6, 2022, Sherco Shoreland Ordinance Stormwater Memo, prepared by Westwood Professional Services, Inc.

**Q. Are you also sponsoring the Application?**

A. Yes, I am sponsoring Section 5 of the Application.

**III. PROJECT DESIGN AND LOCAL ZONING**

**Q. Have local jurisdictions adopted zoning regulations in the areas in which Project facilities are proposed?**

A. Yes. The West Block is in Clear Lake Township, which does not exercise zoning authority and, instead, the Sherburne County ("Sherburne County" or the "County") zoning ordinance governs land uses which are subject to County jurisdiction. The East Block is in Becker Township, which has implemented its own zoning regulations for land uses subject to local jurisdiction.<sup>1</sup>

**Q. Did NG Renewables and Xcel Energy account for Sherburne County's zoning design considerations for the Project?**

A. Yes. Sherburne County has implemented a zoning ordinance that governs solar generating systems that are not subject to Minnesota Public Utilities Commission ("Commission") authority. The West Block is primarily located in the agricultural district, which allows solar as a conditional use. Even though the Sherburne County zoning ordinance does not apply to the Project, Xcel Energy designed West Block of the Project to generally comply with Sherburne County design requirements related

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<sup>1</sup> See *also* Environmental Assessment ("EA") at Section 5.4.6.

91 to small scale solar projects, except for certain discrete County requirements, which  
92 I will discuss in more detail below.

93  
94 **Q. Did NG Renewables and Xcel Energy account for Becker Township's zoning**  
95 **design considerations for the Project?**

96 A. Although Becker Township's requirements related to small scale solar projects do  
97 not apply to the Project, Xcel Energy generally designed the East Block of the  
98 Project to comply with Becker Township's design requirements. The East Block is  
99 located in the Agricultural zoning district, which allows solar as a conditional use. In  
100 my review of the ordinance, I note two primary deviations from the Becker Township  
101 ordinance: (1) The township requirement that small scale solar collection lines are  
102 buried underground; and (2) An array setback of 100 feet from property lines.

103  
104 **Q. Did NG Renewables and Xcel Energy account for local setback considerations**  
105 **for solar facilities?**

106 A. Sherburne County and Becker Township have similar structure setback  
107 requirements, with minor differences in the side yard or rear yard setback. In the  
108 Application, Xcel Energy indicated that the most conservative setback across the  
109 Project was 50 feet from non-participating property lines. This was an inadvertent  
110 error, as the Becker Township ordinance indicates a 100-foot setback from the  
111 neighboring property line. The Project utilizes Sherburne County's standard setback  
112 of 50 feet to provide a uniform structure setback across the Project and allow for  
113 consistency and efficiency for Project design. With this 50-foot setback, the Project  
114 would not be anticipated to impact neighboring land uses or ongoing agricultural  
115 operations. Xcel Energy also applied the setbacks from township roads, county  
116 roads, and highways based on the county and township ordinances, thereby  
117 functionally complying with the structure setback requirements for both Sherburne  
118 County and Becker Township.

**Q. Is the Project required to comply with local zoning requirements?**

A. No. Although I am not an attorney, I understand that, pursuant to Minn. Stat. § 216E.10, a site permit issued by the Commission is the sole approval required to be obtained for construction of the Project, and the site permit supersedes and preempts all zoning, building or land use rules, regulations, or ordinances promulgated by regional, county, local, and special purpose governments. This preemption of local zoning and land use rules has been an established tenet of state site and route permitting policy, which is to locate large electric power generating plants and high voltage transmission lines in an orderly manner compatible with environmental preservation and the efficient use of resources (See Minn. Stat. § 216E.02, subd. 1). In Minnesota Rules associated with siting large wind energy conversion systems (i.e., Minn. Rules 7854 et seq.), the Commission is required to consider, but does not have to abide by, local zoning requirements that are more restrictive than any state requirements. There is no analogous provision requiring Commission consideration of local rules associated with non-wind large energy conversion systems such as the Project. (See *a/so* EA at 85.)

**Q. Why, as you have indicated, did NG Renewables and Xcel Energy nonetheless take local zoning requirements into consideration in siting proposed Project facilities?**

A. NG Renewables and Xcel Energy understand that as long-term owners and operators of utility scale solar projects such as the Project, we will have long-term relationships with the communities hosting our projects. We consider local zoning requirements, when practicable, to respect and align with the interests of local communities and assist in the development of a positive relationship with them prior to construction and operation. We also seek to develop projects that are compatible with adjacent land uses so that they blend with the surrounding environment, to the extent practicable. Referencing local zoning requirements provides solid footing to work with the engineering and design teams to develop the preliminary site layout.

**Q. What did you do when you were not able to follow a Sherburne County or Becker Township zoning requirement?**

A. Whenever there was a conflict between the Project and local zoning provision, we considered the extent to which the Project could reasonably comply with the local provision, while also providing for the efficient development of a utility scale solar project. Practicable land use requirements for a small-scale solar project, for which the ordinance was developed, can be different from that of a large utility scale project. If compliance was not practicable, then the Project was designed to minimize the impact that the local provision was seeking to protect.

**Q. Please identify the local zoning regulations you were not able to follow specific to the design of the Project.**

A. There are three Sherburne County regulations which the Project is not able to follow: (1) solar, as a primary land use, is not allowed in the County's Shoreland Overlay District; (2) collection lines are to be buried underground; and (3) the entire perimeter of solar projects are to be screened with coniferous trees that are a minimum of 6 feet tall when planted. Similarly, Becker Township regulations also require that collection lines are to be buried underground. I will discuss each in more detail below.

**Q. As an initial matter, do you think these Sherburne County zoning requirements contemplated or were meant for utility-scale solar farms such as the Project when they were created?**

A. No. First, the County only has jurisdiction over solar farms that are less than 50 MW. Such a solar farm would be expected to occupy no more than approximately 350 acres. Second, Sherburne County to date has primarily hosted community solar gardens, and likely had these types of Projects in mind when crafting their ordinance. Individual Community Solar Gardens are 1 MW or less with typical footprints of approximately 8-10 acres.

**Q. Please discuss Sherburne County's regulation related to vegetation screening for the Project.**

A. Section 16.2 of the County's ordinance – which only applies to small-scale solar (smaller than 50 MW) – requires “Vegetative screening such as coniferous trees a minimum of 6’ in height or an alternative approved by the Zoning Administrator, shall be installed around the perimeter of the Solar Farm at the time the Solar Farm is installed.” The Becker Township ordinance, on the other hand, as part of an application for a solar farm requires “An analysis of the potential visual impacts from the project including solar panels, roads and fencing along with measures to avoid, minimize or mitigate the visual effects shall be required. A plan may be required showing vegetative screening or buffering of the system from those items to mitigate for visual impacts.” Unlike the County ordinance, the Becker Township ordinance is not prescriptive with regards to specific requirements for height or method of said visual mitigation.

**Q. What is your understanding of the purpose of the County's vegetation screening regulation?**

A. In my experience, the purpose of vegetation screening is typically aesthetic – *i.e.*, screening the view of a facility from nearby properties, and more specifically, nearby residences where homeowners spend the majority of their time. In the renewable development industry, we often refer to residences, churches, or similar structures as “receptors”.

**Q. What is your understanding of the purpose of Becker Townships requirement for visual impacts?**

A. The Becker Township ordinance utilizes a pragmatic approach to screening similar to the approach utilized by NG Renewables and Xcel Energy. We assessed visual impacts to nearby receptors, and implemented screening specific to those locations.

**Q. Why is screening the entire West Block of the Project not proposed by NG Renewables and Xcel Energy here?**

A. It is not necessary, and it would be costly with no corresponding benefit and minimal visual impact. Screening the entire perimeter of the West Block is unnecessary because most of the West Block borders agricultural fields and rural public roads, rather than residential neighborhoods and are generally occupied by users for only a relatively short amount of time throughout the day or over the course of a year. For example, Highway 8 bisects the Project's West Block for approximately 2 miles, which would take approximately 2 minutes to travel at 55 miles per hour. This is a short amount of time prior to the observer leaving the Project area and again entering a more traditional agrarian landscape. Furthermore, it is anticipated that the solar infrastructure will quickly become part of the normal background as the public becomes accustomed to the array over time, similar to the existing transmission infrastructure that is already common in the area. Visual mitigation by way of screening should only be required when a specific and significant long-term visual impact is identified for a specific receptor.

Screening, as specified in the County ordinance would also be costly. Utilizing information provided by Resource Environmental Solutions (formerly Applied Ecological Services), who assisted in the preparation of a Vegetation Management and Screening Plan for a Midwest solar project anticipated to be installed in 2023, the estimated cost to procure and install 75, 5-foot-tall arborvitae trees for 500 linear feet of screening is approximately \$14,250. For a smaller scale solar project, say 5 acres, the cost of screening may not be particularly material, approximately \$50,000. However, when scaled up to the perimeter of the West Block of the Sherco Solar Project, the cost of a similar installation would be approximately \$2 million. Increasing the height to 6-foot trees, as called for in the ordinance, would further increase associated costs, as larger trees are more expensive. Moreover, the larger the tree, the more likely it is to experience mortality during transplanting and require replanting during establishment. Finally, this is assuming procurement of such a large number of trees is feasible. Purchase of such a large order of trees of that

height could be problematic to obtain over a short period of time from local greenhouses and providers.

**Q. Will any vegetative screening be planted for the Project?**

A. Yes, Xcel Energy has proposed vegetative screening between adjacent residences and the Project. These proposed residential screening areas are shown and described in the Vegetation Management Plan and depicted in Figures 4a and 4b of the Application. This residential screening, rather than screening of the entire solar farm, is generally consistent with Becker Township's approach to screening and Sherburne County screening requirements for other interim uses including contractor yards and yard waste composting sites. It also provides for viewshed mitigation for those most directly impacted by construction of the Project, our direct neighbors. Screening was placed at locations where there was not existing vegetation in place between the Project and the residence. Xcel Energy maintains that the screening as depicted in the Application is adequate for the Project, and it is also consistent with the discussion of vegetation screening in the EA. (See EA at 62.)

**Q. You also mentioned Sherburne County's and Becker Township's regulation regarding underground collection for the Project. Please explain.**

A. Section 16.2 of the County's ordinance requires that all power and communication lines, including those running between banks of solar panels and to electric substations, be buried underground. Similarly, Section 16(24) of Becker Township's ordinance requires that power and communication lines between banks of solar panels and to the electric substations be buried underground.

**Q. Will all power and communication lines associated with the Project be buried underground?**

A. Not necessarily. Depending on final Project design, the electrical collection system is anticipated to be installed via a hybrid above-ground/below-ground system, but could also be installed completely below ground. Under the hybrid system, which is increasingly becoming the industry standard where it is feasible, the collection

cables are anticipated to be strung under each row of panels on steel arms and a steel cable attached to the piles. At the end of each row, hanging brackets would connect several racks/rows of cables to a common collection point near their assigned inverter/transformer skid where the cables will be routed below-ground at a minimum depth of at least four feet below grade to the inverter/transformer skid. For a below-ground system, all cabling from the panels to the Project substation will be buried. Electrical collection technology is rapidly evolving and will be site-specific depending on geotechnical analysis, constructability, and availability of materials. Final engineering and procurement will help determine the construction method for the electrical collection system. Allowing the installation of electrical cables above-ground, below the panels, will not significantly impact visual or other impacts to the environment, but it could significantly reduce impacts to the soil and overall Project costs.

#### IV. SHORELAND OVERLAY DISTRICT

**Q. You indicated that Sherburne County's zoning ordinance does not allow solar as a primary land use in shoreland areas. Please explain.**

A. Section 16.2 of the Sherburne County zoning ordinance related to Interim Uses prohibits County permitted solar projects from being placed within shoreland areas of certain public waters, which in this case includes three natural environment lakes.

**Q. Are any Project facilities proposed within the shoreland area in Sherburne County?**

A. Yes. Pursuant to Section 14 of the Sherburne County zoning ordinance ("Shoreland Overlay District"), the Sherburne County Shoreland Overlay District encompasses the land within 1,000 feet of the ordinary high-water mark of three natural environment lakes located directly adjacent to the northwest corner of the West Block of the Project. Based on preliminary design, approximately 173 acres of the West Lobe are located within the shoreland area of these public waters. Only 156 acres of this area actually flows to these public waters with 17 acres draining away

from these public waters. Further, as stated in the EA, the Solar Project was designed to comply with the Shoreland Overlay District setback of 150 feet from the ordinary high water mark of natural environment lakes. (EA at 87.)

**Q. Why are Project facilities proposed within the shoreland area in Sherburne County?**

A. Based on current design parameters, if the Project were excluded from these shoreland areas, the Project would lose approximately five percent, or 23 MW of nameplate capacity, and additional land resources would be necessary to recover this lost capacity. The nearest available signed land is approximately two miles west of the West Block. The cost and other environmental considerations associated with expanding the Project area to include land two miles west of the West Lobe is discussed further in the Direct Testimony of Aaron Brixius.

**Q. Are shoreland areas listed as prohibited or exclusion sites by Minnesota Statute or Rule?**

A. No. Shoreland areas are not included in the list of prohibited or other exclusion areas prescribed by Minnesota statute or rule. As I noted earlier, while I am not an attorney, I understand that large energy facilities such as the Project are allowed in shoreland areas provided they are sited in an orderly manner compatible with environmental preservation and the efficient use of resources (See Minn. Stat. § 216E.02, subd. 1). Moreover, the MDNR's model shoreland rules (See Minn. Rules 6120.2500-6120.3900, the "MDNR Model Rules") were developed for consideration and adoption by local governments in 1989, before solar power became a feasible energy source and therefore do not directly address solar as a land use (see **Schedule B**). The MDNR Model Rules establish the minimum standards and criteria that local governments must adopt to regulate the use of shoreland areas under their jurisdiction (See Minn. Rules 6120.2500, 6120.2800 and 6120.3300). The MDNR, in its *Considerations for Siting Solar Power Facilities Near Lakes and Rivers* (attached as **Schedule B**), has contemplated the potential for solar facilities to be sited within shoreland areas and has outlined the portions of the

Model Rules applicable to solar powered facilities and structures and offered certain best management practices that could be implemented to minimize potential environmental impacts.

**Q. According to the MDNR, what shoreland specific rule requirements are solar facilities required to comply with in local shoreland zoning ordinances?**

A. Solar facilities must comply with minimum standards related to the construction of any structure or other development in a shoreland area, including: structure setbacks from the waterbody's ordinary high-water level and bluff lines; vegetation cutting and screening requirements, and height limits (See **Schedule B**).

**Q. Has Xcel Energy sited the Project within shoreland areas in compliance with those specific minimum state-required standards outlined by the MDNR and contained in the MDNR Model Rules?**

A. Yes. Xcel Energy applied the structure setback of 150 feet from the ordinary highwater mark of lakes subject to the County's Shoreland Overlay District. The Project is not located within a bluff setback. It also meets the height limits and the vegetation cutting and screening requirements set forth in the County's Shoreland Overlay District ordinance and in accordance with the minimum standards set forth in the MDNR Model Rules.

**Q. Does the MDNR provide recommendations for solar facilities sited in a shoreland overlay district?**

A. Yes. As shown in Schedule B, the MDNR recommends the following considerations to minimize natural resource impacts for solar facilities in shorelands:

- No intensive vegetation clearing within the shoreland impact zone allowed to site solar facilities.
- No placement of structures and facilities on slopes over 12 percent.
- Treatment of stormwater runoff should be consistent with Minnesota Pollution Control Agency ("MPCA") storm water manual guidance for solar projects.

- All structures and facilities must not significantly impact views from public waters through limits on structure height, use of vegetation or combination thereof.
- Native vegetation must be planted on the site wherever practical to provide habitat.
- Use best management practices for managing erosion control.
- Facility location and design must demonstrate that the facility will minimize impact on habitat and wildlife movement.

**Q. Does the Project comply with the MDNR's recommended conditions?**

A. Yes. I will address each bullet from Schedule B that is listed above. First, there will be no intensive vegetation clearing to site solar facilities within the shoreland impact zone. (See EA at 62.) The Project will convert land subject to row crop agriculture to perennial vegetation. Second, the Project will not have any structures on slopes over 12 percent as the site location is mostly flat (See **Schedule C**). Third, treatment of stormwater runoff will be consistent with MPCA storm water manual guidance for solar projects. Stormwater will be treated in accordance with MPCA requirements (See **Schedule C**). The Project will also use best management practices for managing erosion in accordance with a Stormwater Pollution Prevention Plan that will be prepared and submitted to the MPCA prior to construction. (See EA at 145.) Fourth, the Project will not significantly impact views from public waters through compliance with structure height requirements and avoidance of vegetation clearing along the shorelines to provide screening. Solar panels are not proposed to exceed 20 feet in height. (See EA at 62.) Fifth, native vegetation will be utilized pursuant to the Vegetation Management Plan prepared for the Project, in accordance with all applicable guidance, and reviewed by the MDNR, Minnesota Board of Water and Soil Resources, and Minnesota Department of Agriculture. The Project will not require intensive land clearing. Sixth, and as already noted in point three, the Project will also use best management practices for managing erosion in accordance with a Stormwater Pollution Prevention Plan. Last, the 150-foot structure setback would

ensure the riparian areas around the natural environment lakes can host wildlife species after the Project is constructed. (*Id.*)

**Q. If the Commission allows the Project within the Shoreland Overlay District, will it be compatible with environmental preservation and the efficient use of resources?**

A. Yes. To determine the environmental benefits the Project would have within shoreland areas, Westwood modelled the changes in runoff between existing conditions at the site (plowed agricultural fields) and proposed vegetated conditions if the Project is constructed. The vegetated conditions proposed with the Project would reduce the amount of water runoff that would reach the lakes and would also reduce the soil and nutrients that would otherwise wash into the lakes from the surrounding agricultural uses. (See **Schedule C**). These improvements would be anticipated to reduce water runoff and improve water quality, which is a stated goal of the County's shoreland ordinance.

**Schedule C** shows a clear reduction in sedimentation and infiltration during operations of the Project into the adjacent waterbodies. Thus, the conversion of cultivated agricultural land to the Project, including perennial native vegetation, will provide greater environmental benefits to the natural environment lakes than the current agricultural uses. At the very least a solar use is shown to be less impactful than other, more intensive land development and use activities that are permitted uses in the County's Shoreland Overlay District. For example, the permitted uses in the Sherburne County Shoreland Overlay District include agricultural uses (such as cultivation, grazing, nurseries, horticulture, truck farming, sod farming and wild crop harvesting), extractive uses (sand/gravel mining), mining of metallic minerals and peat, commercial, industrial, public, and semi-public uses that need access to and use of public waters.

**Q. Does Becker Township have a shoreland district?**

A. No. The Becker Township does not have a Shoreland Overlay District. The ordinance currently lists the "Shoreland Overlay District" in its table of contents, but the section of the ordinance is listed as "reserved for future use". Thus, the public water wetlands within the East Block are not listed in or otherwise subject to the Becker Township Ordinance, and as Becker has its own zoning jurisdiction, the Sherburne County shoreland overlay district does not apply.

## **V. OTHER SITING CONSIDERATIONS**

**Q. Are any Project facilities proposed in a prohibited area, as defined in Minn. R. 7850.4400, subp. 1?**

A. No. Although a portion of the leased land in the West Block is located within a Minnesota wild, scenic, and recreational river zoning district, which is a prohibited area, under Minn. R. 7850.4400 subpart 1(G), the land within this district was excluded from the area that will be used for the Project. The Sherburne County ordinance also prohibits solar from the wild, scenic, and recreational river zoning district located adjacent to the Mississippi River. No other prohibited or other exclusion areas specified by Minnesota statute or rule are located within the land leased for the Project.

## **VI. CONCLUSION**

**Q. Does this conclude your Direct Testimony?**

A. Yes.