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

In the Matter of the Application of Northern States Power Company  
for an Advance Determination of Prudence for the 460 MW Sherco Solar Facility

Case No. PU-21-152  
OAH FILE NO. 20210274

**Post-Hearing Brief of Northern States Power Company**

September 14, 2023

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**I. INTRODUCTION**

Northern States Power Company (Xcel Energy, NSP, or the Company) submits this Brief Supporting Its Application for Advance Determination of Prudence (Application) to the North Dakota Public Service Commission (Commission). This brief is submitted in response to questions raised at the July 11, 2023 hearing in the above-referenced Case (the Hearing), and demonstrates why the Company’s proposal is in the interest of the Company’s North Dakota customers and the State. Specifically, the Company’s proposal to install a 460 MW solar facility at the Sherburne County Generation Station (Sherco Solar or the Project) is a prudent decision to meet a recognized capacity need.

The Company is sensitive to the different policy perspectives between its jurisdictions, such as North Dakota and Minnesota. The Company also recognizes that each jurisdiction understandably wants to pursue its own energy policy goals. While these differences can, at times, result in conflicting outcomes, that should not be the case here. In this case, the Company has proposed a project that meets the specific need that the Company faces—greater capacity—at the lowest cost.<sup>1</sup> As a result, while the addition of the proposed Sherco Solar facility meets Minnesota’s policy goals of

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<sup>1</sup> The Company demonstrated that the Project is the least-cost available resource in the rebuttal and surrebuttal testimony of Al Krug and Farah Mandich and at the hearing on July 11, 2023.

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expanding the Company’s renewable portfolio, it does *not* do so at the expense of North Dakota’s policy goals. Rather, the Project aligns with both states’ energy goals.

The Commission has routinely said that in reviewing applications for advanced determination of prudence, it considers whether the resource addition is needed and if it is least cost.<sup>2</sup> The Project fulfills these important criteria. First, the record in this proceeding demonstrates that there is a clear need: the Company has been reporting an anticipated capacity need beginning in 2026 of 210 MWs that will eventually grow to 2,443 MWs by 2030. No party disagrees that a capacity deficit exists.<sup>3</sup> Second, the record

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<sup>2</sup> NDAC 69-09-12-03 (requiring utilities identify the resources needed to meet forecasted capacity and energy needs); NDAC 69-09-02-33 (requiring utilities to adhere to the principle of least-cost development); *Mont.-Dakota Utils. Co., A Division of MDU Res. Gp., Inc.*, Case Nos. PU-17-268 & PU-17-269, Order at 2 (Nov. 16, 2017) (granting an ADP to MDU for its Thunder Spirit Wind Expansion when MDU’s IRP forecasted annual growth and MDU selected a least-cost proposal to expand its existing Thunder Spirit Wind Facility); *N. States Power Co./Courtenay Wind*, Case Nos. PU-15-174, PU-15-175, PU-15-181, PU-15-183, Findings of Fact, Conclusions of Law, and Order at 5 (Aug. 24, 2015) (approving an ADP for NSP’s Courtenay Project when the resource represented the least-cost option to meet future energy needs identified in NSP’s 2011-2025 Resource Plan); *N. States Power Co.*, Case Nos. PU-12-813, PU-13-706, PU-13-707, PU-13-708, PU-13-742, PU-13-743, PU-13-194, & PU-13-195, Revised Second Amended Comprehensive Settlement Agreement at 18 (Feb. 25, 2014) (committing NSP to develop up to 400 MW of thermal generation resources in North Dakota no later than 2036, “consistent with the principles of orderly development of resources, the principle of least-cost development . . . , and general concepts of prudent resource planning to meet incremental additional resource needs”).

<sup>3</sup> Some have appeared to suggest that the Commission should disregard this capacity need because it arises from the closure of the Sherco coal facility. *See* N. States Power Co., Advance Determination of Prudence – 460 MW Solar – Sherburne Cnty. MN, Case No. PU-21-152, Direct Testimony of James Heidell, at 8: 9–12 (December 17, 2021) (hereinafter Heidell Direct). As discussed below, this is problematic for two reasons. First, the depreciable life of Sherco Unit 2 for North Dakota ratemaking purposes still remains at 2035 and the impacts of not shortening the life are being borne by the Company. Northern States Power Company 2021 Electric Rate Increase Application, Case No. PU-20-441, Settlement at 4 (July 1, 2021); *see also* Case No. PU-20-441, Order on Settlement at 5 (August 18, 2021) (approving settlement). Second, the Company has shown that the cost of the Project is lower than the cost of continuing to operate the Sherco facility. *See* N. States Power Co., Advance Determination of Prudence – 460 MW Solar – Sherburne Cnty. MN, Case No. PU-21-152, Surrebuttal Testimony of Farah Mandich, at 9:17–10:2 (June 7, 2023) (hereinafter Mandich Surrebuttal). For these reasons, the Commission should not reject *this* Project because it disagrees with the separate decision to close the Sherco coal facility.

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shows that by meeting a demonstrated need at least cost, the Project is a prudent addition.

The Company has demonstrated that the Project is prudent so an ADP should be granted. Still, the record to this proceeding contains certain concerns with the Project and, therefore, Advocacy Staff has recommended that the Commission not approve the Application. The Company disagrees with these concerns. Regardless, there is not a dispute that whatever the outcome with respect to the requested ADP, North Dakota customers should pay for their fair share of the accredited capacity and energy the Project brings onto the Company's system.

The Company has therefore proposed a proxy price methodology that ensures that if the Commission does not approve the Application, the Company's North Dakota customers will pay an appropriate cost for the accredited capacity the Project will provide as well as any energy from the Project actually used in North Dakota. The Company's proxy pricing proposal also mitigates against any uncertainty created by MISO's<sup>4</sup> implementation of its seasonal capacity accreditation requirements. For these reasons, the Company's proxy price methodology should be approved if the Commission elects not to approve the Application.

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<sup>4</sup> MISO is the Midcontinent Independent System Operator, Inc.

## **II. BACKGROUND**

### **A. The Company's Capacity Need**

The Company is proposing the Project to satisfy a *capacity* need that will arise beginning in 2026 and grow over the course of the next decade. The Company has been forecasting this need and planning for it in its resource plans for more than a decade.<sup>5</sup> The Company's most recent 2020–2034 Upper Midwest Integrated Resource Plan specifically forecasted that the capacity need will begin in 2026 and expand thereafter.<sup>6</sup> The Company anticipates a net capacity deficit of 210 MW in 2026, which will grow to 2,443 MW in 2030.<sup>7</sup> Because the Company's system is summer peaking, it is anticipated that this capacity deficit will be felt most significantly during the summer months.<sup>8</sup>

Advocacy Staff witness James A. Heidell has acknowledged this capacity deficit in written testimony<sup>9</sup> and during his oral testimony at the Hearing.<sup>10</sup> During the Hearing, he agreed that “there is *some need that needs to be met on the capacity side.*”<sup>11</sup>

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<sup>5</sup> N. States Power Co., Advance Determination of Prudence – 460 MW Solar – Sherburne Cnty. MN, Case No. PU-21-152, Direct Testimony of Farah Mandich, at 3:1–14 (Apr. 26, 2021) (hereinafter Mandich Direct).

<sup>6</sup> *Id.* at 3:16–18.

<sup>7</sup> N. States Power Co., Advance Determination of Prudence – 460 MW Solar – Sherburne Cnty. MN, Case No. PU-21-152, Rebuttal Testimony of Farah Mandich, at 2:17–19 (Oct. 27, 2022) (hereinafter Mandich Rebuttal); *see also* N. States Power Co., XCEL ENERGY 2020–2034 Upper Midwest Resource Plan Alternative Proposal, Case No. 19–220, IRP Alternate Plan, at App'x B (June 28, 2021).

<sup>8</sup> N. States Power Co., Advance Determination of Prudence – 460 MW Solar – Sherburne Cnty. MN, Case No. PU-21-152, Transcript, at 22:16–18 (July 11, 2023) (hereinafter Transcript).

<sup>9</sup> Heidell Direct 19: 13-17.

<sup>10</sup> Transcript 147:18–20.

<sup>11</sup> *Id.*

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**B. The Proposed Resource**

Sherco Solar is a joint development between National Grid Renewables (NG Renewables) and Xcel Energy that will be located in Becker, Minnesota, on a site adjacent to the Company's Sherco Generating Station.<sup>12</sup> The Project involves the Company's acquisition of a 230 MW site west of the existing Sherco Generating Station from NG Renewables and combining it with a project developed on land to the east of Sherco Generating Station, for which Xcel Energy holds leases, bringing the overall Project to 460 MW.<sup>13</sup>

The Company anticipates that the Project will be placed into service on a rolling basis and that full operation will begin in the fourth quarter of 2024.<sup>14</sup> The Company anticipates installed capital costs of \$690.1 million, or \$1,500/kW, without allowance for funds used during construction.<sup>15</sup> The Company also anticipates a levelized cost of energy (LCOE) of [PROTECTED DATA BEGINS ██████████ PROTECTED DATA ENDS].<sup>16</sup>

The Company estimates that the net annual delivered energy will be [TRADE SECRET BEGINS ██████████ TRADE SECRET ENDS] once fully placed in-

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<sup>12</sup> N. States Power Co., Advance Determination of Prudence – 460 MW Solar – Sherburne Cnty. MN, Case No. PU-21-152, Direct Testimony of Greg Chamberlain, at 3:21–4:1 (Apr. 26, 2021) (hereinafter Chamberlain Direct).

<sup>13</sup> *Id.* at 4:1–5.

<sup>14</sup> *Id.* at 5:10–6:1.

<sup>15</sup> Krug Rebuttal 7: 11–13.

<sup>16</sup> This LCOE is a 24 percent reduction in the LCOE anticipated in Ms. Mandich's direct testimony at the time the Application was filed. *See* Mandich Rebuttal 10: 5–16; Mandich Surrebuttal 8: 3–4.

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service.<sup>17</sup> The net capacity factor for the facility is expected to be within the range of **[TRADE SECRET BEGINS [REDACTED] TRADE SECRET ENDS]**.<sup>18</sup>

The Project is just one piece of a suite of solutions that the Company is proposing across its system to solve its capacity need.<sup>19</sup> Although the eventual MISO seasonal accreditation capacity amounts for the Project cannot be known at this time, the Company expects that under the seasonal construct solar projects like this one will receive higher default accreditation values in the summer, when the Company's system capacity needs are greatest.<sup>20</sup> Regardless of the value actually accredited to the Project, it will contribute to resolving the Company's capacity need.

Furthermore, the Project is "part of a least cost plan to prudently meet the Company's identified capacity need in 2026."<sup>21</sup> As Ms. Mandich has testified, the Company's resource planning model conducted in 2021 selected a large-scale solar resource as the least cost resource to meet the identified capacity need.<sup>22</sup> This was true regardless of whether the Company applied North Dakota planning assumptions, which do not include environmental externality values, or Minnesota assumptions, which do.<sup>23</sup>

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<sup>17</sup> Chamberlain Direct, at 13:3–6.

<sup>18</sup> *Id.* 13: 6–7.

<sup>19</sup> Transcript 10: 16–25.

<sup>20</sup> Mandich Rebuttal 13:4–10.

<sup>21</sup> Mandich Surrebuttal 8:4–6.

<sup>22</sup> Mandich Rebuttal 4:17–20.

<sup>23</sup> *Id.* at 4:20–22 & 5:6–17.

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There are two economic variables that help make solar the least cost resource. First, the Company can utilize interconnection rights that already exist at the Sherco Generating Station and that are available as a result of the retirement of the Sherco 1 and 2.<sup>24</sup> As a result, the Company anticipates being able to interconnect the Project while avoiding the delays and expenses associated with the MISO interconnection queue.<sup>25</sup> Second, the project is anticipated to qualify for both the full 10-year production tax credit (PTC) and a 10 percent “energy community” bonus credit available as a result of the Inflation Reduction Act.<sup>26</sup>

The Project’s LCOE is competitive with other solar projects in the region. For example, in response to a recent Company RFP seeking 900 MW of solar or solar-plus-storage hybrid resources to come online by the end of 2025 (requirements the Project satisfies), the cheapest shortlisted project had an LCOE that was **[PROTECTED DATA BEGINS [REDACTED] PROTECTED INFORMATION ENDS]** than the Project.<sup>27</sup> And that project ultimately could not be built because the developer was unable to maintain its low price quote.<sup>28</sup> Additionally, solar PPAs in the MISO market in Q1 2023 had a median price over \$60/MWh or nearly **[PROTECTED**

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<sup>24</sup> Mandich Rebuttal at 5:11–15.

<sup>25</sup> *Id.*

<sup>26</sup> *Id.* at 10: 11–16; Mandich Surrebuttal 8:15–18.

<sup>27</sup> Mandich Surrebuttal 8:22–9: 5

<sup>28</sup> *Id.* at 8: 20–21.

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**DATA BEGINS** [REDACTED] **PROTECTED DATA ENDS]** more than the LCOE for Sherco Solar.<sup>29</sup>

### **C. Alternative Proxy Pricing Proposal**

While the Company has shown that the Project is a prudent resource addition, the Company has also proposed a proxy price methodology. This methodology would ensure that, if the Commission did reject the Application, North Dakota customers would still pay their fair share of the capacity and energy that Sherco Solar adds to the system, but not pay for the policy choices of other states.<sup>30</sup>

Under the Company's proposed proxy methodology, North Dakota customers would pay a proxy price representing the cost of adding a generic combustion turbine (CT) to the system and the market price for energy generated from the Project.<sup>31</sup> This would be paid in lieu of including the costs of the project in rates. The Company proposed MISO's cost of new entry (CONE) as the CT price to account for the value of the capacity provided by the Project and the day-ahead locational marginal pricing (LMP) at the Company's MISO commercial pricing node, to be determined on an hourly basis, to account for the value of the energy produced from the Project and used in North Dakota.<sup>32</sup> The Company proposed this method of assessing the proxy price

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<sup>29</sup> *Id.* at 8: 23–26.

<sup>30</sup> *Id.* at 14:3-12; Transcript 153: 22–24 & 154:1 Mr. Heidell agreed that there should be “some mechanism for North Dakota, that *customers should pay their fair share* . . . of what the accreditation is.” (emphasis added).

<sup>31</sup> Krug Rebuttal 16: 2–3, & 16: 12–15.

<sup>32</sup> Application at 16–21.

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because it has successfully used the same method in South Dakota and because CONE plus LMP is the alternative that most accurately reflects the Project costs.

MISO CONE for year 2024–2025 is the preferred pricing method for valuing the benefit to North Dakota of the capacity made available to it by the Project because it is an industry-standard, third-party generated estimate of the costs of constructing a generic CT.<sup>33</sup> The Company recommended CONE for the year 2024–2025 because that is when the resource will become operational and, therefore, when the capacity added by the Project will become available.<sup>34</sup> By selecting the MISO CONE value the Company’s proposed capacity proxy price for North Dakota customers would be the North Dakota jurisdictional share of the cost of a generic greenfield CT beginning 2025, when it would need to be placed into service to meet the capacity need in 2026.<sup>35</sup>

### **III. ARGUMENT**

The Sherco Solar facility is a prudent resource addition because there is a clear need for capacity on the Company’s system, and the Project presents the least cost alternative way to meet this need. Therefore, an ADP allowing full cost recovery is appropriate. If, despite the present economics of the Project, the Commission is not inclined to grant an ADP, the Company has proposed and asks the Commission to

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<sup>33</sup> Mandich Rebuttal 15: 6–25; Mandich Surrebuttal 11: 6–12.

<sup>34</sup> Mandich Rebuttal 15:6–16; Chamberlain Direct 16: 21–26.

<sup>35</sup> Chamberlain Direct, at 16:21–26.

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approve its proposed proxy price mechanism, which will allow North Dakota customers to pay their fair share of the energy and capacity provided from Sherco Solar.

**A. Applicable Standard**

The North Dakota Century Code section 49-05-16(1)(d) authorizes the Commission to issue an Advanced Determination of Prudence (ADP) if it “determines that the resource addition is prudent.”<sup>36</sup> This standard is similar to the “honestly and prudently invested” standard that the Commission uses for ratemaking.<sup>37</sup> The general prudence standard calls for determining whether the utility action was reasonable at the time it was taken under all relevant circumstances.<sup>38</sup> And the Commission regularly grants ADPs where there is a need and the record reflects that the proposed project will satisfy that need.<sup>39</sup>

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<sup>36</sup> N.D.C.C. § 49-05-16(1)(d).

<sup>37</sup> See N.D.C.C. § 49-06-02.

<sup>38</sup> See 1 David J. Muchow & William A. Mogel, ENERGY LAW AND TRANSACTIONS, § 4.02[3][b] (LexisNexis Matthew Bender 2021) (citing CHARLES F. PHILLIPS JR., PUBLIC UTILITIES REPORTS, INC., THE REGULATION OF PUBLIC UTILITIES at 292 (2d ed. 1985)).

<sup>39</sup> NDAC 69-09-12-03 (requiring utilities identify the resources needed to meet forecasted capacity and energy needs); NDAC 69-09-02-33 (requiring utilities to adhere to the principle of least-cost development); *Mont.-Dakota Utils. Co., A Division of MDU Res. Gp., Inc.*, Case Nos. PU-17-268 & PU-17-269, Order at 2 (Nov. 16, 2017) (granting an ADP to MDU for its Thunder Spirit Wind Expansion when MDU’s IRP forecasted annual growth and MDU selected a least-cost proposal to expand its existing Thunder Spirit Wind Facility); *N. States Power Co./Courtenay Wind*, Case Nos. PU-15-174, PU-15-175, PU-15-181, PU-15-183, Findings of Fact, Conclusions of Law, and Order at 5 (Aug. 24, 2015) (approving an ADP for NSP’s Courtenay Project when the resource represented the least-cost option to meet future energy needs identified in NSP’s 2011-2025 Resource Plan); *N. States Power Co.*, Case Nos. PU-12-813, PU-13-706, PU-13-707, PU-13-708, PU-13-742, PU-13-743, PU-13-194, & PU-13-195, Revised Second Amended Comprehensive Settlement Agreement at 18 (Feb. 25, 2014) (committing NSP to develop up to 400 MW of thermal generation resources in North Dakota no later than 2036, “consistent with the principles of orderly development of resources, the principle of least-cost development . . . , and general concepts of prudent resource planning to meet incremental additional resource needs”).

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**B. Sherco Solar Is Prudent**

Sherco Solar is prudent because it is necessary to meet the Company's capacity need, and it is a least cost resource under North Dakota planning principles.<sup>40</sup>

1. The Need

As set forth in the Application and the Company's witnesses' testimony and shown herein, the Company has a forecasted net capacity deficit of 210 MW on the system arising in 2026 and growing to 2,443 MW in 2030.<sup>41</sup> No party questions the existence of this need.<sup>42</sup>

Instead, Mr. Heidell urged the Commission to ignore this need for two reasons: (1) he claims that the need does not arise from load increase, but rather from the expiration of the coal-burning units at Sherco and (2) he claims that the need for capacity is irrelevant because the Company is expected to have excess energy.<sup>43</sup> These reasons are misplaced, and the Commission should reject this analysis.

First, Mr. Heidell's argument that the Company's need arises solely from the expiration of Sherco 2 is incomplete. In fact, the Company's capacity need arises for a variety of reasons. It is true that the immediate capacity deficit is anticipated upon the

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<sup>40</sup> Mandich Rebuttal 13: 17–18.

<sup>41</sup> IRP Alternate Plan, June 28, 2021, Case No. PU-19-220, at Appx'B. The Minnesota Public Utilities Commission granted its approval of the IRP in April, 2022. IN THE MATTER OF THE 2020-2034 UPPER MIDWEST INTEGRATED RESOURCE PLAN OF NORTHERN STATES POWER COMPANY D/B/A XCEL ENERGY, MPUC Docket No. E-002/RP-19-368, Order Approving Plan with Modifications and Establishing Requirements for Future Filings (April 15, 2022). The Commission was kept apprised of the IRP proceeding by means of informational filings made in Case No. PU-19-220.

<sup>42</sup> Transcript 147: 18–20.

<sup>43</sup> Heidell Direct 19: 15–17, 20:1–4, & 20:13–19.

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closure of Sherco 2. The Company has long planned for the retirement of Sherco Units 1 and 2.<sup>44</sup> Regardless, the need arising from the Sherco closures is only a part of the Company's total capacity need. The Company would "still have a need in the mid-2020s,"<sup>45</sup> regardless of what happens with the Sherco units.

Furthermore, Mr. Heidell's analysis of the closure of Sherco 2 incorrectly assumes that the closure is still an open issue and that keeping Sherco 2 open would be the lowest cost option for maintaining this capacity. Neither assumption is true. As to the closure, the Company is committed to retiring Sherco Unit 2 at the end of this year, and it has notified MISO of this intent.<sup>46</sup> Notwithstanding this fact, the depreciable life of Sherco Unit 2 for North Dakota ratemaking purposes still remains at 2035 and the impacts of not shortening the life are being borne by the Company.<sup>47</sup> In other words, the Commission should not deny this Project because of a disagreement with a separate planning decision.

There is also no record evidence to support Mr. Heidell's assumption that continued operation of the Sherco Units would be cheaper than the Project. In fact, the

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<sup>44</sup> N. States Power Co., Advance Determination of Prudence – 460 MW Solar – Sherburne Cnty. MN, Case No. PU-21-152, Rebuttal Testimony of Al Krug, at 8:12–14 (October 27, 2022) (hereinafter Krug Rebuttal); Transcript 48:17–22; *see also id.* at 126: 19–127: 1 ("So the planned retirement date for Sherco 2 has been scheduled to be the end of '23 for quite some time, since the 2015 resource plan was approved in Minnesota. I believe the order was issued in 2017. And so because it's – that's about five months from now. We're pretty far down the road on planning for that retirement. We've submitted the request for replacement capacity to MISO already.").

<sup>45</sup> *Id.* at 68: 18–22.

<sup>46</sup> *See id.* at 126: 24–127: 1; N. States Power Co., Advance Determination of Prudence – 460 MW Solar – Sherburne Cnty. MN, Case No. PU-21-152, Late-Filed Exhibit NSP-19.

<sup>47</sup> Case No. PU-20-441, Settlement at 4; Case No. PU-20-441, Order on Settlement at 5.

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record reflects that if the Sherco Units were to remain online, by 2026 they likely would be more costly to operate than the proposed solar resource.<sup>48</sup>

Second, the Company's energy length is simply irrelevant to the question before the Commission—whether a capacity need exists. As Ms. Mandich has explained, *capacity*, not *energy*, is the appropriate metric for determining this resource need.<sup>49</sup> This is because the Company has a long established practice of planning for its MISO obligations with resources it owns or for which it contracts.<sup>50</sup> This mitigates financial and reliability risks for customers by ensuring that the Company is not reliant on the MISO market to fulfill its planning obligations.

As Ms. Mandich testified, the Company cannot meet its MISO obligations without adding capacity resources, unless it is willing to accept the risks associated with relying upon bilateral zonal resource credit purchases or the Planning Resource Auction (PRA).<sup>51</sup> Such an approach would be imprudent as it would expose North Dakota to the volatility and potentially high costs of relying on the MISO PRA.<sup>52</sup> The option of relying on the market to meet the Company's capacity need is risky also because the

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<sup>48</sup> Mandich Surrebuttal 9: 6–18.

<sup>49</sup> Mandich Rebuttal 3:21–27.

<sup>50</sup> *Id.* at 3: 22–24.

<sup>51</sup> *Id.* at 3:21–4:5.

<sup>52</sup> *Id.* at 3:21–4:5. As Ms. Mandich explained, this is especially true given that, during the planning year for 2022, “the market did not clear due to shortages in MISO Central, which resulted in available credits clearing at the Cost of New Entry (CONE) of approximately \$236/MW-day. Annual CONE for the upcoming planning year (PY) for the North and Central regions is expected to be between \$270-300/MW-day, with no guarantees that the market will clear at a lower price.” *Id.* at 4:7–12; *see also* Mandich Surrebuttal 5: 17–22; *MISO Planning Resource Auction Results for Planning Year 2023-24*, at 9, accessed at 2023 Planning Resource Auction (PRA) Results628925.pdf (misoenergy.org).

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Company is the largest supplier of capacity in MISO Zone 1 and accounts for approximately half of the load planning requirements for the zone.<sup>53</sup> This means that if the Company is short on capacity, the amount of capacity available on the market to the Company and any other utilities that might need it will be limited.

2. The Prudent Solution

In light of the undisputed need described above, the Company needs to act to acquire sufficient capacity to meet its planning obligations. The record in this case demonstrates that the Project will help satisfy this need and will do so in a prudent way.

First, the Project is sized to meet the specific need. Specifically, the Project is a 460 MW project with estimated net annual delivered energy of [TRADE SECRET BEGINS ██████████ TRADE SECRET ENDS] once fully placed in-service.<sup>54</sup> The net capacity factor for the facility is expected to be within the range of [TRADE SECRET BEGINS ██████████ TRADE SECRET ENDS].<sup>55</sup> Regardless of how capacity may be accredited in the future, by adding capacity to the system before the need arises, the Project will help mitigate the capacity need, and it will do so for less than the any alternative resource addressed in this record.<sup>56</sup>

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<sup>53</sup> Mandich Surrebuttal at 5: 6–7.

<sup>54</sup> Chamberlain Direct 13:3–6.

<sup>55</sup> *Id.* 13: 6–7.

<sup>56</sup> When asked during the hearing what his ideal alternative would be, Mr. Heidell could answer only that if he could go back in time to 2021 or 2022, he would have pursued CTs. He did not, however, at the hearing or otherwise demonstrate that a CT would be a more cost effective resource. *See* Transcript 147: 22–148: 7. Aside from suggesting a CT would be preferred, Mr. Heidell did not identify any other alternative resource that he would choose instead of solar to fill the Company's need.

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Second, the Company has shown that the Project is a cost effective resource to fulfill its need. Solar is a cost effective resource because of PTC and Energy Community credits available to the Company under the Inflation Reduction Act. Additionally, the Company will save substantial time and spend less by using the existing interconnection rights and avoiding the MISO interconnection queue.<sup>57</sup>

While it is true that Sherco Solar is more costly than the generic solar resource the Company's models selected, its present value revenue requirement is approximately \$466 million lower than the IRP Reference Case.<sup>58</sup> And, as Ms. Mandich explained, it is not surprising that the Project differs from the generic estimates, because of the significant volatility in the energy industry resulting from the impact of COVID-19 on supply chains.<sup>59</sup> With an LCOE of **[PROTECTED DATA BEGINS [REDACTED] PROTECTED DATA ENDS]**,<sup>60</sup> Sherco Solar is competitively priced for solar and solar is the least cost resource.<sup>61</sup> For these reasons, the Project is prudent.

**C. The Record Does Not Support a Denial of the ADP**

Despite the benefits of the Project described above, Advisory Staff opposes the Application based on the testimony of Mr. Heidell. Mr. Heidell takes issue with three

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<sup>57</sup> Mandich Rebuttal 5: 11–15.

<sup>58</sup> *Id.* at 9: 11–12 & Table 3.

<sup>59</sup> *Id.* at 11: 3–7 & 9–14. These pressures have not only impacted solar, however, and by comparison the effects on solar are not as great as natural gas and coal. *Id.* at 11: 14–20. This is all the more true because of the IRA, which is helping offset cost increases for solar, but not coal and gas facilities. *Id.* at 12: 2–8.

<sup>60</sup> This LCOE is a 24 percent reduction in the LCOE anticipated in Ms. Mandich's direct testimony at the time the Application was filed. *See id.* at 10: 5–16; Mandich Surrebuttal 8: 14–15.

<sup>61</sup> Mandich Surrebuttal 8: 15–9: 2.

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specific aspects of the Company's proposal: (1) whether it is a prudent way to the Company's need, (2) whether solar is in fact the least cost alternative, and (3) the MISO accreditation process's likely effect on the Company's cost analysis. None of Mr. Heidell's points change the above analysis, however, or support a denial of the requested ADP. Crucially, he never called into question the capacity deficit identified and actually admitted the deficit exists during oral testimony before the Commission.<sup>62</sup>

First, Heidell's argument is inconsistent with the Company's long-standing planning principles and the practical reality facing the Company. As explained above, the Company has consistently relied on its own resources to meet its capacity obligations. The Company cannot satisfy its MISO obligations by purchasing capacity through bilateral agreements or through the Planning Resource Auction for the reasons described above.<sup>63</sup> Those options are contrary to Company planning principles,<sup>64</sup> and unreasonably risky for North Dakota customers.<sup>65</sup> Additionally, the reason for the capacity need does not change the reality that the need exists. This is true beginning in 2026 with Sherco Units 1 and 2,<sup>66</sup> and even in the hypothetical scenario in which the units were not closed, with the expiration of the Manitoba Hydro PPA around 2025.<sup>67</sup> The Company's obligation is to ensure sufficient capacity for its North Dakota

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<sup>62</sup> Transcript 147: 18–20.

<sup>63</sup> Mandich Rebuttal 4: 2–12.

<sup>64</sup> Mandich Surrebuttal 4:14–15; Mandich Rebuttal 3:21–4:12.

<sup>65</sup> *Id.* at 4:5–12.

<sup>66</sup> Mandich Surrebuttal 9:17–10:2.

<sup>67</sup> Transcript 14: 25–15: 5.

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customers. Beginning in 2026, the resources on the system will not provide that capacity. Mr. Heidell's analysis does not account for this fundamental fact.

Second, Mr. Heidell's argument that solar is not the least cost resource is flawed. These arguments are based on suggestions that the Company should have developed either a CT or a combined cycle (CC) plant at the Sherco site, although Mr. Heidell is not clear which. Specifically, Mr. Heidell argues that a CT is a cheaper alternative than the Project in 2025–2027, and also that the Company had previously planned a CC at the site. This apparently means that the Company should have chosen one of these options. These arguments should be rejected. With respect to a potential CT, the years 2025–2027 are after the Project will come online. The cost of adding a resource between 2025 and 2027 does not change the fact that in 2024, when the Project will become operational, the Company's modeling selects the Project under North Dakota planning principles.<sup>68</sup> Adding the resource in 2024 will ensure the capacity is available in advance of the anticipated 2026 capacity deficit.

With respect to a potential CC, Mr. Heidell does not actually claim a CC would be a cheaper resource. This is important because, while the Company had previously planned to locate a CC facility at Sherco, it reevaluated that planning decision because of the absence of existing gas infrastructure at the site<sup>69</sup> combined with key economic

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<sup>68</sup> Mandich Surrebuttal 9: 20– 10: 14.

<sup>69</sup> Transcript 92: 4–19.

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shifts in the solar market.<sup>70</sup> Additionally, the previously proposed CC was not a freely selected resource.<sup>71</sup> It had simply been included as a replacement for the Sherco units.<sup>72</sup> The record contains no evidence that the CC is lower cost than solar. Thus, Mr. Heidell's views about a potential CT or CC at the site are flawed and should not be given any weight.

Finally, regardless of how MISO ultimately accredits solar using its seasonal capacity construct, the record demonstrates that the Project will reduce the capacity deficit.<sup>73</sup> Furthermore, MISO's future changes to its accreditation for non-thermal capacity are an unknown at this time, and it is not practical for the Company to postpone or alter its resource planning based on uncertain future changes.<sup>74</sup> MISO will not file its revised accreditation methodology until late 2023, which methodology will then be subject to FERC review.<sup>75</sup> If the Company is required to wait for FERC's decision before taking actions to cover its capacity needs, its ability to bring capacity online in enough time to meet its 2026 need will be jeopardized. The Company's proposal also relies on the existing accreditation values rather than speculation about future values—50 percent for 2020 to 2023, which then declines to 30 percent by 2033

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<sup>70</sup> Transcript 42: 8–18; 43: 5–18; 52: 23–53: 2.

<sup>71</sup> Transcript 72: 19–24.

<sup>72</sup> *Id.*

<sup>73</sup> Mandich Rebuttal 4: 17–20.

<sup>74</sup> Mandich Surrebuttal 17: 14–20.

<sup>75</sup> *Id.* at 16: 11–12.

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at a rate of 2 percent annually.<sup>76</sup> Even assuming these values change when MISO implements the new methodology,<sup>77</sup> there can be no doubt that Sherco Solar will contribute to solving the Company’s capacity need. The Company has always proposed a multi-pronged solution to its capacity need. And the Company has recognized the likely change in MISO accreditation values by proposing to reduce “the accreditation value of the project by 2 percent annually over the next ten years,” which accounts for “the reality that solar resources will lose some accreditation value as more solar resources come online throughout MISO’s system.”<sup>78</sup>

In sum, Mr. Heidell’s arguments regarding the prudence of the Project do not support denial of the ADP where the Company is proposing to meet an existing capacity need with the least cost resource.

**D. If the Commission Rejects the Application, It Should Establish a Reasonable Proxy Price**

At a minimum, North Dakota customers should pay for the capacity and energy benefits provided to them from the Project. The Company has proposed a proxy price as a way to provide a method for North Dakota customers to pay their fair share for the Project that would mitigate Mr. Heidell’s concerns with resource selection, pricing,

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<sup>76</sup> *Id.* at 16: 25–17: 2.

<sup>77</sup> The Company anticipates that the seasonal construct will result in a higher accreditation for summer than solar currently receives and a lower accreditation in winter. Mandich Rebuttal 13: 4–13. As Ms. Mandich testified, the Company is a summer peaking system, so the added capacity will significantly benefit the system during those months. *Id.*

<sup>78</sup> Mandich Surrebutal 19: 11–14.

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and capacity accreditation. The Company has proposed to use MISO CONE to value the capacity provided by the Project and LMP at the Company's MISO commercial pricing node, to be determined on an hourly basis, to value the energy produced from the Project and used in North Dakota.<sup>79</sup> This proxy price alternative should be adopted if an ADP is denied because, as Mr. Heidell testified, "there needs to be some mechanism for North Dakota, that customers should pay their fair share . . . of what the accreditation is."<sup>80</sup>

There is agreement on the use of LMP for energy,<sup>81</sup> but Advisory Staff has opposed the use of MISO CONE to value capacity. The Company has proposed that North Dakota's share of the accredited capacity be calculated using the MISO CONE because CONE is an industry-standard, third-party generated estimate.<sup>82</sup> The Company specifically proposed using MISO CONE for the year 2024–2025, when the Project is scheduled to become operational. CONE is an unbiased method of calculating a proxy price that has already been approved for similar purposes in South Dakota.<sup>83</sup>

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<sup>79</sup> Application at 16–21.

<sup>80</sup> Transcript 153: 22–24 & 154:1.

<sup>81</sup> Mr. Heidell does not dispute the use of LMP as a measure of energy value in either his Direct or Rebuttal testimony, and there was no discussion during the Hearing except from Ms. Mandich, who explained that "whatever the solar is going to put into the system," it would be valued "at the day-ahead LMP." Transcript 119: 13–19.

<sup>82</sup> Mandich Surrebuttal 11: 6–12.

<sup>83</sup> Mandich Rebuttal 19: 5–22.

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1. The Company's Proposal Is Reasonable

The Company's proposal of CONE is reasonable because it allows North Dakota customers to pay the value of the capacity actually accredited from the Project and the value of the market energy used.<sup>84</sup> Mr. Heidell opposes the Company's proposal, arguing that the MISO CONE improperly represents a greenfield price and that MISO CONE is based on an outdated and hypothetical capital structure and not the Company's actual capital structure.<sup>85</sup> Neither argument should be accepted.

First, it is appropriate to use a greenfield price because there are no feasible brownfield sites other than the Sherco generation site proposed for the Project. In fact, the only two available brownfield sites are Sherco and Wheaton, Wisconsin, where Xcel Energy is presently pursuing a gas project.<sup>86</sup> Because there are not alternative brownfield sites and because it is not reasonable to use an alternative price based on assumptions that cannot be true, a greenfield price is proper.

Second, the hypothetical nature of MISO CONE speaks to its value as a proxy price—it is an unbiased assessment of current costs and is therefore the most accurate proxy for replacing the value of Sherco Solar's accredited capacity on the system.<sup>87</sup> For this reason, the South Dakota Public Utilities Commission has recognized MISO

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<sup>84</sup> *Id.* at 22: 18–25.

<sup>85</sup> *Id.* at 20: 17–24.

<sup>86</sup> Mandich Surrebuttal 11: 22–27.

<sup>87</sup> *Id.* at 11: 22–25.

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CONE as the reasonable measure of capacity and day-ahead LMP as the reasonable measure of energy for two other NSP projects.<sup>88</sup>

Accordingly, “CONE is the most direct and appropriate proxy” as it accurately reflects key details of the Project.<sup>89</sup> Specifically, although the Company is reusing its existing interconnection rights, the Sherco Solar project is a greenfield development, and MISO CONE does not include interconnections costs,<sup>90</sup> therefore providing “the most appropriate proxy for the cost of a new CT.”<sup>91</sup>

2. Mr. Heidell’s Proposed Proxy is Not Reasonable

Mr. Heidell proposed instead that the Commission set the proxy price equal to the cost of a brownfield CT and reduce adjust the proxy capacity cost to reflect an offset for the energy market margins the brownfield CT would earn in the MISO energy markets.<sup>92</sup> A brownfield CT price is not reasonable, however, because a brownfield CT is not a *viable* resource. As stated, there are no viable brownfield sites for a CT resource. Sherco is not a viable location for a CT because there is not an existing gas pipeline running to the site. Adding a pipeline, along with other necessary infrastructure to serve a gas generator could not timely be accomplished at Sherco.<sup>93</sup> Furthermore, CONE does not “include the cost of new interconnection facilities; rather, it represents the

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<sup>88</sup> Mandich Rebuttal 19: 5–22.

<sup>89</sup> *Id.* at 21:6–19.

<sup>90</sup> *Id.*

<sup>91</sup> Krug Rebuttal 16: 19–25.

<sup>92</sup> Heidell Rebuttal 6: 10–14.

<sup>93</sup> Transcript 149: 10–15.

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overnight cost of a new CT.”<sup>94</sup> As a result, while Sherco is a brownfield site and the Company will be recycling interconnection rights, these savings are not double counted and the least-cost viable CT would be a greenfield project, making the greenfield the appropriate proxy.<sup>95</sup>

Similarly, Mr. Heidell’s proposal that the price be set based on when the resource is constructed, not when it is put into service, is unreasonable.<sup>96</sup> The proxy price is intended to reflect the value of market energy in addition to the value of capacity from the Project.<sup>97</sup> It makes no sense to tie the price of energy and capacity to a construction date when no energy or capacity will be available. And the transition to the seasonal construct, and the associated unknowns, that come with waiting until 2024–2025 are not anticipated to be a problem. Although MISO’s adoption of a seasonal construct may affect CONE-based pricing, the annual values are not unreasonably higher than in previous years and the 2025 values are expected to be within the same range as the most recent CONE.<sup>98</sup>

Finally, contrary to Mr. Heidell’s assessment, NET CONE is not the correct measure of comparison, because it values capacity and energy separately. A proxy pricing methodology that values the benefits of the Project that North Dakota

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<sup>94</sup> Mandich Rebuttal 21: 12–13.

<sup>95</sup> Mandich Surrebuttal 11: 22–12: 17.

<sup>96</sup> Heidell Direct 16: 23–26.

<sup>97</sup> Mandich Rebuttal 22: 7–14.

<sup>98</sup> *Id.* 15:16–25.

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customers will receive must value the accredited capacity added to the system as a result of the resource addition as well as any energy actually consumed by North Dakota customers.<sup>99</sup>

In sum, the adjustments Mr. Heidell proposes do not fairly and accurately capture the value North Dakota will receive from the Project. The Company's proxy price proposal, on the contrary, asks only that North Dakota pay its fair share of the viable alternative—that is, the capacity actually accredited and energy used if it were purchased from another resource. CONE is the value of capacity set by a neutral third party and LMP represents a market value for the energy, and this is a prudent approach to the proxy pricing, in the event the Commission does not approve the ADP.

**IV. CONCLUSION**

Sherco Solar is prudent, as it represents an opportunity to provide much needed capacity from a least-cost resource. The Company therefore respectfully requests that the Commission grant the requested ADP for the Sherco Solar Project. Alternatively, if the Commission is not inclined to grant an ADP, the Company respectfully requests that it be permitted to collect a proxy price equivalent to the MISO CONE plus LMP from North Dakota customers when they use energy actually generated from Sherco Solar.

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<sup>99</sup> *Id.* at 22: 21–25.

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Respectfully submitted,

Dated: September 14, 2023

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