

Rebuttal Testimony and Schedules
Allen D. Krug

**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

Exhibit___(ADK-1)

Policy

October 27, 2022

Table of Contents

I. INTRODUCTION AND QUALIFICATIONS..... 1

II. BACKGROUND..... 3

III. PROJECT OVERVIEW 6

 A. Project Need..... 7

 B. Project Selection 8

IV. PRUDENCE OF THE SHERCO SOLAR PROJECT 10

V. ALTERNATIVE COST ASSIGNMENT PROPOSAL..... 12

 A. Capacity Costs 15

 B. Energy Costs 17

 C. Other Considerations 18

VI. PRESENTATION OF REBUTTAL WITNESSES..... 20

VII. CONCLUSION 20

Schedules

Statement of Qualifications

Schedule 1

1 Q. FOR WHOM ARE YOU TESTIFYING IN THIS PROCEEDING?

2 A. I am testifying on behalf of Xcel Energy.

3

4 Q. WHAT IS THE PURPOSE OF YOUR REBUTTAL TESTIMONY IN THIS
5 PROCEEDING?

6 A. The purpose of my Rebuttal Testimony is to provide additional support for
7 the Company's request for an Advance Determination of Prudence (ADP) for
8 460 MW of grid-scale photovoltaic (PV) capacity at the Company's Sherburne
9 County (Sherco) Generating Station site (Sherco Solar or Project), and to
10 respond to the Direct Testimony of North Dakota Public Service Commission
11 (Commission) Advocacy Staff Witness Mr. James A. Heidell, filed on
12 December 17, 2021 in this proceeding. In particular, I respond to issues that
13 Mr. Heidell raised with regard to the need for the Project, the prudence of the
14 Project, and the Company's alternative proposal for a proxy pricing
15 mechanism in lieu of full recovery of North Dakota's jurisdictional share of
16 the Project. My Rebuttal Testimony supports the conclusion that an ADP
17 should be granted for the proposed acquisition of Sherco Solar. Should the
18 Commission decline to grant an ADP, I discuss the Company's proposal for
19 an alternative cost assignment mechanism for North Dakota based on the cost
20 of an alternative that aligns with North Dakota resource planning and policy
21 objectives.

22

23 Q. HOW IS YOUR REBUTTAL TESTIMONY STRUCTURED?

24 A. My testimony covers the following topics:

- 25 • Background;
- 26 • Project Overview;
- 27 • Prudence of the Sherco Solar Project;

- Alternative Cost Assignment Proposal; and
- Presentation of Rebuttal Witnesses.

II. BACKGROUND

Q. WHAT IS THE PURPOSE OF THIS SECTION OF YOUR REBUTTAL TESTIMONY?

A. In this section, I provide an overview of the Company's proposed Sherco Solar addition. Because the Company filed its initial ADP application over a year ago in April 2021, I believe it is beneficial to provide a brief description of the Project as well as the updates that have taken place since we initially filed our Application.

Q. WHY DID THE COMPANY WAIT UNTIL NOW TO FILE REBUTTAL TESTIMONY?

A. In the weeks after Advocacy Staff filed their Direct Testimony in this Case, the U.S. Department of Commerce (DOC) announced an investigation of whether imports of solar panels assembled in four Southeast Asian countries were circumventing anti-dumping rules. The countries targeted in the investigation together provide roughly 80 percent of crystalline silicon photovoltaic cells supplied to the U.S., so the announcement of the investigation had a significant impact on the Company's ability to obtain solar modules and panels. As a result, the DOC's investigation put all Project activities, including the ADP Application, on hold while the Company sought alternative options for solar panels and modules.

Q. HAS THE DOC INVESTIGATION BEEN RESOLVED?

A. On June 6, 2022, the President issued an emergency declaration to provide for a 24-month tariff exemption for solar panels from those four countries to help

1 stabilize the solar market. While there is still considerable uncertainty with
2 solar prices and the supply chain, the Company has worked to identify a viable
3 path to allow the Project to once again move forward. Because of the DOC
4 investigation and overall trends in the solar industry, the Company filed a letter
5 with the Commission on July 29, 2022 requesting additional time to update its
6 analyses for the project and potential alternative options, with Rebuttal
7 Testimony to be filed on October 27, 2022.

8

9 Q. HAS ANYTHING ELSE HAPPENED SINCE STAFF FILED DIRECT TESTIMONY
10 THAT IMPACTED THE PROGRESS OF THIS CASE?

11 A. Yes. We completed our last resource planning cycle and the Minnesota Public
12 Utilities Commission (MPUC) approved the Company's 2020-2034 Upper
13 Midwest Integrated Resource Plan (IRP) (MPUC Docket No. E002/RP-19-
14 368) by written order issued April 15, 2022. We are now planning for our next
15 resource planning and developing a new base case and modeling assumptions
16 for resource planning purposes.

17

18 Additionally, shortly after the Company filed the update letter I described
19 above, the U.S. Congress passed the Inflation Reduction Act (Pub. L. 117-
20 169), which the President signed into law on August 16, 2022. As described
21 further by Company witness Ms. Farah Mandich in her Rebuttal Testimony,
22 the tax credit provisions of the Inflation Reduction Act are expected to
23 significantly reduce the net levelized cost of energy (LCOE) of Sherco Solar.

24

1 Q. WHAT IS THE OVERALL IMPACT OF THE CHANGES SINCE THE COMPANY FILED
2 THIS CASE?

3 A. There have been significant changes to the solar energy market since the
4 Company first filed for this ADP in April 2021. As a result of these changes,
5 the Company's resource planning model now selects a solar resource to fill
6 the mid-2020s identified capacity need under both Minnesota and North
7 Dakota planning assumptions, and the net costs of Sherco Solar are
8 significantly lower than at the time we filed this ADP. Although we
9 acknowledge that the determination of the prudence of the Sherco Solar
10 investment must be made at the time the decision was made, we believe it is
11 significant that the prudence case for the project has only become stronger in
12 the last 18 months.

13

14 Q. WHAT IS THE COMPANY REQUESTING WITH RESPECT TO THE SHERCO SOLAR
15 PROJECT ON REBUTTAL?

16 A. The Company is requesting that the Commission grant an ADP for the Sherco
17 Solar project. Given the changes in the renewable energy landscape since we
18 filed our Application, the Company is using Rebuttal Testimony to start anew,
19 and to present Sherco Solar on its own merits. If the Commission is still not
20 inclined to approve an ADP for the Sherco Solar project, the Company
21 presents an alternative cost assignment mechanism that would provide for
22 recovery of a proxy price of Sherco Solar's capacity and energy from North
23 Dakota customers based on the capacity cost of a generic combustion turbine
24 and market-price energy.

III. PROJECT OVERVIEW

1
2
3 Q. PLEASE PROVIDE A BRIEF SUMMARY OF THE SHERCO SOLAR PROJECT.

4 A. The Company is requesting an ADP for the addition of the 460 MW Sherco
5 Solar Project, a joint development between National Grid Renewables (NG
6 Renewables, f/k/a Geronimo Energy) and Xcel Energy that will be located
7 adjacent to the Company's Sherco Generating Station in Becker, Minnesota.
8 A more detailed description of the Project was provided in the Company's
9 Application and the Direct Testimony of Mr. Chamberlain. The Project will
10 fill an identified capacity need arising in 2026 and allows the Company to
11 repower our valuable existing interconnection rights at the Sherco site
12 following the planned retirement of Sherco Unit 2 in 2023.

13
14 Q. WHY IS THE COMPANY PURSUING A SOLAR PROJECT AT THE SHERCO SITE?

15 A. The Company is pursuing this Project for several reasons. As discussed further
16 by Ms. Mandich, the Project will fill a capacity need consistent with our
17 resource plan. Additionally, the planned cessation of operations at Sherco Unit
18 2 next year will free up over 700 MW of interconnection capacity at the site,
19 which is at the heart of the NSP System and is very close to the bulk of our
20 load. Regardless of the Commission's position on the retirement of Sherco
21 Unit 2, the Company has an opportunity to reuse the existing electric
22 infrastructure and interconnection capacity at the Sherco site for a new
23 generation resource. Given the state of the MISO queue, it is prudent for the
24 Company to reuse the valuable interconnection capacity associated with the
25 existing plant, in order to avoid having to join the queue and potentially pay
26 for network upgrades for other potential projects. Stated another way, it would
27 be imprudent to simply allow the interconnection rights associated with

1 Sherco Unit 2, which have tremendous value, to be released. To achieve the
2 level of renewable energy integration that the Company has committed to, and
3 which our customers are demanding, it is essential that the Company make
4 efficient use of our existing interconnection rights.

5

6 Q. HAVE THERE BEEN ANY MATERIAL CHANGES TO THE PROJECT DESIGN, COST
7 OR SCHEDULE SINCE THE COMPANY FILED ITS APPLICATION IN THIS CASE?

8 A. We currently expect primary construction activities for the Sherco Solar
9 Project will occur in 2023, 2024, and 2025. The project will be placed in service
10 in two phases, the first phase in the fourth quarter of 2024 and the full Project
11 operational in the fourth quarter of 2025. The total installed capital costs for
12 Sherco Solar I and II is now \$690.1 million, or \$1,500/kW, without allowance
13 for funds used during construction (AFUDC).

14

15 **A. Project Need**

16 Q. PLEASE DESCRIBE THE COMPANY'S IDENTIFIED CAPACITY NEED.

17 A. The Company's most updated IRP analysis indicates a capacity need beginning
18 in 2026, growing to 2,443 MW by 2030. Ms. Mandich discusses our mid-2020s
19 capacity need further in her Direct Testimony.

20

21 Q. DOES THE PROJECT FILL THIS IDENTIFIED NEED?

22 A. Yes. Sherco Solar fills a portion of the need identified in our most recent
23 resource planning process.

24

25 Q. WHAT WAS MR. HEIDELL'S POSITION IN DIRECT TESTIMONY REGARDING THE
26 NEED FOR THE PROJECT?

1 A. Mr. Heidell acknowledges that the IRP identifies a capacity need beginning in
2 2026, but he notes that this capacity need is not the result of load growth, but
3 rather the Company's planned retirement of Sherco Units 1 and 2 and the
4 expiration of a major hydroelectric contract. Mr. Heidell argues that the
5 Company has a net long energy position through the remainder of the 2020s,
6 so there is not a need for an additional resource to meet retail load.

7

8 Q. DOES THE COMPANY AGREE WITH MR. HEIDELL'S POSITION REGARDING THE
9 PROJECT NEED?

10 A. The Company acknowledges that our forecasted capacity need in the mid-
11 2020s is driven largely by units coming off the system, rather than load growth.
12 The Company discussed the prudence of our decision to retire Sherco Units
13 1 and 2 at length in our most recent electric rate case, Case No. PU-20-441,
14 and does not wish to relitigate that decision in this proceeding. Regardless of
15 where the need derives from, the Company's IRP demonstrates that there is a
16 capacity need on the system. The Company disagrees with Mr. Heidell that
17 our energy position should drive our capacity additions, or should preclude
18 future capacity additions. The Company's energy position does not change the
19 fact that additional capacity is needed on the system to meet MISO
20 requirements, as discussed further by Ms. Mandich.

21

22 **B. Project Selection**

23 Q. DOES THE COMPANY'S UPDATED IRP SPECIFICALLY SELECT A SOLAR
24 RESOURCE TO MEET THE IDENTIFIED NEED?

25 A. Yes. As discussed further by Ms. Mandich, the Company's preferred
26 generation expansion plan in our most recent IRP (the Alternate Plan) selects
27 a large scale solar resource and material amounts of energy efficiency and

1 other conservation measures as part of a least cost plan to prudently meet the
2 identified resource need. Under our Alternate Plan, this is the case under
3 Minnesota planning principles (including externality values) as well as when
4 North Dakota assumptions are utilized (excluding externality values). Note
5 that this is a difference from the analysis presented the Company's Direct
6 Testimony in this case. Critical to the Alternate Plan is the ability to reutilize
7 the Company's existing interconnection rights at the existing Sherco site at the
8 heart of our system, which provides a material cost savings compared to
9 adding new resources via the MISO Generator Interconnection Process.

10
11 Q. HOW DOES THE PROJECT ALLOW THE COMPANY TO RETAIN ITS EXISTING
12 INTERCONNECTION RIGHTS AT SHERCO?

13 A. As noted in the Company's Application, the Request for Proposals that
14 resulted in the Project was specific to the Sherco site to ensure that the
15 Company can capture the valuable interconnection capacity at the Sherco site
16 under the applicable MISO rules. This is significant because greenfield
17 renewable projects currently face substantial cost challenges due to MISO-
18 assigned transmission upgrades, causing many projects to withdraw from the
19 interconnection queue. The expected retirement of Sherco Unit 2 in 2023 will
20 free up approximately 700 MW of interconnection capacity at the Sherco site,
21 which the Company can use for new projects. However, under MISO rules
22 the interconnection capacity must be reused by the Company within three
23 years or the Company will lose this valuable asset. Given the current state of
24 the MISO West queue, it is essential that the Company make efficient use of
25 its existing interconnection rights in order to develop new generation
26 resources over the next decade. Mr. Chamberlain discussed the MISO rules
27 regarding transfer of interconnection rights in detail in his Direct Testimony.

1

2 Q. WHAT WOULD BE THE IMPACT OF LOSING THE INTERCONNECTION RIGHTS
3 ASSOCIATED WITH SHERCO UNIT 2?

4 A. As discussed by Mr. Chamberlain, the interconnection rights that the
5 Company holds for existing generation facilities are highly valuable given the
6 MISO queue issues which we expect to persist for several years. Reusing these
7 existing rights within three years, as required by MISO rules, will allow the
8 Company to reduce or eliminate the transmission upgrade costs that can
9 accompany new resource additions. This is particularly the case with the
10 Sherco site, which has substantial interconnection and transmission
11 infrastructure to support the addition of Sherco Solar. As noted by Mr.
12 Chamberlain, based on current constraints in the MISO interconnection
13 queue and the Company's observations, the potential opportunity cost of
14 foregoing full reutilization of the interconnection rights associated with
15 Sherco Unit 2 is approximately \$140 million to \$350 million.

16

17 **IV. PRUDENCE OF THE SHERCO SOLAR PROJECT**

18

19 Q. IS THE SHERCO SOLAR PROJECT LEAST COST?

20 A. Yes, as demonstrated by our updated Alternate Plan modeling assumptions.
21 As discussed by Ms. Mandich, under both Minnesota and North Dakota
22 planning assumptions, solar is the first generation resource added in the plans
23 in the mid-2020s, and the expected commercial online dates of the Sherco
24 Solar project phases are well aligned to meet this need. While the cost of the
25 Sherco Solar project is somewhat higher than the generic cost assumptions
26 used in the IRP, the inclusion of the Sherco Solar Project in the expansion
27 plan is \$433 million less expensive than a "business as usual" scenario (referred

1 to in the IRP as the Reference Case) on a present value of revenue
2 requirements (PVRR) basis. While we believe this clearly demonstrates the
3 prudence of Sherco Solar today, we acknowledge that the prudence
4 determination is made based on the information available at the time the
5 decision was made to procure the resource, which did not show as clear of a
6 picture that Sherco Solar is least cost. For this reason, while we believe the
7 Commission should grant an ADP for Sherco Solar, the Company continues
8 to offer an alternative cost assignment mechanism which the Commission
9 could use for ratemaking purposes as an alternative to traditional jurisdictional
10 allocation of the Project.

11
12 Q. IS THE SHERCO SOLAR PROJECT PRUDENT?

13 A. Yes. The Sherco Solar Project helps meet a significant capacity need identified
14 in our most recent IRP, and is the least cost resource to meet that need under
15 both Minnesota and North Dakota resource planning assumptions. In
16 addition, the Sherco Solar project will allow the Company to reutilize its
17 valuable interconnection rights at the existing Sherco site, generating
18 significant additional savings for customers.

19
20 Q. DOES MR. HEIDELL RECOMMEND APPROVAL OF AN ADP FOR THE SHERCO
21 SOLAR PROJECT?

22 A. No. Mr. Heidell recommends the Commission deny the Company's request
23 for an ADP for the acquisition of Sherco Solar. Further, as discussed in the
24 next section of my testimony, Mr. Heidell also recommends disapproval of an
25 ADP for the Company's proposed alternative cost recovery mechanism for
26 North Dakota – proxy pricing of the Sherco Solar capacity using MISO's

1 Cost of New Entry (CONE) and energy using the day-ahead Locational
2 Marginal Price (LMP) for the Sherco Solar site.

3
4 Q. DOES THE COMPANY AGREE WITH MR. HEIDELL?

5 A. No. The Company believes the Sherco Solar project is prudent, a fact which
6 was true when it was initially selected and has been borne out by intervening
7 events and updated analysis since we first filed our Application in this case 18
8 months ago. As I discussed, there have been a number of developments over
9 the course of this proceeding which have ultimately resulted in a significant
10 reduction in the cost of Sherco Solar. I acknowledge that Mr. Heidell made
11 his recommendation without the benefit of this updated analysis. Due to the
12 updated costs, we believe that the ADP for Sherco Solar should be granted
13 and there is no need to establish a proxy price. However, if the Commission
14 does not agree that an ADP for the project is warranted, the Company has
15 offered a reasonable proxy pricing proposal that would fairly allocate costs to
16 North Dakota customers to account for the capacity and energy that will be
17 provided to the NSP System by Sherco Solar.

18
19 **V. ALTERNATIVE COST ASSIGNMENT PROPOSAL**

20
21 Q. WHAT IS THE PURPOSE OF THIS SECTION OF YOUR TESTIMONY?

22 A. As noted above, we believe that the ADP for Sherco Solar should be granted
23 and there is no need to establish a proxy price for Sherco Solar. However, in
24 this section of my Testimony, I respond to the Direct Testimony and
25 recommendations of Advocacy Staff witness Mr. Heidell with respect to the
26 cost assignment mechanism that the Company proposed as an alternative
27 option for the Commission to approve, should the Commission choose not

1 to grant an ADP for recovery of the North Dakota share of the actual capacity
2 and energy costs of Sherco Solar.

3
4 Q. PLEASE REMIND US WHAT THE COMPANY IS PROPOSING WITH RESPECT TO
5 ALTERNATIVE COST ASSIGNMENT.

6 A. As an alternative to granting an ADP for the Project, the Company has
7 proposed a cost assignment methodology that would allocate to North Dakota
8 customers only those costs that are consistent with North Dakota planning
9 priorities – namely the costs of a dispatchable resource such as a combustion
10 turbine (CT), which was found to be both needed and least cost in our North
11 Dakota-focused resource planning analysis at the time Sherco Solar was
12 selected. Should the Commission choose to go this route, the Company would
13 assign a share of the costs of the Project to North Dakota via proxy prices for
14 both the capacity and energy associated with the Sherco Solar project, rather
15 than applying the traditional jurisdictional demand and energy allocators to
16 the full cost of the Project.

17
18 Q. WHY IS THE COMPANY PROPOSING A COST ASSIGNMENT METHODOLOGY FOR
19 SHERCO SOLAR?

20 A. As noted by Mr. Chamberlain in his Direct Testimony, the Company
21 recognizes that the initial selection of Sherco Solar may create a conflict
22 between the resource selection process in Minnesota and the resource
23 selection process in North Dakota. The Company believes that Sherco Solar
24 is a prudent resource addition, particularly in light of recent market
25 developments, and it is a necessary addition for the Company to meet its 100
26 percent carbon free goals. At the same time, we recognize that under North
27 Dakota law and the Commission’s strict “need plus least cost” planning

1 priorities, the Commission may conclude that the Project as proposed is not
2 prudent and therefore ineligible for cost recovery. However, this does not
3 change the fact that the Project will fill an identified capacity need and will
4 serve the entire NSP System. As a result, the Company is proposing an
5 alternative cost assignment methodology to: (1) ensure that an appropriate
6 cost is recovered from North Dakota customers for the capacity and energy
7 provided by the Project to the integrated NSP System; and (2) preserve the
8 integrated nature of the NSP System for the benefit of all of the customers it
9 serves across five states.

10
11 Q. AT A HIGH LEVEL, WHAT DID MR. HEIDELL RECOMMEND WITH RESPECT TO
12 THE COMPANY'S PROXY PRICING PROPOSAL?

13 A. In addition to recommending denial of the Sherco Solar acquisition as
14 discussed above, Mr. Heidell recommended that the Commission deny the
15 Company's request for a proxy pricing mechanism. However, if the
16 Commission does approve proxy pricing, Mr. Heidell recommended several
17 conditions.

18
19 Q. WHAT CONDITIONS DID MR. HEIDELL RECOMMEND ON A POTENTIAL PROXY
20 PRICING MECHANISM FOR SHERCO SOLAR?

21 A. Mr. Heidell recommended the following conditions on the Commission's
22 potential approval of a proxy pricing mechanism for Sherco Solar:

- 23 (1) Set the capacity proxy cost using the cost of a brownfield CT assumption
24 in the Company's Supplemental IRP;
25 (2) Offset the proxy capacity cost by the expected energy market margins for
26 a brownfield CT;

- 1 (3) If MISO CONE is used as the capacity proxy, adjust it downward to reflect
2 the margins a CT would earn in the energy and ancillary services markets
3 (Mr. Heidell calls this “Net CONE”);
- 4 (4) Clarify that ND customers will only pay for the accredited capacity of
5 Sherco Solar, subject to the jurisdictional allocator, both as determined on
6 a yearly basis;
- 7 (5) Exclude ND customers from any future renewable integration costs of
8 Sherco Solar;
- 9 (6) Require periodic review of the commitment for ND customers to pay a
10 load-based share of the energy from Sherco Solar at MISO rates;
- 11 (7) Ensure ND customers are not allocated a share of the transmission costs
12 used to connect the new solar facilities to the existing substation; and
- 13 (8) Establish that the approval of proxy pricing is not precedential.
- 14

15 Q. DOES THE COMPANY AGREE WITH MR. HEIDELL’S PROPOSED CONDITIONS?

16 A. The Company disagrees with most of Mr. Heidell’s conditions but believes
17 some are acceptable. I will walk through the Company’s response to Mr.
18 Heidell’s recommendations at a high level, but Ms. Mandich provides more
19 detail in her Rebuttal Testimony.

20

21 **A. Capacity Costs**

22 Q. HOW DOES THE COMPANY PROPOSE TO ASSIGN THE COSTS OF THE SHERCO
23 SOLAR CAPACITY TO NORTH DAKOTA?

24 A. Because, at the time the Company issued the solar RFP that resulted in the
25 Sherco Solar project, the North Dakota plan in the IRP selected Firm
26 Dispatchable capacity as the least cost resource to fill the 2026 capacity need,
27 the Company has proposed to develop a capacity charge to North Dakota

1 based on firm dispatchable (*i.e.*, a CT) capacity that would be applied to the
2 Sherco Solar capacity value. Specifically, the Company proposes that the cost
3 of a generic new CT be determined using MISO's planning year 2024-2025
4 CONE price.

5
6 Q. WHY IS MISO CONE THE APPROPRIATE PROXY VALUE TO USE?

7 A. MISO CONE is the appropriate proxy price because it is developed by a third
8 party, it is updated annually, and it is the industry-standard estimate of the cost
9 of constructing a new CT. Mr. Chamberlain discussed MISO's process for
10 determining the CONE on an annual basis for each of its Local Resource
11 Zones in his Direct Testimony. Because it is independently developed using
12 market data, and is updated on an annual basis, the Company believes the
13 MISO CONE is preferable to other proxy values for the cost of CT capacity,
14 even those that are included in the Company's modeling assumptions in the
15 IRP.

16
17 Q. WHY IS IT APPROPRIATE TO USE CONE, A GREENFIELD CT PROXY, RATHER
18 THAN A BROWNFIELD CT PROXY, AS MR. HEIDELL SUGGESTS?

19 A. While the Sherco Solar project does reutilize the Company's existing
20 interconnection rights, it is a greenfield development and is not being
21 constructed on a brownfield site. Additionally, MISO CONE does not include
22 interconnection costs, which is appropriate here due to the reuse of the
23 Company's existing interconnection rights. Last, the CONE value is updated
24 annually and therefore provides the most appropriate proxy for the cost of a
25 new CT.

26

1 Q. IS MR. HEIDELL’S SUGGESTION OF A “NET CONE” PROXY PRICE OF
2 CAPACITY APPROPRIATE?

3 A. Ms. Mandich provides the Company’s response to Mr. Heidell’s suggestion of
4 a “Net CONE” proxy.
5

6 **B. Energy Costs**

7 Q. PLEASE REMIND US HOW THE COMPANY PROPOSED TO ASSIGN THE COSTS OF
8 THE ENERGY OF SHERCO SOLAR TO NORTH DAKOTA CUSTOMERS, IF AN ADP
9 FOR THE PROJECT IS NOT APPROVED.

10 A. If the Commission declines to grant an ADP for Sherco Solar, the Company
11 proposes to charge North Dakota customers for the energy produced by the
12 Project using a proxy price of the day-ahead LMP at the Project’s MISO
13 commercial pricing node. Specifically, the energy the Project produces would
14 be priced on an hourly basis using the day-ahead LMP at the Sherco Solar site
15 and these costs would be assigned to the North Dakota jurisdiction and
16 recovered through the FCR. This would ensure that North Dakota customers
17 pay no more than market rates for the energy that the Project provides to the
18 NSP System.
19

20 Q. WHAT DID MR. HEIDELL RECOMMEND WITH RESPECT TO THE COMPANY’S
21 PROPOSED ENERGY PROXY PRICE?

22 A. Mr. Heidell did not take a position on the appropriateness of using the day-
23 ahead LMP at Sherco Solar as a proxy for the energy costs of the project.
24

1 **C. Other Considerations**

2 Q. DID MR. HEIDELL MAKE ANY ADDITIONAL RECOMMENDATIONS REGARDING
3 A POTENTIAL PROXY PRICE?

4 A. Yes. Mr. Heidell recommended that if it approves a proxy pricing mechanism
5 for Sherco Solar, the Commission exclude North Dakota customers from any
6 future renewable integration costs associated with Sherco Solar. He also
7 recommended the Commission include a condition ensuring North Dakota
8 customers are not allocated a share of the transmission costs used to connect
9 the two solar facilities to the existing substations.

10
11 Q. DOES THE COMPANY AGREE WITH THESE CONDITIONS PROPOSED BY MR.
12 HEIDELL?

13 A. No. If the Commission approves a proxy pricing mechanism for recovering
14 the capacity costs of Sherco Solar, these conditions are unnecessary because
15 by definition, the Company would be recovering a proxy price, not the actual
16 cost of the Sherco Solar facility (including potential integration or transmission
17 costs). Furthermore, the Company's modeling indicates that interconnection
18 and integration costs of Sherco Solar will be minimal.

19
20 Q. DID MR. HEIDELL RECOMMEND ANY OTHER CONDITIONS?

21 A. Yes. Mr. Heidell recommended that even if the Commission approves a proxy
22 pricing mechanism for Sherco Solar, it should establish that such approval is
23 not precedential. Mr. Heidell also recommends that the Commission retain
24 the flexibility to participate in the Project in the future, because changes to tax
25 law or other factors may make Sherco Solar less costly than the proxy price or
26 other alternatives.

27

1 Q. WHAT IS THE COMPANY’S RESPONSE TO MR. HEIDELL’S RECOMMENDATION
2 REGARDING SETTING A PRECEDENT IN THIS CASE?

3 A. The Company understands the hesitancy on the part of Advocacy Staff to set
4 a precedent in this Case that could be applied to future acquisitions of
5 renewable resources by the Company. As a result, the Company would be
6 comfortable with a condition establishing that the proxy price approved in
7 this Case, should the Commission approve it, does not set a precedent for
8 future Company requests. At the same time, however, the different outcomes
9 in our resource planning analysis that originally resulted in Sherco Solar being
10 least cost in Minnesota while arguably not being so under North Dakota-based
11 assumptions indicates that the Company could continue to be caught between
12 the differing priorities of two of its jurisdictions in the future. Thus, this may
13 not be the last time the Company proposes an alternative cost assignment
14 mechanism in the interest of keeping the NSP System integrated for the
15 benefit of all of our customers.

16
17 I would also note that the South Dakota Public Utilities Commission
18 (SDPUC) has previously approved a similar proxy pricing methodology for
19 other solar resources added by the Company. Namely, the MISO CONE
20 capacity price is included in rates in the year there is a need for a particular
21 project and day-ahead LMP at the generator node is used as an energy pricing
22 proxy for the particular resource. So, while the Commission may be concerned
23 about setting a precedent in this Case, it would not be unprecedented to
24 approve such a mechanism.

25

1 Q. DOES THE COMPANY AGREE THAT NORTH DAKOTA SHOULD RETAIN THE
2 ABILITY TO JOIN THE PROJECT IN THE FUTURE, SHOULD THE COSTS FALL DUE
3 TO CHANGES IN TAX LAWS OR OTHER FACTORS?

4 A. No. The Company believes the Commission should make its decision with
5 respect to the Sherco Solar project now, in this proceeding. As discussed by
6 Ms. Mandich in her Rebuttal Testimony, the passage of the Inflation
7 Reduction resulted in a reduction of the LCOE of Sherco Solar below that of
8 the CONE and day-ahead LMP proxy price. In this way, the Commission has
9 already retained the ability to join the Sherco Solar project during the
10 pendency of this proceeding and it is no longer necessary to adopt an
11 alternative cost assignment mechanism. Instead, the Commission should
12 approve the ADP for the Sherco Solar project now.

13
14 **VI. PRESENTATION OF REBUTTAL WITNESSES**

15
16 Q. WHO ARE THE REBUTTAL WITNESSES FOR THE COMPANY IN THIS
17 PROCEEDING?

18 A. In addition to my Policy Testimony, the Company sponsors the following
19 rebuttal witness:

- 20 • Ms. Farah L. Mandich, Resource Planning Testimony.

21
22 **VII. CONCLUSION**

23
24 Q. PLEASE SUMMARIZE YOUR CONCLUSIONS.

25 A. The Company's proposed addition of Sherco Solar is prudent and the
26 Commission should grant an ADP for the Project. Developments in energy
27 policy and markets since the Company originally filed this case have further

1 demonstrated the prudence of the Project, to the point that it is least cost
2 under both Minnesota and North Dakota planning principles.

3

4 Q. DOES THIS CONCLUDE YOUR REBUTTAL TESTIMONY?

5 A. Yes, it does.

Al Krug

414 Nicollet Mall, 401-7th Floor
Minneapolis, MN 55401
allen.krug@xcelenergy.com
612-330-6270 (W)

EDUCATION

1980 University of California, Los Angeles
MA, Economics

1978 Queens College, City University of New York
BA, Economics

WORK EXPERIENCE

2013-Present **Xcel Energy Services, Inc., Minneapolis MN**
Associate Vice President, State Regulatory Policy

- Develop regulatory strategy for NSPM.

2008-2013 **Xcel Energy Services, Inc., Minneapolis MN**
Regional Vice President, Regulatory Administration

- Coordinate regulatory compliance and strategy for NSPM.

2003-2008 **Xcel Energy Services, Inc., Denver, Colorado**
Regulatory Consultant

- Develop regulatory strategy for Commercial Operations.
- Coordinate compliance activity.
- Coordinate internal and external audits of trading activity.

1998-2003 **Xcel Energy Services, Inc., Minneapolis, MN**
Manager Renewable Energy/Regulatory Contract Coordinator

- Develop corporate strategies for renewable energy development.
- Represent Company at state regulatory and legislative proceedings regarding renewable energy issues.
- Negotiate purchased power contracts for renewable energy.
- Manage Energy Market's regulatory interactions with internal and external stakeholders.

1994-1998

Minnesota Department of Commerce, St. Paul, MN
Supervisor, Electric Regulatory Unit

- Manage regulatory staff to participate in state regulatory proceedings before the Minnesota Public Utilities Commission.
- Submit expert testimony in regulatory proceedings.
- Represent the Department of Commerce before the Minnesota legislature.

1982-1994

Minnesota Department of Commerce, St. Paul, MN
Principal Statistical Analyst

- Submit expert testimony in regulatory proceedings.
- Perform economic and statistical analysis to support regulatory and energy policy initiatives.