

**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 Lyon County to
Sherburne County 345 kV Transmission Line

Case No. PU-23-_____

Exhibit____(FLM-1)

Resource Planning

March 23, 2023

Table of Contents

I.	Introduction and Qualifications	1
II.	Project Identification and Need	4
III.	Economic Analysis	11
IV.	Conclusion	16

Schedule

Statement of Qualifications

Schedule 1

1 **I. INTRODUCTION AND QUALIFICATIONS**

2
3 Q. PLEASE STATE YOUR NAME AND TITLE.

4 A. My name is Farah L. Mandich. I am Director of Resource Planning and
5 Bidding for Xcel Energy Services, Inc. (Xcel Energy), which supports the Xcel
6 Energy operating companies, including the applicant Northern States Power
7 Company-Minnesota (NSP or the Company). The Company provides electric
8 service to customers in Minnesota, North Dakota, and South Dakota
9 (collectively, the NSPM States). The Company’s affiliate, Northern States
10 Power, a Wisconsin corporation (NSPW), provides electric service to
11 customers in Wisconsin and Michigan. The Company and NSPW, together
12 under the Interchange Agreement, own and operate the five-state integrated
13 NSP System.

14
15 Q. PLEASE DESCRIBE YOUR QUALIFICATIONS AND EXPERIENCE.

16 A. I have worked for Xcel Energy since April 2019 in the areas of Regulatory
17 Affairs and Resource Planning. I have been in my current position since
18 September 2021. In my first role with the Company, in the Regulatory Affairs
19 department, I worked with cross-functional teams to develop Integrated
20 Resource Plan (IRP) and resource acquisition filings for NSP.

21
22 Prior to joining Xcel Energy, I worked as a Policy Advisor for Southern
23 California Edison, a large investor-owned utility in California. In this role, I
24 supported development of Integrated Resource Planning and resource
25 acquisition regulatory filings before the California Public Utilities
26 Commission. My statement of qualifications is provided as Exhibit___(FLM-
27 1), Schedule 1.

1 Q. WHAT ARE YOUR CURRENT RESPONSIBILITIES?

2 A. In my current role, I lead the Resource Planning team on the development of
3 resource plans and acquisitions for the NSP System, which provides electric
4 service to customers in North Dakota, South Dakota, Minnesota, Wisconsin,
5 and Michigan. This includes assisting the Company in making reasonable and
6 prudent acquisition decisions for electric generation resources.

7

8 Q. WHAT IS THE PURPOSE OF YOUR DIRECT TESTIMONY IN THIS PROCEEDING?

9 A. The purpose of my Direct Testimony is to describe the resource planning
10 context for, and support the prudence of, the Company's proposal to
11 construct and own the Lyon County to Sherburne County 345 kilovolt (kV)
12 Transmission Line (the Project). The Project will be an approximately 160-
13 to 180-mile double circuit transmission line connecting the existing Sherburne
14 County (Sherco) Substation (Sherco Substation) in Becker, Minnesota, to a
15 new substation in Lyon County, Minnesota, and other associated facilities (the
16 Project). The Project will enable the Company to interconnect and deliver
17 substantial amounts of new generation to the point of interconnection at the
18 Sherco Substation, optimizing the reuse of the Company's existing
19 interconnection rights that will become available as legacy units at Sherco
20 retire through the end of this decade. Our modeling shows that 2,750 MW
21 (nameplate) can be installed on the Project, to maximize delivery of energy
22 back through our total 2,000 MW of interconnection rights at the Sherco site.

23

24 Q. DO YOU BELIEVE THE COMPANY'S PROPOSED INVESTMENT IN THE PROJECT
25 IS PRUDENT?

26 A. Yes. The Company's economic analysis found that we can construct and
27 interconnect 2,750 MW of new generation via the Project, and it will save

1 customers approximately \$531 million versus interconnecting the same
2 amount on a Midcontinent Independent System Operator (MISO) system
3 basis. These estimated savings are based on a comparison of the most updated
4 estimated cost of the Project versus the assumed cost of interconnecting the
5 same 2,750 MW via the MISO interconnection queue over the same time
6 period. Additionally, the proposed transmission line will allow the Company
7 to reuse the valuable existing interconnection rights associated with the
8 existing Sherco Units 1 and 3, which are scheduled to retire in 2026 and 2030,
9 respectively. The retirement of these units will free up nearly 1,300 MW of
10 interconnection rights at the Sherco Substation (in addition to the
11 approximately 700 MW from Sherco 2 that is scheduled to retire in 2023).
12 Under the MISO Tariff, the Company must reuse the free interconnection
13 capacity within three years or we will lose the ability to utilize this valuable
14 asset on behalf of our customers. Given current constraints in the MISO
15 interconnection queue and the results of recent planning study cycles and
16 assigned interconnection upgrade costs, the interconnection rights associated
17 with the existing Sherco units are highly valuable. Therefore, the Company's
18 decision to construct and own the Project to maximize the value of these
19 existing interconnection rights is prudent and the ADP should be approved.

20
21 Q. HOW IS THE REMAINDER OF YOUR TESTIMONY ORGANIZED?

22 A. My testimony is organized as follows:

- 23 • First, I discuss the Project's development as part of the Company's
24 most recent resource plan and how it helps meet an identified need.
- 25 • Second, I discuss the economic analysis the Company performed on
26 the proposed Project as part of the IRP and for this Case.

1 **II. PROJECT IDENTIFICATION AND NEED**

2
3 Q. WHAT IS THE PURPOSE OF THIS SECTION OF YOUR DIRECT TESTIMONY?

4 A. In this section, I provide background and historical context regarding the
5 genesis of the Project during the Company’s most recent resource planning
6 cycle.

7
8 Q. PLEASE PROVIDE A BRIEF DESCRIPTION OF THE PROJECT

9 A. The proposed Project consists of an approximately 160- to 180 mile-long,
10 double circuit 345 kV transmission line and associated facilities connecting a
11 new endpoint substation in Lyon County, Minnesota to the existing Sherco
12 units’ Point of Interconnection (POI). The exact route of the Project will be
13 determined as part of a routing proceeding before the Minnesota Public Utilities
14 Commission (MPUC), expected to commence later this year. The Company
15 plans to place the Project in-service initially by September 30, 2027, with
16 additional substation equipment to come online as more resources come online,
17 and a final buildout to be complete by September 30, 2031. More details
18 regarding the Project are provided in the Direct Testimony of Company
19 witnesses Mr. Christopher Shaw and Mr. Jason Standing.

20
21 Q. HOW DID THE PROPOSED TRANSMISSION TIE-LINE COME ABOUT?

22 A. The Project was first proposed in the context of the Company’s 2020-2034
23 Upper Midwest Integrated Resource Plan (IRP), which was initially filed in
24 2019.¹ Specifically, the Company proposed the Project in 2021 as part of the
25 resource plan that was ultimately approved by the MPUC (Alternate Plan), to

¹ The IRP was filed in North Dakota in Case No. PU-19-220. In Minnesota, it is Docket No. E002/RP-19-368.

1 meet an identified need for interconnection capacity as well as enable the
2 Company to meet its identified capacity needs and carbon reduction goals.

3
4 Q. HOW DID THE COMPANY COME TO PROPOSE THE PROJECT TO HELP SUPPORT
5 THE GENERATION NEED IDENTIFIED IN THE IRP?

6 A. The Company's originally-proposed Preferred Plan included, among other
7 things, the addition of an 800 MW gas-fired combined cycle plant at the site
8 of the existing Sherco Generating Station (Sherco CC). In general, the
9 purpose of the Sherco CC was to support grid stability by retaining a
10 dispatchable resource at the Sherco site following the retirement of the Sherco
11 Generating Station coal units, generating substantial amounts of energy and
12 efficiently reutilize a portion of the interconnection rights associated with
13 those retiring units. However, many stakeholders in the Minnesota IRP
14 proceeding strongly opposed the addition of the Sherco CC and the pipeline
15 infrastructure that would be needed to bring the necessary gas supply to the
16 area, both from an environmental and cost perspective. As a result, in
17 developing our "Alternate Plan" for the IRP in 2021, the Company analyzed
18 an updated version of our preferred planning scenario that removed the
19 addition of the Sherco CC and added a transmission tie-line to (1) re-utilize
20 the available interconnection rights for the retiring Sherco coal units, and (2)
21 enable the interconnection of substantial renewable resources without the risk
22 of significant costs or delays and higher upgrade costs relating to the MISO
23 queue.

24
25 Q. WHY IS IT IMPORTANT TO REUSE THE EXISTING INTERCONNECTION RIGHTS
26 ASSOCIATED WITH THE SHERCO COAL UNITS?

27 A. As the Company has noted in several recent filings, existing transmission

1 capacity continues to be constrained in our region and beyond, often requiring
2 high upgrade costs to bring new generation projects online. Additionally,
3 transmission congestion is making it more difficult to deliver energy from
4 certain areas with high renewable penetration such as the Buffalo Ridge and
5 southwest Minnesota to the load and demand centers in clustered
6 municipalities and the Minneapolis-St. Paul metropolitan area. The Company
7 owns approximately 2,000 MW of interconnection rights at the Sherco
8 Substation POI, as well as substantial interconnection infrastructure at the site.
9 Given the high interconnection costs associated with greenfield renewable
10 projects in the MISO West region, this interconnection capacity presents a
11 significant opportunity for the Company to add large amounts of capacity that
12 are identified as needed in the IRP while avoiding the MISO interconnection
13 queue schedule and cost risk. As I discuss further below, under the MISO
14 Tariff, interconnection capacity associated with a retiring unit must be reused
15 by the Company within three years of retirement or the Company will lose
16 this valuable asset.

17
18 Q. WHAT ARE THE COMPANY'S RETIREMENT PLANS FOR THE THREE SHERCO
19 UNITS?

20 A. As described in prior filings to the Commission, the Company made the
21 decision as part of its 2015 resource planning cycle (Case No. PU-15-019) to
22 retire Sherco Unit 2 by the end of 2023 and Sherco Unit 1 by the end of 2026.
23 In the 2019 resource planning cycle (Case No. PU-19-220), the Company also
24 proposed to retire Sherco Unit 3 by the end of 2030. In each case, in
25 considering the retirement scenarios the Company performed economic and
26 reliability analyses, which demonstrated that customers would benefit from
27 the decision to retire relative to alternate scenarios in which the units were

1 kept online to their previous retirement dates without material adverse
2 impacts to reliability.

3
4 Q. HAVE THE SHERCO RETIREMENT DATES DISCUSSED ABOVE BEEN APPROVED?
5 In Minnesota, yes. The 2026, 2023, and 2030 retirement dates for Units 1, 2,
6 and 3, respectively, were approved as part of the MPUC's overall approval of
7 the Company's resource plan in each proceeding. In fact, the MPUC
8 affirmatively required the Company to retire Unit 3 by 2030.² In accordance
9 with the Settlement Agreement approved by the Commission in Case No. PU-
10 07-776, however, the Company files its Resource Plans in North Dakota for
11 informational purposes only, so the Commission did not take any action on
12 the Company's 2015 or 2019 IRPs.

13
14 Q. HOW DOES THE COMPANY PROPOSE TO REUTILIZE THE EXISTING
15 INTERCONNECTION RIGHTS ASSOCIATED WITH THE SHERCO UNITS?

16 A. The Company has requested an ADP for the 460 MW Sherco Solar project
17 (Case No. PU-21-152), which would meet an identified capacity need in the
18 IRP and allow the Company to retain the interconnection rights associated
19 with the retiring Sherco Unit 2. The Project proposed in this proceeding
20 would allow the Company to utilize the remaining interconnection capacity
21 that will become available when Sherco Units 1 and 3 retire. The Project will
22 enable the interconnection of substantial amounts of new capacity through
23 the Company's existing interconnection rights. Table 1 below shows the
24 planned retirement and required replacement dates for the existing Sherco
25 Units.

² The MPUC also ordered that NSP retire the Allen S. King generating plant by 2028.

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16

Table 1
Sherco Unit Retirement and Replacement Dates

	Unit 1	Unit 2	Unit 3
Capacity Retiring	720 MW	710 MW	566.4 MW ³
Replacement Generation Request Submitted to MISO ⁴	2025	2022 ⁵	2029
Sherco Unit Retirement Date	2026	2023	2030
Last Possible Commercial Operation Date of Replacement Generation Facilities ⁶	2029	2026	2033

- Q. PLEASE ELABORATE ON THE MISO RULES REGARDING TRANSFER OF INTERCONNECTION RIGHTS.
- A. The general timing rules for generator interconnection replacement set forth in Attachment X of the MISO Tariff require that: (1) a request for generator interconnection replacement be submitted at least one year prior to the date that an existing generation facility will cease operation, Attach. X § 3.7.1(ii), and (2) the expected commercial operation date for a replacement facility must be within three years of the date that the existing facility ceases operation, Attach. X § 3.3.1. The rules allow the owner of an existing facility to request that it replace the facility with another facility. The rules do not allow the owner of an existing facility to submit a request for a third party to build a replacement facility that will use the owner’s existing interconnection rights.

³ This amount represents Xcel Energy’s 59 percent ownership of Sherco Unit 3 (876 MW). The remaining capacity is owned by Southern Minnesota Municipal Power Agency.
⁴ The request for a replacement facility must be submitted to MISO at least one year prior to the date that the Existing Generating Facility will cease operation. MISO Tariff Attach. X § 3.7.1(ii). See below.
⁵ This request was submitted to MISO in December 2022.
⁶ Note that the dates in this table reflect MISO requirements and not the timing of resource needs identified in the IRP, which is earlier in some instances.

1 Q. DOES THIS MEAN THAT THE COMPANY WILL NEED TO OWN THE PROJECTS
2 THAT PROVIDE THE REPLACEMENT GENERATION?

3 A. Yes. To comply with the MISO rules, the Company will need to own
4 approximately the first 2,000 MW of generation, equivalent to the Company's
5 existing interconnection rights, which will utilize the Project to interconnect
6 at the Sherco Substation POI. However, the Company can exceed 2,000 MW
7 of installed capacity on the Sherco gen-tie, and any surplus capacity above that
8 level does not necessarily need to be owned by the Company. Our IRP
9 analyses indicated as much as 3,600 MW of renewable capacity could be
10 interconnected, to reutilize our rights and maximize the balance of energy and
11 capacity, while still respecting the POI limits. In total, our plan indicated this
12 would be made up of approximately 1,450 MW of solar and 2,150 MW of
13 wind, although the exact mix of resources eventually interconnected may vary.
14

15 Q. HAS THE COMPANY CONDUCTED AN ECONOMIC ANALYSIS OF THE PLANNED
16 RETIREMENT OF SHERCO UNIT 3 THAT INCLUDED THE FORECASTED COSTS OF
17 THE PROJECT?

18 A. Yes. As part of the IRP, NSP conducted an analysis of the economic impacts
19 of both the 2030 retirement of Sherco Unit 3 and the 2028 retirement of the
20 King facility and determined that they were economical even with the
21 inclusion of the cost of a generator tie-line.
22

23 Q. HAVE THERE BEEN ANY MAJOR POLICY DEVELOPMENTS SINCE THE
24 COMPANY'S MOST RECENT IRP WAS APPROVED?

25 A. Yes. On February 7, 2023, a new "100 percent by 2040" law was enacted in
26 Minnesota, which – in addition to requiring utilities to provide 100 percent
27 clean energy by 2040 – expands the previous Renewable Energy Standard

1 (RES) to require Xcel Energy to generate or procure 55 percent of its energy
2 used to serve Minnesota customers from renewables by 2035.⁷

3
4 The passage of this legislation only makes it even more important that the
5 Company maximize the use of its existing interconnection capacity and limit
6 its exposure to MISO queue risk as it seeks to transition its portfolio to comply
7 with this new law and meet our own carbon reduction goals.

8
9 Q. WHY DID THE COMPANY SELECT LYON COUNTY FOR THE ENDPOINT OF THE
10 PROJECT?

11 A. The Company is proposing an endpoint in Lyon County based on MISO queue
12 requests for wind generation in that area, along with the renewable resources
13 generally available in that region. To verify this decision, Xcel Energy
14 conducted a Request for Information (RFI) in June 2022 regarding wind and
15 solar generation in MISO Zone 1, with preference to projects in the vicinity of
16 Sherco, Lyon County, and areas between. The RFI specified that projects will
17 ultimately need to be designed with MISO generator interconnection
18 application requirements in mind and that only projects that can be built to a
19 quality standard of MISO interconnection requirements will be considered.

20
21 Q. WHAT WAS THE RESULT OF THAT RFI?

22 A. The results of the RFI confirmed the significant interest in renewable
23 development along the route and the appropriateness of a Lyon County
24 endpoint. Overall, responders identified a maximum potential build of 2,300
25 MW of solar, 7,600 MWh of energy storage and 4,214 MW of wind capacity,
26 well in excess of the 2,750 MW contemplated to connect with this Project. The

⁷ See Minn. Stat. § 216B.1691 as amended by Minnesota Session Laws 2023, Chapter 7.

1 Company also confirmed that the geographic center of the RFI responses was
2 located in Lyon County. Within 10 miles of that center, there were
3 approximately 2,200 MW identified, with an additional 1,500 MW within 25
4 miles. Xcel Energy will utilize its normal competitive solicitation processes in
5 the future, to procure projects for interconnection via the Project.

6
7 Q. GIVEN THE HIGH COST OF INTERCONNECTION VIA THE MISO QUEUE, IS THE
8 PROPOSED PROJECT COST EFFECTIVE?

9 A. Yes. Due to the efficient reuse of the Company's existing interconnection
10 rights and the ability to avoid the MISO queue, the Company estimates that
11 building and interconnecting the needed generation via the Project will result
12 in \$531 million NPV (\$2023) in savings for customers versus adding the same
13 amount of resources via the standard MISO queue process. In the next
14 section of my testimony, I discuss the economic analysis that the Company
15 performed to reach this conclusion.

16
17 **III. ECONOMIC ANALYSIS**

18
19 Q. WHAT IS THE PURPOSE OF THIS SECTION OF YOUR TESTIMONY?

20 A. In this section, I discuss the economic analysis that the Company performed
21 as we were developing the Project for inclusion in the Alternate Plan in the
22 IRP, and also provide an update on this analysis based on updated
23 assumptions underlying the analysis.

24
25 Q. HOW DID THE COMPANY ANALYZE THE POTENTIAL TIE-LINE?

26 A. In developing the Alternate Plan, the Company conducted significant
27 economic and reliability modeling to assess the viability and cost-effectiveness

1 of the Sherco gen-tie concept, with different configurations and amounts of
2 generation it could reliably deliver. The reliability analysis is further described
3 in the testimony of Mr. Jason Standing. In parallel, we subsequently developed
4 EnCompass economic modeling to confirm whether the Sherco gen-tie
5 concept could yield customer savings and support our carbon reduction goals,
6 while also meeting customer energy and capacity needs.

7
8 Q. AT A HIGH LEVEL, WHAT WAS THE RESULT OF THE COMPANY'S ANALYSIS?

9 A. As discussed further below, our analysis found that reusing the
10 interconnection at the Sherco Substation POI using a tie-line to areas with
11 rich renewable resources will result in customer savings, and we expect
12 nameplate renewable additions can exceed the approximately 2,000 MW of
13 the Company's remaining interconnection rights at the Sherco Substation
14 POI. This will both maximize our opportunities for accredited generation
15 replacement – per the MISO tariff rules discussed above – and fully optimize
16 energy flows on the transmission lines given the complementary nature of
17 wind and solar production.

18
19 Q. WHAT INTERCONNECTION COST ASSUMPTIONS DID THE COMPANY
20 INCORPORATE INTO ITS ALTERNATE PLAN ANALYSIS?

21 A. While system upgrade costs vary widely between project locations, rounds of
22 MISO study, and technology, we try to capture \$/kW upgrade costs we can
23 incorporate into our modeling that best represent what a project may, on
24 average, face to interconnect to the broader grid as a Network Resource (i.e.
25 to ensure capacity accreditation across the life of the project). In our IRP
26 analysis of the Alternate Plan, we assumed that interconnection costs will be
27 \$500/kW for wind and \$200/kW for solar (NPV \$2021). These assumptions

1 are consistent with those we used for greenfield CC and CT resources,
2 respectively. The assumed interconnection costs for greenfield renewables
3 reflect our understanding of the current MISO queue constraints and review
4 of the latest Definitive Planning Phase (DPP) process – where interconnection
5 costs are studied and assigned – at the time the IRP was being developed. The
6 process by which we determined these estimates is further discussed in Mr.
7 Standing’s testimony.

8
9 Q. ARE THESE INTERCONNECTION COST ASSUMPTIONS STILL VALID TODAY?

10 A. Yes. Mr. Standing discusses why we believe the interconnection cost
11 assumptions that we used in the Alternate Plan are still valid today. For the
12 updated analysis that I discuss below, the Company brought the IRP
13 interconnection cost assumptions up to 2023 dollars to account for
14 inflation—resulting in a \$564/kW assumed cost for wind interconnection and
15 \$225/kW for solar. Given the relatively high interconnection costs in MISO
16 for greenfield renewables, and the fact that we expect constraints to continue
17 for some time, re-using the Company’s interconnection rights at Sherco
18 provides for the best value to our customers.

19
20 Q. WHAT DID THE COMPANY ASSUME IN TERMS OF PROJECT CONFIGURATION
21 AND COSTS IN ITS ALTERNATE PLAN ANALYSIS?

22 A. In analyzing a potential Sherco generator tie-line as part of the Alternate Plan,
23 the Company originally assumed the construction of a double circuit 345 kV
24 transmission line approximately 140-175 miles in length, terminating at a
25 location in Lyon County, Minnesota. Based on these assumptions, in the
26 Alternate Plan the Company estimated the net present value (NPV) of the
27 capital investment required to build the tie-line needed to deliver

1 approximately 2,000 MW to Sherco to be \$528 to \$713 million (\$2021). When
2 updated for inflation, the NPV of this estimate in 2023 dollars is \$596 million
3 to \$805 million.

4
5 Q. DOES THE FACT THAT THE PROJECT IS NOW EXPECTED TO BE UP TO 180 MILES
6 IN LENGTH MATERIALLY CHANGE THE COST ESTIMATE?

7 A. No. The Company updated the cost estimate for the Project based on the
8 Project components required to deliver at approximately 2,000 MW from the
9 Lyon County area to the Sherco POI. Based on these components and a
10 double circuit transmission line approximately 180-miles long, the Project is
11 estimated to cost \$ 1.14 billion (\$2023); with an NPV of \$817 million (\$2023
12 NPV). In other words, when updating for the passage of time and a slightly
13 longer Project configuration, the current Project cost estimate is in line with
14 the cost assumptions from the IRP.

15
16 Q. USING THIS UPDATED PROJECT COST ESTIMATE, HOW DO THE ESTIMATED
17 INTERCONNECTION COSTS FOR THE PROJECT COMPARE TO MISO COST
18 ASSUMPTIONS?

19 A. The Company compared the Project to the generic interconnection cost
20 assumptions from the IRP (updated for inflation as described above)
21 assuming the interconnection of 2,750 MW, made up of approximately 2,150
22 MW of wind and 600 MW of solar. This MW value was used because it
23 accounts for the approximately 1,300 MW of interconnection capacity at the
24 retiring Sherco Units 1 and 3 – which will be replaced by generation that could
25 interconnect on the tie-line – plus the surplus that will be available on the
26 Project line. The Company needs to own the first 1,300 MW of these

resources, but the remainder could be either Company-owned or purchased power resources per MISO requirements.

Assuming the interconnection of 2,750 MW and a Project cost of \$817 million, the weighted average interconnection cost for the resources envisioned to be delivered by the Project is \$297/kW. Interconnecting the same amount of renewable generation on a MISO system basis would cost substantially more, approximately \$1.35 billion (\$2023 NPV) total and \$490/kW for the resources anticipated to be added, assuming interconnection costs of \$564/kW for wind and \$225/kW for solar. Table 2 below shows the results of this analysis.

Table 2
Comparison of Project Cost vs. MISO Queue

	Wind	Solar
MW in IRP reutilizing Sherco 1 and 3 interconnection rights	2,150	600
Assumed interconnection cost via MISO queue (\$2023/kW)	564	225
	MISO Queue	Sherco Gen-Tie Project
Weighted Average Interconnection Cost (\$/kW)	490	297
Total Cost @ 2,750 MW (NPV \$2023 millions)	1,348	817
Savings Associated with the Project, relative to MISO Interconnection (NPV \$2023 millions)		531

1 Q. WHAT DO YOU CONCLUDE FROM THIS ANALYSIS?

2 A. This analysis shows that when updated Project costs and generic MISO
3 interconnection costs are used, constructing and utilizing the Project to
4 interconnect 2,750 MW is anticipated to result in approximately \$531 million in
5 savings for customers. This represents a nearly 40 percent savings to
6 interconnect resources that are required to be added to meet the capacity need
7 identified in the Company's most recent IRP. Because the Project meets an
8 identified need for interconnection and will facilitate the delivery of needed
9 capacity and energy at a much lower cost to customers than if this generation
10 were added via the MISO queue, the Project is prudent.

11

12

IV. CONCLUSION

13

14 Q. DOES THIS CONCLUDE YOUR PRE-FILED DIRECT TESTIMONY?

15 A. Yes, it does.

Farah L. Mandich

Statement of Qualifications

Farah Ladan Mandich is Director of Resource Planning and Bidding for Northern States Power Company – Minnesota. She currently leads the Company’s Resource Planning team in the development of resource plans and resource acquisitions for the NSP System, which provides electric service to customers in North Dakota, South Dakota, Minnesota, Wisconsin, and Michigan. She has been in this role since September 2021; previously she did a one-year development rotation in the Resource Planning team as a specialist and acting team lead. Mandich initially joined Xcel Energy in April 2019 as a Regulatory Policy Specialist, where she was responsible for developing resource planning and resource acquisition regulatory filings for NSPM.

Prior to joining Xcel Energy, Mandich was a Policy Advisor at Southern California Edison (SCE), a large investor-owned utility in California. In this role, she supported development of Integrated Resource Planning and resource acquisition regulatory filings before the California Public Utilities Commission. Before working on California regulatory issues, Mandich was a Knowledge Specialist in global consultancy McKinsey & Company’s Electric Power & Natural Gas practice, where she served as a subject matter expert to both U.S. and international clients on North American utility and renewable energy markets.

Mandich received her Bachelor of Science in Economics from Texas Christian University and her Master of Public Policy from the University of Michigan’s Gerald R. Ford School of Public Policy.