

Surrebuttal Testimony and Schedule
Joseph Samuel

Before the Minnesota Public Utilities Commission
State of Minnesota

In the Matter of the Application of Xcel Energy for a Route Permit for the Minnesota
Energy Connection Project in Sherburne, Stearns, Kandiyohi, Wright, Meeker,
Chippewa, Yellow Medicine, Renville, Redwood, and Lyon Counties in Minnesota

MPUC Docket No. E-002/TL-22-132
OAH Docket No. 23-2500-39782

**Surrebuttal Testimony of Joseph Samuel
on behalf of
Xcel Energy**

October 22, 2024

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Schedules

Route Alternatives Cost Estimate (updated Appendix O to Draft Environmental Impact Statement)	Schedule 1
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1 I. INTRODUCTION

2

3 Q. PLEASE STATE YOUR NAME.

4 A. My name is Joseph Samuel.

5

6 Q. DID YOU PREVIOUSLY PROVIDE DIRECT TESTIMONY IN THIS CASE?

7 A. Yes. I provided direct testimony on behalf of Northern States Power
8 Company, doing business as Xcel Energy (Xcel Energy).

9

10 Q. WHAT IS THE PURPOSE OF YOUR SURREBUTTAL TESTIMONY?

11 A. The purpose of my Surrebuttal Testimony is to: (1) discuss the Settlement
12 Agreement filed in Docket Nos. CN-23-212¹ and RP-24-67² (Settlement
13 Agreement) as it relates to Minnesota Energy Connection Project (Project);
14 and, (2) clarify the Draft Environmental Impact Statement's (DEIS)
15 discussion of costs of the Project and route alternatives.

16

17 Q. WHY ARE YOU SUBMITTING THIS SURREBUTTAL TESTIMONY NOW?

18 A. I am submitting this Surrebuttal Testimony to provide additional information
19 that may be useful or of interest to the Administrative Law Judge and
20 stakeholders in advance of the upcoming public meetings and hearings in this
21 case.

22

¹ *In the Matter of Xcel Energy's Competitive Resource Acquisition Process for up to 800 Megawatts of Firm Dispatchable Generation*, MPUC Docket No. E002/CN-23-212, Joint Settlement Agreement (Oct. 2, 2024).

² *In the Matter of Northern States Power Co. d/b/a Xcel Energy 2024-2020 Integrated Resource Plan*, MPUC Docket No. E002/RP-24-67, Joint Settlement Agreement (Oct. 2, 2024).

1 Q. ARE YOU SPONSORING ANY SCHEDULES?

2 A. Yes. I am sponsoring one schedule, Schedule 1: Proposed Revisions to
3 Appendix O of the DEIS.

4
5 **II. SETTLEMENT AGREEMENT (CN-23-212 & RP-24-67)**

6
7 Q. HAVE YOU REVIEWED THE SETTLEMENT AGREEMENT FILED BY XCEL
8 ENERGY IN DOCKETS CN-23-212 AND RP-24-67?

9 A. Yes.

10
11 Q. DOES THE SETTLEMENT AGREEMENT MENTION THE PROJECT?

12 A. Yes. Under the Settlement Agreement, 2,800 megawatts (MW) of wind and
13 120 MW of standalone storage are projected to connect to the Project. The
14 Settlement Agreement further supports the selection, as a capacity resource,
15 of Xcel Energy's proposed Lyon County Generating Station, which would
16 also connect to the Project.

17
18 Q. WHAT IS THE PROPOSED LYON COUNTY GENERATING STATION?

19 A. The Lyon County Generating Station is Xcel Energy's proposal to construct
20 420 MW of combustion turbine generator capacity and associated facilities in
21 Lyon County, Minnesota, near the Project's Garvin Substation.

22
23 Q. IF THE LYON COUNTY GENERATING STATION IS APPROVED, WILL THE
24 PROJECT BE ABLE TO INTERCONNECT THE RENEWABLE RESOURCES REQUIRED

1 BY THE MINNESOTA PUBLIC UTILITIES COMMISSION’S (COMMISSION) 2019
2 INTEGRATED RESOURCE PLAN (IRP) ORDER?

3 A. Yes. The 2019 IRP Order stated that Xcel Energy demonstrated that “it will
4 need approximately 600 MW more solar-powered generation and 2,150 MW
5 of wind-powered generation [on the Project]—or an equivalent amount of
6 energy and capacity from a combination of wind, solar, and/or storage.”³

7
8 As recognized in the settlement, even with the Lyon County Generating
9 Station, the Project can and would be expected to interconnect 2,920 MW of
10 wind and storage, 170 MW more of generation than approved in the 2019 IRP
11 Order.

12
13 Q. COULD THE PROPOSED LYON COUNTY GENERATING STATION IMPACT THE
14 ASSOCIATED FACILITIES NEEDED FOR THE PROJECT?

15 A. Yes. As stated in the Direct Testimony of Jason Standing,⁴ the Lyon County
16 Generating Station, as proposed, could replace two of the synchronous
17 condensers that would otherwise be needed for the Project at the Garvin
18 Substation.⁵ Xcel Energy previously estimated that two synchronous
19 condensers would cost approximately \$120 million; Xcel Energy is now
20 updating its analysis regarding these facilities and anticipates that those cost
21 estimates will rise, generally due to the same factors I discussed in my Direct
22 Testimony.

23

³ 2019 IRP Order at p. 14.

⁴ Direct Testimony of Jason Standing (Sept. 6, 2024) (eDocket No. [20249-210020-04](#)).

⁵ *Id.* at 5-6.

1 Q. IS XCEL ENERGY SEEKING A PERMIT FOR THE RENEWABLE ENERGY
2 RESOURCES OR THE LYON COUNTY GENERATING STATION IN THIS
3 PROCEEDING?

4 A. No. Those facilities will be subject to separate permitting processes.
5

6 **III. COST OF PROJECT & ROUTE ALTERNATIVES PRESENTED IN**
7 **DEIS**
8

9 Q. HAVE YOU REVIEWED THE COST AND SCHEDULE INFORMATION IN THE DEIS?

10 A. Yes. I have reviewed the DEIS, with particular attention to issues related to
11 cost and schedule.
12

13 Q. HOW DOES THE DEIS PRESENT COST COMPARISONS AMONG ROUTE
14 ALTERNATIVES?

15 A. The costs presented numerically in the DEIS appear to be based on a per-mile
16 calculation of \$3.8 million per mile.⁶ Although the DEIS separately discusses
17 variables which may further affect the costs of an alternative, it does not
18 appear to me that the DEIS quantifies these variables for any specific route.
19

20 Q. HAS XCEL ENERGY PREPARED COST ESTIMATES FOR THE ROUTE
21 ALTERNATIVES STUDIED IN THE DEIS?

22 A. Yes. In response to a Supplemental Information Inquiry from EERA, Xcel
23 Energy prepared cost estimates for the route segment alternatives studied in
24 the DEIS. Those estimates are included in Appendix O of the DEIS. In

⁶ See, e.g., DEIS at 57, Table 6-13, and Table 17-4 n.2. This per-mile estimate is consistent with Section 2.8 of the Route Permit Application. My Direct Testimony provided updated cost estimates for the Project, including an estimate of approximately \$4.4 million per mile. See Direct Testimony of Joseph Samuel at 4 (Sept. 6, 2024) (eDocket No. [20249-210020-03](#)) (Samuel Direct).

1 **Schedule 1** to this Surrebuttal Testimony, I propose updates to Appendix O
2 of the DEIS to also include corresponding cost estimates for full Route
3 Options C and D, as identified in the DEIS, as well as Xcel Energy's Preferred
4 Route. As shown in Schedule 1, full Route Options C and D are expected to
5 cost more than Xcel Energy's Preferred Route, as well as the Blue and Purple
6 Routes.

7
8 Q. DO THE COST ESTIMATES IN APPENDIX O AND SCHEDULE 1 REFLECT THE
9 COST AND SCHEDULE UPDATES YOU DESCRIBED IN YOUR DIRECT
10 TESTIMONY?

11 A. No. In my Direct Testimony, I stated that the transmission line is now
12 anticipated to cost approximately \$4.4 million per mile based on Xcel Energy's
13 Preferred Route due to the change in Project schedule and other factors
14 impacting overall costs.⁷ The analysis supporting the cost estimates in
15 Appendix O preceded my Direct Testimony and, as such, does not reflect
16 these updates. To allow for comparison, the cost estimates in Schedule 1 for
17 Route Options C and D were prepared using the same methodology as
18 Appendix O. I note that, although the estimated cost of route options varies
19 due to a variety of factors, I generally anticipate that the cost and schedule
20 updates I described in my Direct Testimony would affect the cost of the route
21 alternatives on generally the same magnitude.

22
23 Q. ARE XCEL ENERGY'S COST ESTIMATES BASED ONLY ON A COST-PER-MILE
24 CALCULATION?

25 A. No. Although Xcel Energy's estimates began with a cost-per-mile estimate,
26 the estimates my team prepared account for additional variables that impact

⁷ Samuel Direct at 4.

1 cost, including structure counts and types, and the need to relocate existing
2 distribution.

3
4 Q. AS BETWEEN THE DEIS COST ESTIMATES AND XCEL ENERGY'S COST
5 ESTIMATES FOR THE ROUTE ALTERNATIVE STUDIED IN THE DEIS, WHICH
6 ESTIMATES ARE LIKELY TO BETTER ESTIMATE COSTS?

7 A. The cost estimates prepared by Xcel Energy are likely to be a better estimate
8 for purposes of comparison because they account for variables (beyond
9 mileage) that can impact costs. Although per-mile estimates are a useful place
10 to start from when comparing potential costs, as discussed in Section 5.9 of
11 the DEIS, there are other variables that also impact costs, and Xcel Energy's
12 estimates include consideration of some of these factors, as well.

13
14 **IV. CONCLUSION**

15
16 Q. DOES THIS CONCLUDE YOUR SURREBUTTAL TESTIMONY?

17 A. Yes, it does.

Samuel Surrebittal
Schedule 1

T-Line Project Group Breakouts:	Total \$'s by Group (Blue Route)	Total \$'s by Group (Purple Route)	Total \$'s by Group (Blue OM1 + OSS Route - Mod Orange)	Total \$'s by Group (Blue/Purple GS-ESC SS-ESC)	Total \$'s by Group (Blue/Purple GS-ESD SS-ESD)
			Xcel Preferred Route	Route C	Route D
Line Notes:					
Line / Route Miles - \$/Mile Adder	174.7	171.0	175.8	179.4	177.6
Structure Count	922	933	929	970	962
# of Parcels in Route	729	743	719		
Distribution Relocates (LF)	120,000	146,000	148,000	186,000	163,000
Route Alt Total (With AFUDC)	\$ 760,400,000	\$ 780,100,000	\$ 766,000,000	\$ 808,400,000	\$ 798,800,000
Green Route (Sherco Solar West -Sherburne County Sub) (With AFUDC)	\$ 6,521,000	\$ 6,521,000	\$ 6,521,000	\$ 6,521,000	\$ 6,521,000
T-line Total (With AFUDC)	\$ 766,921,000	\$ 786,621,000	\$ 772,521,000	\$ 814,921,000	\$ 805,321,000
Blue Route Variance With AFUDC	\$ -	\$ (19,700,000)	\$ 5,600,000	\$ 48,000,000	\$ 38,400,000
Purple Route Variance With AFUDC	\$ 19,700,000	\$ -		\$ 28,300,000	\$ 18,700,000
Green Route (Sherco Solar West -Sherburne County Sub - Miles)	3.1	3.1	3.1	3.1	3.1
Total Project Miles:	177.8	174.1	178.9	182.5	180.7
Cost / Mile With AFUDC	\$ 4,313,391	\$ 4,518,214	\$ 4,318,172	\$ 4,465,321	\$ 4,456,674