Direct 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

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

Direct Testimony of Joseph Samuel
on behalf of
Xcel Energy

September 6, 2024

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Schedule

I. INTRODUCTION AND QUALIFICATIONS

Q. PLEASE STATE YOUR NAME AND BUSINESS ADDRESS.

A. My name is Joseph Samuel, and my business address is 414 Nicollet Mall, Minneapolis, Minnesota 55401.

Q. BY WHOM ARE YOU EMPLOYED AND IN WHAT CAPACITY?

A. I am employed as a Senior Transmission Project Manager by Xcel Energy Services Inc. (XES), the service company provider for Northern States Power Company, doing business as Xcel Energy (Xcel Energy). As part of my job responsibilities, I am the Project Manager for the Minnesota Energy Connection Project (Project) that includes two 345 kilovolt (kV) generation tie lines (Gen-Ties). I am primarily responsible for scope, cost, schedule, and risk management of the Project.

Q. PLEASE DESCRIBE YOUR QUALIFICATIONS AND EXPERIENCE.

A. I obtained a Bachelor of Science in Civil Engineering from the University of Minnesota in 1993. I have held multiple municipal engineering and engineering consulting positions over the past 30 years. I am a Professional Engineer licensed in Colorado, Minnesota, South Dakota and Wisconsin and am a Certified Project Management Professional.

I joined Xcel Energy as a Senior Project Manager for XES in March 2011. I am responsible for managing the budget and schedule of multi-million-dollar transmission line and substation projects. I manage and oversee construction of transmission line and substation projects. I also manage project execution of multi-disciplined teams with internal and external stakeholders and act as

the liaison between the Company and community stakeholders. My resume is attached as **Schedule 1**.

Q. FOR WHOM ARE YOU TESTIFYING?

A. I am testifying on behalf of the applicant in this proceeding, Xcel Energy.

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

A. The purpose of my testimony is to provide information regarding the Project's schedule and cost.

Q. ARE YOU SPONSORING ANY PORTIONS OF THE ROUTE PERMIT APPLICATION (APPLICATION) SUBMITTED BY XCEL ENERGY FOR THE PROJECT?

A. Yes. I am sponsoring the following sections of the Application:

- 2.4 Transmission Structure and Conductor Design
- 2.7 Project Schedule
- 2.8 Project Costs
- 5.2 Construction Procedures
- 5.4 Maintenance Procedures

II. PROJECT SCHEDULE

Q. WHAT IS XCEL ENERGY'S ANTICIPATED SCHEDULE FOR COMPLETING THE PROJECT?

A. The Application identified an expected permitting and construction schedule with an in-service date of the Gen-Ties in the third quarter of 2027, and the final Project facilities installed by the third quarter of 2031. The Project

schedule has been updated as shown in Table 1, with the Gen-Ties being in-service in the third quarter of 2028. This reflects an 11-month delay in the in-service date for the Project, initially scheduled for third quarter 2027.

Table 1: Schedule

Activity	Estimated Dates
Certificate of Need/Route Permit	March 2025
Land survey access and land acquisition	June 2024 - 2025
Required federal, state and local permits obtained	Q2 2025 – Q2 2026
Start Project construction	Q1 2026[1]
Gen-Ties in-service (1,000 MW enabled)	Q3 2028
Project Complete with all substations built out	Q4 2031

Q. WHY IS THE PROJECT SCHEDULE BEING PUSHED BACK?

A. The Project schedule is being pushed back to reflect U.S. Army Corps of Engineers permitting requirements, which are discussed further in the Direct Testimony of Matthew Langan.

III. PROJECT COSTS

Q. WILL THE CHANGE IN IN-SERVICE DATE AFFECT THE PROJECT COSTS?

A. The 11-month in-service date delay will result in additional costs due to the timing of expenditures and Allowance for Funds Used During Construction (AFUDC).

[1] Tree clearing is scheduled for Q1 2026 with facility construction to commence in Q2 2026.

Q. ARE THERE OTHER FACTORS AFFECTING PROJECT COSTS?

A. Yes. The Project estimates are affected by multiple factors, including land values, anticipated distribution relocations and transmission crossings, and commodity prices. The final Project costs will be dependent on additional factors, including the final route, soil conditions, and materials pricing.

Q. WHAT ARE THE CURRENT UPDATED PROJECT COSTS?

A. The cost of the Project will depend, in part, on the route selected by the Commission. As summarized in Table 2 below, the total Project costs for the two routes/design options proposed in the Application are updated using 2024$ unit costs,[2] the addition of two synchronous condensers at the Garvin Substation, and the removal of a STATCOM at the voltage support substation based on the additional analysis described in the Direct Testimony of Jason Standing. The estimated Project cost for the Preferred Route described in the Direct Testimony of Matthew Langan is also provided. The total Project costs range from $1.274 billion to $1.302 billion 2024$, including escalation and AFUDC. These costs include all transmission line costs, right-of-way costs, risk contingencies for the transmission line and cost for substation modifications at the Sherco Solar West, Sherco, Voltage Support, Intermediate, and Garvin substations. The transmission line is expected to cost approximately $4.4 million per mile (including land acquisition). The costs are shown in Table 2.

[2] The costs were estimated using 2024$ units for costs, with AFUDC and escalated to the date of expenditures.

Table 2: Total Project Costs			
Route Option	**Purple Route/Green Segment Estimated Cost**	**Blue Route/Green Segment Estimated Cost**	**Preferred Route Estimated Cost**
Transmission Line	$811.7 million	$783.7 million	$789 million
Green Segment	$6.6 million	$6.6 million	$6.6 million
Sherco Solar West Substation Modifications	$12.1 million	$12.1 million	$12.1 million
Sherco Substation Modifications	$10.6 million	$10.6 million	$10.6 million
Voltage Support Substation[3]	$85.4. million	$85.4 million	$85.4 million
Intermediate Substation	$19.3 million	$19.3 million	$19.3 million
Garvin Substation[4]	$356.4 million	$356.4 million	$356.4 million
Total	$1.302 billion	$1.274 billion	$1.279 billion

IV. CONCLUSION

Q. PLEASE SUMMARIZE YOUR CONCLUSIONS.

A. As outlined above, the Project is estimated to cost between $1.274 billion to $1.302 billion depending on route selected. The Project Gen-Ties are expected

[3] Cost of STATCOM has been removed from Application estimate (-$169.6 million (2024$ unit cost)).

[4] Cost of two additional synchronous condensers have been added to the Application estimate (+$120 million (2024$ unit cost)).

to be in service in the third quarter of 2028. All Project facilities are expected to be installed by the fourth quarter of 2031.

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

A. Yes, it does.

JOSEPH M. SAMUEL, PE, PMP LEED AP®

Professional Profile
Professional Engineer and Project Management Professional with 30-years of experience providing professional expertise to private entities, municipalities and the power utility industry. Successful approach to challenging projects. Accomplished and dynamic project leader representing clients, advocating for their interests, and bringing together cross-functional teams.

Areas of Expertise

- Regulatory Approvals/Client Representation
- Underground Construction
- Design/Build Process
- LEED Accreditation / PMP Certification
- Project Budgeting/Cost Analysis
- Team Leader

Professional Licensures / Certifications

- Professional Engineer, licensed in CO, MI, MN, SD, and WI
- National Council of Examiners for Engineering and Surveying (NCEES) record holder
- Project Management Institute - Certified Project Management Professional
- United States Green Building Council (USGBC) - Leadership in Energy and Environmental Design Accredited Professional
- MNDOT/MPCA - Stormwater Pollution Prevention Plan Certified Designer & Certified Site Manager
- Xcel Energy Path to Leadership – Dec 2013

Engineering Experience

Senior Project Manager March 2011 – Present
Xcel Energy (Transmission) - Minneapolis, Minnesota

- Responsible for managing budget and schedule of multi-million dollar transmission line and substation projects
- Design, manage and oversee Construction of overhead & underground transmission lines and substation projects
- Liaison between Xcel, Community, and the public during planning, design and construction phases of a project
- Manage project execution of multi-disciplined teams with internal and external stakeholders

Senior Project Manager November 2008 – March 2011
MSA Professional Services - Oakdale, Minnesota

- Developed and staffed satellite office for 300-person Wisconsin based consulting firm expanding into the Minnesota marketplace
- Responsible for strategic business development and competitive public & private bid selection process
- Responsible for presenting project team, objective and costs during competitive bidding process
- City engineer / liaison for municipality with public and utility companies
- Reviewed and evaluated bids/selection process for city projects
- Designed/construction oversight of municipal infrastructure projects
- Managed the daily operations of multi-discipline design team, & completion of individual projects.
- Office manager responsible for administrative as well as corporate office demands, including staff hiring/retention and development

JOSEPH M. SAMUEL, PE, LEED AP®

Project Manager / Senior Professional Engineer June 1999 - November 2008
RLK-Incorporated - Minnetonka & Oakdale, Minnesota
- Strategic planning for 150-person consulting firm working in a competitive market environment; managed activities of branch office
- Assembled cross disciplined teams to respond to public and private sector request for proposal for planning, design and construction projects
- Prepared environmental planning documents and preliminary / final design documents for public and private clients in municipal, commercial, industrial, and residential markets.

Project Manager September 1995 - June 1999
Melchert Walkky, Inc. - Saint Paul, Minnesota
- Designed and reviewed grading, utility and street construction plans; performed hydrology and hydraulic computations for project sites.
- Computed construction quantities and engineer estimates; wrote construction specifications, prepared project budgets, construction timetables and issued payment requests.

Combat Engineer March 1989 - March 1997
United States Marine Corps - Minneapolis, Minnesota
- Supervised 24 Marines in the Combat Engineer section.
- Awarded 1992 MWSS 471-Det A Marine of the Year.
- Certificate of Commendation - Operation Desert Storm.

Engineer December 1993 - September 1995
Probe Engineering Company, Inc. - Burnsville, Minnesota
- Designed and supervised drafting of preliminary and final construction, grading / erosion control plans, computed hydrology analysis and impact studies for future land developments.

Engineering Intern April 1992 - December 1993
City of Oakdale Engineering Department - Oakdale, Minnesota
- Reviewed construction plans and acted and construction representative for City
- Acted as a liaison between City and utility companies.

Published Articles / Volunteer and Membership / Education

Published Articles
- National Association Industrial and Office Properties (NAIOP) “Brownfield Redevelopment”, 2005
- CE News “Project Case Study: Mixed use meets stakeholders needs”, Nov 2007
- Transmission & Distribution World “Xcel Energy Replaces Underground Transformer”, Dec 2011

Volunteer and Membership
- Otter Lake Elementary Outdoor Classroom, since 2017
- Minnesota Society of Professional Engineers, since 2014
- Xcel Energy – Volunteer Participant, since 2011
- Project Management Institute MN – since 2011
- City of Oakdale Veterans Memorial Committee, 2011

Education
University of Minnesota Civil Engineering Department, Minneapolis, Minnesota: Bachelor of Civil Engineering