

October 5, 2023

Will Seuffert, Executive Secretary  
Minnesota Public Utilities Commission  
121 7<sup>th</sup> Place East, Suite 350  
St. Paul, MN 55101-2147

RE: EERA Comments and Recommendations on Scoping Process  
Minnesota Power HVDC Modernization Project  
Docket No. E015/TL-22-611  
Docket No. E012/CN-22-607

Dear Mr. Seuffert,

Attached are comments and recommendations of Department of Commerce, Energy Environmental Review and Analysis (EERA) staff in the following matters:

In the Matter of the Application of Minnesota Power for a Certificate of Need for the HVDC Modernization Project in Hermantown, Saint Louis County

In the Matter of the Application of Minnesota Power for a Route Permit for a High Voltage Transmission Line for the HVDC Modernization Project in Hermantown, Saint Louis County

EERA staff is providing the Commission with a summary of the scoping process for the environmental assessment that will be prepared for the Minnesota Power HVDC Modernization Project. Staff recommends that the applicant's proposed route and one alternative be studied in the environmental assessment. Staff is available to answer any questions the Commission may have.

Sincerely,



Jenna Ness  
Environmental Review Manager  
Energy Environmental Review and Analysis  
651-539-1693 | [jenna.ness@state.mn.us](mailto:jenna.ness@state.mn.us)

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## BEFORE THE MINNESOTA PUBLIC UTILITIES COMMISSION

### ENERGY ENVIRONMENTAL REVIEW AND ANALYSIS COMMENTS AND RECOMMENDATIONS

### MINNESOTA POWER HVDC MODERNIZATION PROJECT DOCKET NOS. E012/CN-22-607 AND E015/TL-22-611

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**Date:** October 5, 2023

**EERA Staff:** Jenna Ness | 651-539-1693 | [jenna.ness@state.mn.us](mailto:jenna.ness@state.mn.us)

**In the Matter of the Application of Minnesota Power for a Certificate of Need for the HVDC Modernization Project in Hermantown, Saint Louis County**

**In the Matter of the Application of Minnesota Power for a Route Permit for a High Voltage Transmission Line for the HVDC Modernization Project in Hermantown, Saint Louis County**

**Issues Addressed:** These comments and recommendations address the environmental assessment (EA) scoping process and those alternatives which Department of Commerce staff recommends for inclusion in the scope of the EA.

Additional documents and information can be found on eDockets:

- <https://www.edockets.state.mn.us/EFiling/search.jsp> (22-607 and 22-611) and;
- The Department of Commerce's website: <http://mn.gov/commerce/energyfacilities>.

This document can be made available in alternative formats (i.e., large print or audio) by calling 651-539-1530 (voice).

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## Introduction and Background

On June 1, 2023, Minnesota Power filed a combined certificate of need and route permit application with the Minnesota Public Utilities Commission (Commission) to modernize and upgrade the Minnesota terminal of its 465-mile Square Butte High-Voltage Direct Current (HVDC) transmission line and interconnect the upgraded HVDC terminal to the existing alternating current (AC) transmission system near the Arrowhead Substation in Hermantown, Minnesota.<sup>1</sup> Subsequently, the Commission found both applications to be complete. Department of Commerce (Department) and Commission staff held public information and scoping meetings regarding the project on August 29 and August 30, 2023.<sup>2</sup>

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<sup>1</sup> Minnesota Power HVDC Modernization Project, Application to the Minnesota Public Utilities Commission for a Route Permit for a Large Electric Generating Facility, June 1, 2023, eDockets Numbers [20236-196333-02](#) (through -16) and [20236-196346-02](#), hereinafter the Route Permit Application.

<sup>2</sup> Notice of Public Information and Environmental Assessment Scoping Meetings, August 4, 2023, eDockets Number [20238-198002-01](#).

The comments that follow describe the scoping process for the EA that will be prepared for the project. Following the Commission's review of these comments, and based on any Commission input, the Department will finalize and issue the scoping decision for the EA.

## Project Purpose

Minnesota Power indicates that the project is needed to modernize aging HVDC assets, continue to position the transmission grid for clean energy transition, and improve the reliability of the transmission system.<sup>3</sup> Due to increased HVDC outages and equipment failure, the orderly replacement of the HVDC terminal equipment is prudent to ensure continuous efficient delivery and expansion of Minnesota Power's renewable energy resources into the future.<sup>4</sup> In addition to the replacement of the existing HVDC terminal, the new HVDC technology would be designed to provide key reliability attributes including voltage regulation, frequency response, blackstart capability, and bidirectional power transfer capability.<sup>5</sup> Minnesota Power purchased the Square Butte HVDC Line in 2010 which has been operating for 45 years with the Commission's approval<sup>6</sup>.

## Project Description

Minnesota Power proposes to modernize and upgrade the Minnesota terminal of its Square Butte line and interconnect to the existing AC transmission system near its Arrowhead Substation in Hermantown, Minnesota. The project includes the construction of approximately 40 acres of new terminal facilities and high voltage transmission lines (HVTL) to connect those facilities to each other and the existing electrical grid<sup>7</sup>. The new HVDC terminal is proposed to connect to the existing alternating current system by constructing a new St. Louis County 345 kilovolt (kV)/230 kV substation near the current Arrowhead Substation<sup>8</sup>. The new HVDC terminal would be connected to the St. Louis County Substation by less than one mile of 345 kV HVTL. The new St. Louis County substation would be connected to the existing Arrowhead Substation by two parallel 230 kV HVTLs less than one mile in length<sup>9</sup>. Additionally, a short portion of the existing  $\pm 250$  kV HVDC line will need to be reconfigured to terminate at the new HVDC terminal<sup>10</sup>.

Updates and expansions are also required at the other end of the Square Butte line in North Dakota subject to regulation by the North Dakota Public Service Commission.<sup>11</sup> The project includes enabling bi-directional transmission while maintaining the same voltage and power transfer capability along the Square Butte HVDC line.<sup>12</sup> The project is currently scheduled to be placed in service between 2028 and 2030.<sup>13</sup>

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<sup>3</sup> Route Permit Application, Section 3.1.

<sup>4</sup> Id.

<sup>5</sup> Id.

<sup>6</sup> Docket No. E015/PA-09-526

<sup>7</sup> Route Permit Application, Section 2.1.2.

<sup>8</sup> Route Permit Application, Section 1.1.

<sup>9</sup> Id.

<sup>10</sup> Id.

<sup>11</sup> Route Permit Application, Section 1.3.

<sup>12</sup> Route Permit Application, Section 1.1.

<sup>13</sup> Route Permit Application, Section 1.3.

## Regulatory Process and Procedures

The proposed HVDC Modernization Project requires two approvals from the Commission – a certificate of need and a route permit. On August 8, 2023, the Commission issued an order accepting the HVDC Modernization Project certificate of need and route permit application as complete and authorized joint hearings and combined environmental review for these two approvals.<sup>14</sup> Accordingly, EERA staff are preparing an EA that will address the HVDC Modernization Project's certificate of need and route permit applications.

The first step in preparing the EA is scoping. The purpose of scoping is to provide citizens, local governments, tribal governments, and agencies an opportunity to focus the EA on those issues that are relevant to the proposed project.

## Scoping Process Summary

EERA and Commission staff held a public information and scoping meeting regarding the HVDC Modernization Project on August 29, 2023, in Cloquet, Minnesota. Approximately 15 people attended this meeting; six attendees provided public comments, all but one expressing concerns with and requesting mitigation measures for the project.<sup>15</sup> One commenter representing the Laborers' International Union of North America thanked the applicant for using organized labor union on past projects. The other commenters generally detailed the following concerns:

- The space the project will take up along with the number of trees to be removed, impacting a rural sense of place;
- Impacts to humans and property bordering the project area;
- Mitigating impacts to nearby federally listed species, wetlands, water bodies, and the trout stream;
- Minnesota Power's facility lifespan, future plans for expansion, rate increases, decommissioning of an existing terminal, allowance for public use of project land, assurance for maintenance of a natural buffer for neighbors, construction work timing, and project road access; and
- Generally: aesthetics, noise, light pollution, native revegetation, historic artifacts, dust abatement, and flora and fauna impacts.

The following evening, August 30, 2023, the Commission and EERA held a remote-access public meeting. Approximately four people attended this meeting, and while no one made an official comment, one person asked several questions on the record.

## Comments Received

A comment period, ending on September 13, 2023, provided the public an opportunity to submit comments to EERA staff on potential impacts and mitigation measures for consideration in the scope of the EA. Written comments were received during this comment period from one community member and the applicant.<sup>16</sup>

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<sup>14</sup> Commission Order, August 8, 2023, eDockets Number [20238-198074-02](#).

<sup>15</sup> Oral Comments on Scope of Environmental Assessment, eDockets No. [20239-198862-01](#).

<sup>16</sup> Compiled Public Comments, eDockets No. [202310-199399](#).

On September 12, 2023, the Commission extended the public comment period through September 23, 2023.<sup>17</sup> Written comments were received during this comment period from three community members, the applicant, a transmission utility, one state agency, and one local unit of government.

### ***Applicant***

During the initial comment period, Minnesota Power submitted a comment letter: (1) expanding their proposed route by a parcel to the north and a parcel to the northeast as shown on Map 1, and (2) requesting that the expanded route be included for analysis in the EA.<sup>18</sup>

Minnesota Power followed up during the extended comment period: (1) requesting an extension to provide their reply to additional scoping comments which included alternatives,<sup>19</sup> and (2) submitting their reply to the additional scoping comments and alternatives.<sup>20</sup> Their reply requested that the alternative proposed by American Transmission Company LLC not be studied in the EA, and that their commitments in response to the scoping comments from the Minnesota Department of Natural Resources be included in the EA.

### ***Minnesota Department of Natural Resources (DNR)***

DNR comments focused on the routing of transmission lines over a designated trout stream.<sup>21</sup> DNR requested that the applicant coordinate with the agency regarding the location and number of crossings of the trout stream, and that the EA analyze impacts to the trout stream. DNR expressed concern for mineral resources and a unique natural resource, the northern goshawk, in the project area. DNR also asked for more project details such as decommissioned components, and suggested possible mitigation strategies for the project.

### ***American Transmission Company LLC (ATC)***

ATC's comments focused on an alternative that would eliminate Minnesota Power's proposed St. Louis County substation and instead connect the applicant's new HVDC terminal to the electrical grid by connecting to ATC's existing Arrowhead substation, which is directly south of the applicant's existing Arrowhead substation (Map 2).

ATC emphasizes that this alternative will meet the same project needs while reducing costs and impacts to the environment and community because a new substation is not needed to achieve the project's purposes. Specifically, ATC recommends the EA study the following:

- Identify impacts that each project facility will have on surrounding resources and land cover types.
- Address cost estimates associated with each project facility.
- The proposed alternative, hereinafter the "ATC Alternative".

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<sup>17</sup> See Notice of Extended Comment Period, September 12, 2023, eDockets No. [20239-198883-02](#).

<sup>18</sup> Scoping Comments of Minnesota Power, September 13, 2023, eDockets No. [20239-198914-01](#).

<sup>19</sup> Request to Respond to Scoping Alternatives, September 20, 2023, eDockets No. [20239-199053-02](#).

<sup>20</sup> Scoping Comments of Minnesota Power, September 29 and October 2, 2023, eDockets Nos. [20239-199286-01](#) and [202310-199303-01](#) respectively.

<sup>21</sup> Scoping Comments of the Minnesota DNR, September 22, 2023, eDockets No. [20239-199095-01](#).

### ***Other Comments***

The Solway Town Board of Supervisors highlights concerns from residents near the project by requesting that the footprint be minimal and that every effort be made to keep lighting and noise levels as low as possible. The three community members who commented reiterated these concerns.

### **EERA Staff Comments and Analysis**

Staff provides comments here on route alternatives, the scope of EA, and on a rule variance related to issuance of the EA scoping decision.

#### ***Proposed Route Alternatives***

With respect to route or route segment alternatives, Commerce is charged with including only those alternatives that will assist in the Commission's "ultimate decision on the permit application."<sup>22</sup> When proposed during scoping, EERA analyzes alternative routes or route segments using five criteria:

- Was the alternative submitted in a timely manner, that is, within the public comment period?
- Does the alternative contain an explanation of why the route should be included?<sup>23</sup>
- Is the alternative outside areas prohibited in Minnesota Rule 7850.4300?
- Does the alternative meet the applicant's stated need for the project?
- Is the alternative feasible, that is, can the alternative be constructed and is it permissible by state and federal agencies with authority for construction or operation of the project?

If an alternative meets the above criteria, EERA then considers if its evaluation in the EA would aid in the Commission's decision on the permit application. This includes comparing the alternative to the applicant's proposed route and other alternatives that could avoid or mitigate the impacts described by the proposer. If the suggested alternative impacts relatively more human and environmental resources, it is likely that the alternative would not aid in the Commission's decision on the permit application.

EERA used the above criteria to analyze route segments proposed during the scoping process. EERA finds that all proposals were timely, avoid prohibited areas, meet the stated need for the project, and appear feasible. EERA believes that the applicant's expanded route width and the ATC Alternative would aid in the Commission's decision on the route permit application.

#### ***Need for the Project***

Minnesota Power's stated need for the project includes: "To modernize aging HVDC assets that are critical to the grid, continue to position the grid for the clean energy transition, and improve the reliability of the transmission system in Minnesota and North Dakota... The orderly replacement of the HVDC terminal equipment is prudent to ensure continuous efficient delivery (and expansion) of Minnesota Power's renewable, carbon-free energy resources into the future... HVDC technology implemented for the Project will be designed to provide voltage regulation, frequency response,

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<sup>22</sup> Minn. R. 7850.3700, subp. 2.

<sup>23</sup> *Ibid.* (Staff interprets this text to require that for route or route segment alternatives to be included in the scope of the EA, an alternative must mitigate a potential impact of the project. The proposer need not provide extensive supporting data, but must provide enough explanation to ensure potential impacts being mitigated by the alternative is clear and understandable).

blackstart capability, and bidirectional power transfer capability, all of which will enable Minnesota Power and the region to continue to support its clean energy transition reliably.”<sup>24</sup>

To EERA staff’s understanding, ATC’s proposed alternative could meet the stated need for the project by interconnecting the project’s upgraded HVDC system through a different transmission pathway. Minnesota Power has noted that ATC’s proposal is not feasible and raises several concerns including, but not limited to, complexity, risks, costs, outages, and the need for power flow studies and approvals.<sup>25</sup> EERA does not have expertise with respect to the electrical grid’s engineering, power flows, or reliability. EERA expresses no opinion here on such matters, including the concerns raised by Minnesota Power. However, as a general proposition, EERA staff believes that further development of the record regarding ATC’s proposed alternative and Minnesota Power’s concerns would aid in the Commission’s decision on Minnesota Power’s combined certificate of need and route permit application.

### ***Expanded Route Width***

On September 13, 2023, Minnesota Power filed scoping comments requesting to expand their proposed route.<sup>26</sup> This expanded route is included as an attachment to this document as Map 1 and represents a notable change from the route that was proposed in the application. As detailed by Minnesota Power in their comments, this expansion impacts one new landowner and will need to be included in the EA for additional analysis. This landowner has been notified of project details and milestones concurrently with Minnesota Power’s scoping comments.

Additional information will be needed for EERA to evaluate the impacts of the expanded route width. EERA will request new information on the expanded route width from Minnesota Power or other sources as necessary to complete the analysis of potential impacts.

### ***Routing Alternatives – Human and Environmental Impacts***

Minnesota Power’s proposed route and ATC’s alternative route connect nearly the same endpoints and traverse nearly the same geography (Maps 1 and 2). Both are likely to require tree clearing; both would cross a known trout stream. With the information currently in the record, EERA staff cannot say that ATC’s alternative route would clearly have greater human and environmental impacts than Minnesota Power’s proposed route. Accordingly, staff believes inclusion of ATC’s alternative route in the scope of the EA would aid in the Commission’s decisions regarding the project.

## **Scope of Environmental Assessment**

With respect to the scope of the EA and alternative routes for the project, EERA staff recommends studying the ATC Alternative proposed during scoping to develop a more robust record for the Commission’s decisions. EERA staff will also study Minnesota Power’s proposed route and expanded route width in the EA.

With respect to the comments of the DNR, EERA staff will include in the EA, as appropriate, discussion of impacts to the designated trout stream, decommissioning of project components, metallic mineral and aggregate potential, and state-listed species of special concern. In response to ATC’s comments, EERA

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<sup>24</sup> Route Permit Application, Section 1.2.

<sup>25</sup> Scoping Comments of Minnesota Power, September 29 and October 2, 2023, eDockets Nos. [20239-199286-01](#) and [202310-199303-01](#) respectively.

<sup>26</sup> Scoping Comments of Minnesota Power, September 13, 2023, eDockets No. [20239-198914-01](#).



staff will include in the EA, as appropriate, discussion of impacts of each project facility on surrounding resources and land cover types, as well as cost estimates. Lastly, EERA will address the Solway Town Board of Supervisors and their community members' concerns with noise and lighting.

## **Rule Variance**

Minnesota Rule 7850.3700, subpart 3 requires that the Department issue an EA scoping decision within 10 days of the close of the scoping comment period. EERA finds that the 10-day schedule is insufficient to accommodate the procedural steps necessary to issue the scoping decision – preparing EA scoping comments and recommendations for the Commission, receiving the Commission's response, and issuing a scoping decision. Accordingly, EERA believes that a variance of the rule is appropriate. A variance would ensure that sufficient time is provided for development and issuance of the scoping decision.

Minnesota Rule 7829.3200 allows the Commission to vary its rules when it determines that the following requirements are met:

- A. Enforcement of the rule would not impose an excessive burden upon the applicant or others affected by the rule;
- B. Granting the variance would not adversely affect the public interest; and
- C. Granting the variance would not conflict with standards imposed by law.

EERA staff believe that these requirements are met for a variance of Minnesota Rule 7850.3700, subpart 3. Granting a variance furthers the public interest by allowing enough time to develop an informed and robust scoping decision without imposing an excessive hardship on the applicant. Further, a variance would not conflict with any standards imposed by law.

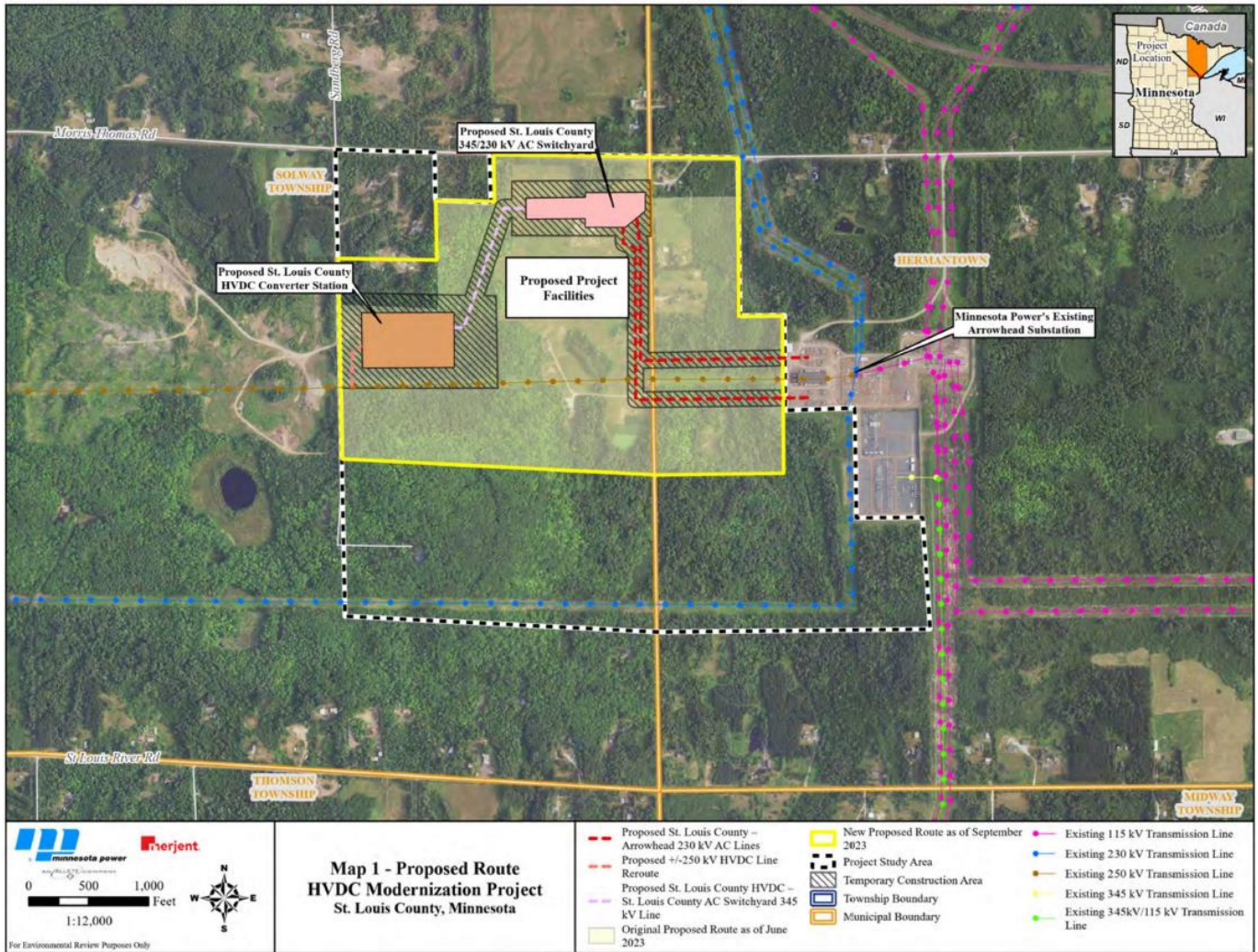
## **EERA Staff Recommendations**

EERA staff recommends that Minnesota Power's proposed route, including the expanded route width, and the ATC Alternative be included in the EA scoping decision.

To EERA staff's understanding, if the Commission takes no action, the Department will proceed to finalize and issue an EA scoping decision as described herein. If the Commission takes action, the Department will incorporate the Commission's input and will finalize and issue an EA scoping decision that reflects this input.

Additionally, EERA staff recommends that the Commission vary Minnesota Rule 7850.3700, subpart 3, to allow time for Commission input regarding the scope of the EA and preparation of the scoping decision.

## Map 1: Minnesota Power Route Width Expansion





This aerial map illustrates the Arrowhead Switchyard Expansion project. A pink dashed line outlines the proposed future 345kV lines, which run from the existing Arrowhead switchyard (labeled 'Arrowhead0') towards the northwest. The map shows the existing switchyard infrastructure, including buildings and equipment, and the surrounding landscape of trees and fields. Roads are labeled, including 'Sundberg Rd' and 'Sunny Rd'. A scale bar indicates distances in feet (0, 200, 400). The ATC logo is visible in the bottom left corner.