

BEFORE THE MINNESOTA OFFICE OF ADMINISTRATIVE HEARINGS  
600 North Robert Street  
St. Paul, MN 55101

FOR THE MINNESOTA PUBLIC UTILITIES COMMISSION  
121 Seventh Place East, Suite 350  
St. Paul, MN 55101-2147

OAH Docket No. 5-2500-39600

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

MPUC Docket No. E015/CN-22-607

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

MPUC Docket No. E015/TL-22-611

## **THE DEPARTMENT OF COMMERCE'S REPLY BRIEF**

### **INTRODUCTION**

The proposal to modernize Minnesota Power's 465-mile, 250-kV Square Butte HVDC transmission line satisfies the legal requirements for granting a certificate of need and route permit. The record amply establishes that the Project is in the public interest and that Minnesota Power's application for a certificate of need and route permit should be granted.

The Commission should decline ATC's suggestion that the Commission eliminate the permit condition that limits the power flow through ATC's Arrowhead substation. If ATC wants a modification of the permit, it should follow the Commission's established process for seeking such a modification.

## **DISCUSSION**

### **I. The Commission Should Grant a Certificate of Need and Route Permit for the Project**

No party disputes that the proposed Project meets all of the criteria for issuance of a certificate of need and route permit. The Project is necessary to assure the continued reliability of a transmission line that, for many years, has provided Minnesota Power customers in northeast Minnesota with access to wind power generated in North Dakota. The Project will replace facilities that have long out-lived their useful lives and that, due to an inadequate supply of replacement parts, are becoming more challenging to repair. The Project will reduce outages and associated costs as well as enable the implementation of new technology that will permit more efficient operation of the power grid. If the line were to fail, this would not only impose substantial costs but could imperil accomplishing Minnesota's carbon-free by 2050 objective. Other than, potentially, the ATC alternative proposal, there is no reasonable and prudent alternative to the Project. The Project is consistent with all legal requirements.

The Department's Energy and Environmental Review Analysis unit (EERA) completed an Environmental Assessment (EA) that adequately reviewed human and environmental identified in the scoping decision including impacts of both Minnesota Power's proposal and ATC's alternative and measures that could be taken to minimize those impacts. Comments filed by EERA on April 15 suggested minor corrections to the EA, recommended special permit conditions to mitigate potential environmental impacts, and recommended route permit modifications consistent with route permits granted in recent cases. The EERA's suggestions are in the public interest and should be adopted.

Finally, the Department takes no position regarding whether the Minnesota Power proposal or the ATC alternative is preferable. Each alternative offers its own advantages and disadvantages

and the Department discussed those advantages and disadvantages in its opening brief. The Department lacks the technical expertise necessary to opine regarding the engineering issues that the parties' raise.

## **II. The Department's Response to Issues Raised in the Parties' Briefing**

Although the Department has not drawn a conclusion as to which of the two competing alternatives the Commission should select, it does offer the following comments regarding certain arguments the parties advanced in their briefing.

### **A. ATC's criticisms of the process that Minnesota Power engaged in are not relevant to the issues to be determined in this proceeding**

ATC devotes several pages of its opening brief to criticizing Minnesota Power for its lack of coordination with MISO and its lack of coordination with ATC.<sup>1</sup> In particular, ATC complains that Minnesota Power failed to submit its proposal through MISO's MTEP process before commencing this proceeding, which prevented stakeholders, including ATC, from providing their input on the proposal.<sup>2</sup> According to ATC, had Minnesota Power "vetted" the Project through MTEP, "[m]uch of the debate in this proceeding concerning the point of interconnection for the Project could have been avoided."<sup>3</sup> ATC also objects that, after two years of the parties' collaborating on the Project, Minnesota Power "completely changed course."<sup>4</sup>

The Commission should give these process-related concerns little or no weight in its consideration of this case. These concerns are not relevant to any of the criteria that apply to determining whether to grant a certificate of need and route permit, nor do they help the

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<sup>1</sup> See ATC Opening Brief at 12-16.

<sup>2</sup> ATC Opening Brief at 13.

<sup>3</sup> *Id.*

<sup>4</sup> *Id.* at 14-15.

Commission to decide whether the Minnesota Power proposal or the ATC alternative represents the better solution.

**B. The ATC Alternative Does Not Offer a Material Benefit in Terms of Reduced Line Losses**

ATC argues that one of the reasons why its alternative is superior is that “It will produce lower overall system losses than the Minnesota Power Proposal, meaning there will be more energy available from the HVDC Line to meet the needs of Minnesota Power’s customers.”<sup>5</sup> Although this is technically true, the benefit is so small as to not be worthy of consideration. According to ATC’s own witness, the ATC alternative would result in loss of just one fewer MW, compared to Minnesota Power’s proposal.<sup>6</sup> A one MW difference does not provide a reason for preferring the ATC alternative.

**C. ATC Has Not Shown that Its Alternative will Not Result in Net Power Flows from Minnesota Into Wisconsin**

Selecting the ATC alternative would require removal of a Phase Shifting Transporter (PST) that is installed at ATC’s Arrowhead substation that prevents power flows from the substation and into Wisconsin from exceeding 800 Mega Volt Amps (MVA).<sup>7</sup> The PST, thus, gives effect to the permit condition, initially imposed by the Minnesota Environmental Quality Board, that requires that power flows through the substation be limited to 800 MVA.<sup>8</sup> The parties dispute the effect of removing the PST.

Minnesota Power estimates that flows into Wisconsin will be as much as 7% to 10% of the power on the line, to the detriment of Minnesota customers who will be paying for the line and

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<sup>5</sup> *Id.* at 25-26.

<sup>6</sup> Ex. ATC-228 at 12 (Dagenais Direct).

<sup>7</sup> Hrg. Tr. at 108-09 (Dagenais); Ex. ATC-228 at 9 (Dagenais Direct); Ex. DOC-DER 602 at 18 (Zajicek Rebuttal).

<sup>8</sup> The permit condition is discussed below.

should receive its benefits.<sup>9</sup> ATC asserts that Minnesota Power's concern "completely misunderstands how electricity is transmitted and delivered to customers on the modern transmission system."<sup>10</sup> ATC criticizes the accuracy of Minnesota Power's attempt to quantify the amount of power as "not necessarily representative of how the system would operate at all points in time during a given year."<sup>11</sup> ATC, however, does not deny that elimination of the PST, which limits power flows through the substation, will result in more power from the line flowing into Wisconsin. Indeed, ATC's witness, Mr. Dagenais stated, "While MP's analysis suggests that the Arrowhead Substation Alternative could result in additional power flow into Wisconsin, that will not necessarily be true under all operating scenarios and at all times."<sup>12</sup> Thus, ATC only contends that Minnesota Power has over-stated the extent of increased power flow into Wisconsin, not that there will not be an increase.

ATC argues that the increased flow of power from Minnesota to Wisconsin via ATC's Arrowhead substation would be offset by lower flows on other transmission lines into Wisconsin. ATC does not provide any detailed analysis that clearly demonstrates the "net" effect of eliminating the 800 MVA limit. ATC points to a study that it contends shows that network flows from Minnesota Power's system to ATC's system would be similar under either alternative.<sup>13</sup> However, ATC has not explained the study upon which it relies or how it supports that conclusion. The study falls short of proving that any increase in the flow through the Arrowhead substation into Wisconsin will be offset by reduced flow on other lines.

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<sup>9</sup> MP Opening Brief at 60-61; *see also* Ex. DOC DER 602 at 18 (Zajicek Rebuttal); Ex. 121 at 38 (Winter Direct).

<sup>10</sup> ATC Opening Brief at 49.

<sup>11</sup> Ex. DOC DER 601, MZ-R-5 (Zajicek Rebuttal).

<sup>12</sup> Ex. ATC-245 at 38 (Dagenais Rebuttal).

<sup>13</sup> Ex. ATC-228 at 39 (Dagenais Direct).

**D. Both Parties' Construction Cost Estimates are Flawed**

Minnesota Power's customers will be paying the cost of the Project regardless of which alternative the Commission chooses, so cost is necessarily an important factor in the Commission's consideration of the two proposals. The initial construction cost of the ATC alternative will be less than the Minnesota Power proposal, owing to the simple fact that Minnesota Power would construct a new substation for the purpose of interconnecting with the AC system while ATC would use its existing substation for that purpose.

Minnesota Power and ATC have both provided their estimates to attempt to quantify the cost difference. Both estimates rely on flawed assumptions, particularly with respect to land cost, which must be taken into account in comparing the costs of the two proposals.

ATC contends that the best estimate of the cost of the Arrowhead Substation Alternative, including a tax gross-up for assets purchased by ATC and reimbursed by Minnesota Power, is \$45.5 million.<sup>14</sup> ATC's estimate includes \$500,000 for an easement associated with the double-circuit kV line between the new DC converter station and the Arrowhead substation.<sup>15</sup> It does not, however, include any costs to acquire land for the new converter station, which is part of the ATC alternative.<sup>16</sup> In this way, the ATC estimate understates the cost of land acquisition necessary for its proposed alternative but the record does not contain information upon which to base an opinion as to the amount of the understatement.

Minnesota Power's estimate, in contrast, overestimates the land costs for the ATC alternative. Minnesota Power argues that the estimate for the ATC project must be increased by \$10 million for land acquisition costs. Its rationale for using this number is that this is the amount

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<sup>14</sup> ATC Opening Brief at 54; Hrg. Tr. at 131 (Johanek).

<sup>15</sup> Hrg. Tr. at 121 (Dagenais).

<sup>16</sup> Hrg. Tr. at 137 (Johanek).

that Minnesota Power has incurred for land acquisition costs for the project.<sup>17</sup> Minnesota Power's reasoning is flawed. The land cost for Minnesota Power's proposed 345kV station should not be included in ATC's costs. Even if MP has already acquired this land, if ATC's alternative is chosen it would not be used and thus would not meet the criteria for cost recovery from ratepayers.

Minnesota Power claims that "ATC admitted that the ATC Arrowhead Alternative and the HVDC Modernization Project were equal in cost."<sup>18</sup> The testimony upon which Minnesota Power relies does not support this claim. On cross examination, ATC's witness, Mr. Johanek, was asked to assume equal land costs for the two projects. This is not a reasonable assumption. The configurations of the two alternatives are different and there is no reason to believe land acquisition costs of the two different projects will necessarily be equal.

### **III. The Commission Should Not Address Removal of the 800 MVA Limit Without a Formal Request**

Both Minnesota Power and ATC have commented on a permit condition initially imposed by the Minnesota Environmental Quality Board (MEQB) that limits power flows through the Arrowhead Substation to 800 Mega Volt Amp (MVA).<sup>19</sup> Minnesota Power and ATC agree that one consequence of selecting the ATC Arrowhead alternative would be to increase power flows above the 800 MVA limit, thus requiring that the permit condition be removed if that alternative were to be selected. To the extent the Commission addresses this issue, it should do so in response to a formal request rather than as an afterthought in this proceeding in order to allow for full consideration of the costs and benefits of removing the limit.

The MEQB order that imposes that 800 MVA limit further provides:

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<sup>17</sup> Ex. 130 at 35-36 (Winter Rebuttal).

<sup>18</sup> MP Opening Brief at 45, *citing* Hrg. Tr. at 138-140.

<sup>19</sup> See MP Opening Brief at 63-66; ATC Opening Brief at 72-73; see also DOC Opening Brief at 12-13.

Minnesota Power shall apply to the Minnesota Environmental Quality Board under section 116C.57 for authorization to make any changes in the Arrowhead substation that would allow Minnesota Power to increase the capability of the substation to transmit power over the transmission line beyond 800 MVA.<sup>20</sup>

As a result of 2005 legislation, responsibility for siting issues for large electric power facilities was transferred from the MEQB to the Commission, so this issue now falls within the scope of the Commission's jurisdiction.<sup>21</sup>

As the current owner of the Arrowhead substation, ATC would have the ability to request that the 800 MVA limit be lifted. ATC asserts that the 800 MVA limit no longer serves any useful purpose and also that it is unconstitutional.<sup>22</sup> Nevertheless, it has not requested that the Commission remove the limit, other than in rebuttal testimony and briefing filed in this case.<sup>23</sup>

The Commission's rules describe the process for amending a site permit.<sup>24</sup> That process requires a request for amendment and notice and an opportunity for public comment on the requested amendment. Following this process need not result in any undue delay. The process can be completed quickly if there are no disputed issues – the rule provides for a comment period of not less than ten days with a Commission decision within ten days of the close of the public comment period – but it cannot be simply ignored. To the extent that ATC wishes to have the 800 MVA permit condition removed, it should follow the process set out in the Commission's rules.

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<sup>20</sup> Ex. 121, Schedule 31 at 5 (Winter Direct).

<sup>21</sup> Minnesota Session Laws 2005 (Regular Session), Chapter 97, Article 3, <https://www.revisor.mn.gov/laws/2005/0/97/#laws.3.3.0>.

<sup>22</sup> ATC Opening Brief at 72.

<sup>23</sup> See Hrg. Tr. at 110-111 (Dagenais); ATC Opening Brief at 3.

<sup>24</sup> Minn. R. 7850.4900.



## CONCLUSION

The Department recommends that the Commission:

1. Grant Minnesota Power's application for certificate of need and a route permit;
2. Adopt permit conditions proposed by Minnesota Power and the Department of Natural Resources, as discussed in EERA's April 15 comments, in order to mitigate potential environmental impacts;
3. Modify the sample route permit filed by Commission staff, as discussed in EERA's April 15 comments, to include language adopted in recent Commission dockets.
4. Direct Minnesota Power to provide information regarding the milestones for obtaining federal funds from the GRIP round 1 funding and what portion of those funds might be lost if there are delays that cause the project to not be completed by the 60-month deadline prior to making its decision.

Dated: May 22, 2024

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