

BEFORE THE MINNESOTA PUBLIC UTILITIES COMMISSION

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Nancy Lange  
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John A. Tuma

Chair  
Commissioner  
Commissioner  
Commissioner  
Commissioner

In the Matter of the Application of  
Minnesota Power for a Route Permit for the  
Great Northern 500 kV Transmission Line  
Project in Roseau, Lake of the Woods,  
Beltrami, Koochiching, and Itasca Counties

ISSUE DATE: April 11, 2016

DOCKET NO. E-015/TL-14-21

ORDER ISSUING ROUTE PERMIT  
WITH MODIFICATIONS

**PROCEDURAL HISTORY**

**I. The Route Permit Application**

On April 15, 2014, Minnesota Power (the Applicant) filed an application for a route permit for the Great Northern 500 kV Transmission Line Project in Roseau, Lake of the Woods, Beltrami, Koochiching, and Itasca and St. Louis Counties (the project). The Applicant filed its application under the full permitting process set forth in Minn. Stat. § 216E.03 and Minn. R. 7850.1700 – 2700 and 7850.4000 – 4400.

On April 15, 2014, Minnesota Power applied to the United States Department of Energy for a Presidential Permit to cross the United States/Canadian border in Roseau County.<sup>1</sup> The Department of Energy and the Minnesota Department of Commerce Energy Environmental Review and Analysis unit (EERA) elected to conduct a single environmental review for the project. On October 29, 2014, Minnesota Power filed an amendment to the route permit and Presidential permit applications changing the proposed location of the international border crossing approximately 4.3 miles east of the original proposed border crossing location.

On July 2, 2014, the Commission issued an Order Finding Application Complete and Referring Matter to the Office of Administrative Hearings. The order also adopted the EERA's recommendation to form advisory task forces to assist in determining the scope of the Environmental Impact Statement (EIS). The Commission subsequently modified the format and charge of the advisory task forces.

On August 5, 6, 12, and 13, 2015, Administrative Law Judge (ALJ) Ann O'Reilly conducted combined public and evidentiary hearings in Roseau, Baudette, Littlefork, Kelliher, Bigfork, and Grand Rapids. The public comment period and administrative record, with the exception of receipt of the Final EIS, closed September 1, 2015.

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<sup>1</sup> The Department of Energy acts as the federal joint lead agency with the Minnesota Department of Commerce acting as the state joint lead agency.

On January 4, 2016, the Office of Administrative Hearings issued its Findings of Fact, Conclusions of Law, and Recommendation (ALJ Report).<sup>2</sup>

On January 19, 2016, Minnesota Power filed exceptions to the ALJ Report. On February 3, 2016, the Minnesota Department of Natural Resources (DNR) filed its exceptions.

On February 5, 2016, Minnesota Power filed objections to the DNR exceptions, arguing that DNR's comments were neither timely nor those of a party. The Company requested that if the objections were accepted by the Commission, it would also allow the Company's response into the record, and the Commission granted the request.

The U.S. Fish and Wildlife Service filed comments on February 12, 2016, and the Commission decided to take administrative notice of the filing.

On February 26, 2016, the Commission met to consider the matter.

## **II. The Environmental Impact Statement**

On June 20, 2014, the Commission issued a Notice of Public Information and Environmental Impact Statement Scoping Meeting jointly with the Minnesota Department of Commerce (Department). Eight public meetings were held in the cities of Roseau, Baudette, Littlefork, International Falls, Kelliher, Bigfork, and Grand Rapids between July 16 and July 24, 2014 to provide project information and to identify issues and route alternatives to be addressed in the EIS. Public comments were accepted until August 15, 2014.

On January 9, 2015, the deputy commissioner of the Department of Commerce issued the EIS Scoping Decision, in accordance with Minn. R. 7850.3700, subp. 2. The Scoping Decision identified 22 route segment alternatives and nine alignment modifications to be evaluated, as well as the two route alternatives (the Orange and the Blue alternatives) identified by Minnesota Power in its application.

The EERA and the Department of Energy filed a draft EIS on the proposed project June 19, 2015.

The EERA filed portions of the final EIS (FEIS) on October 30, 2015, and the remaining portion of the FEIS on December 18, 2015. The FEIS responded to timely substantive comments on the draft EIS, consistent with the scoping decision.

## **FINDINGS AND CONCLUSIONS**

### **I. The Project**

The project is a 500 kilovolt (kV) high-voltage transmission line (HVTL) to be located between the province of Manitoba in Canada and the Blackberry Substation in Itasca County. The project is part of a joint effort with Manitoba Hydro to construct a new Canada-United States transmission

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<sup>2</sup> The ALJ issued Amended Findings of Fact, Conclusions of Law, and Recommendation correcting minor formatting inaccuracies on January 14, 2016.

interconnection. The transmission line is intended to deliver power generated by Manitoba Hydro's hydroelectric stations in Manitoba to the United States, and also to allow power from the United States to be delivered to Canada.<sup>3</sup>

The Great Northern transmission line is an overhead single-circuit alternating current transmission line that will cross the international border into and across Roseau, Lake of the Woods, Beltrami, Koochiching, and Itasca Counties. The project includes construction of associated substation facilities, a 500 kV series compensation station, and a proposed Iron Range 500 kV substation located adjacent to Applicant's Blackberry Substation near Grand Rapids.

As recommended by the ALJ and approved by the Commission, with the Effie Variation, discussed herein, the total line length is approximately 224 miles.

## **II. The Legal Standard**

The project is subject to Minn. Stat. Chapter 216E, which requires that high-voltage transmission lines be routed consistent with the state's goals to locate electric power facilities in an orderly manner compatible with environmental preservation and the efficient use of resources.<sup>4</sup> The Commission is required to choose locations that minimize adverse human and environmental impact while insuring continuous electric power system reliability and integrity and insuring that electric energy needs are met and fulfilled in an orderly and timely fashion.

In addition, the statute requires that route permit determinations be guided by the policy objective to conserve resources, minimize environmental impacts, minimize human settlement and other land use conflicts, and ensure the state's electric energy security through efficient, cost-effective power supply and electric transmission infrastructure.<sup>5</sup>

The project is also subject to environmental review under Minn. Stat. § 216E.03, subd. 5, which directs the commissioner of the Department of Commerce to prepare an EIS on proposed high voltage transmission lines.

Further, in designating a route, the Commission must consider the permitting criteria contained in Minn. Stat. § 216E.03, subd. 7(b), and Minn. R. 7850.4100.

Under Minn. Stat. § 216E.03, subd. 7(b), the criteria are as follows:

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<sup>3</sup> As reflected in the certificate of need for this project (*see* Docket No. E-015/CN-12-1163).

<sup>4</sup> Minn. Stat. § 216E.02.

<sup>5</sup> Minn. Stat. § 216E.03, subd. 7(a), and Minn. R. 7850.4000.

- (1) evaluation of research and investigations relating to the effects on land, water and air resources of large electric power generating plants and high-voltage transmission lines and the effects of water and air discharges and electric and magnetic fields resulting from such facilities on public health and welfare, vegetation, animals, materials and aesthetic values, including baseline studies, predictive modeling, and evaluation of new or improved methods for minimizing adverse impacts of water and air discharges and other matters pertaining to the effects of power plants on the water and air environment;
- (2) environmental evaluation of sites and routes proposed for future development and expansion and their relationship to the land, water, air and human resources of the state;
- (3) evaluation of the effects of new electric power generation and transmission technologies and systems related to power plants designed to minimize adverse environmental effects;
- (4) evaluation of the potential for beneficial uses of waste energy from proposed large electric power generating plants;
- (5) analysis of the direct and indirect economic impact of proposed sites and routes including, but not limited to, productive agricultural land lost or impaired;
- (6) evaluation of adverse direct and indirect environmental effects that cannot be avoided should the proposed site and route be accepted;
- (7) evaluation of alternatives to the applicant's proposed site or route proposed pursuant to subdivisions 1 and 2;
- (8) evaluation of potential routes that would use or parallel existing railroad and highway rights-of-way;
- (9) evaluation of governmental survey lines and other natural division lines of agricultural land so as to minimize interference with agricultural operations;
- (10) evaluation of the future needs for additional high-voltage transmission lines in the same general area as any proposed route, and the advisability of ordering the construction of structures capable of expansion in transmission capacity through multiple circuiting or design modifications;
- (11) evaluation of irreversible and irretrievable commitments of resources should the proposed site or route be approved; and
- (12) when appropriate, consideration of problems raised by other state and federal agencies and local entities.

Under Minn. Rules, part 7850.4100, the criteria to be followed for the route permit are as follows:

- A. effects on human settlement, including, but not limited to, displacement, noise, aesthetics, cultural values, recreation, and public services;
- B. effects on public health and safety;
- C. effects on land-based economies, including, but not limited to, agriculture, forestry, tourism, and mining;
- D. effects on archaeological and historic resources;
- E. effects on the natural environment, including effects on air and water quality resources and flora and fauna;
- F. effects on rare and unique natural resources;
- G. application of design options that maximize energy efficiencies, mitigate adverse environmental effects, and could accommodate expansion of transmission or generating capacity;
- H. use or paralleling of existing rights-of-way, survey lines, natural division lines, and agricultural field boundaries;
- I. use of existing large electric power generating plant sites;
- J. use of existing transportation, pipeline, and electrical transmission systems or rights-of-way;
- K. electrical system reliability;
- L. costs of constructing, operating, and maintaining the facility which are dependent on design and route;
- M. adverse human and natural environmental effects which cannot be avoided; and
- N. irreversible and irretrievable commitments of resources.

### **III. Public Involvement**

The public participated in the review of the application at several times during the review process. The EIS scoping meetings conducted in July 2014 provided a description of the project, an overview of the application review process, and an opportunity for public comment. The public was invited to recommend particular route alternatives and environmental impacts to be studied in the EIS for the project.

As part of that process, two citizen work group meetings were held, which allowed local government representatives to discuss matters of concern, develop potential alternative route segments, review potential zoning conflicts, and ensure local participation in the EIS scoping decision.

The Scoping Summary report, prepared by the EERA, also addressed public and agency comments regarding public concerns as well as border crossing alternatives, impacts to private property and human settlements, agricultural use, and natural resources. The report identified the benefits of following existing transmission corridors to minimize impacts, and discussed possible route alternatives, as well as adjustments and modifications thereto.

Between July 15, 2015, and July 22, 2015, the EERA and the Department of Energy held combined public information meetings and Federal Public Hearings on the draft EIS and the Presidential Permit in Roseau, Baudette, Littlefork, Kelliher, Bigfork, and Grand Rapids. Some 208 substantive comments that had been submitted by the public were addressed.

Finally, an additional comment period was established by the Commission and the EERA to accept input on the draft EIS for the public and evidentiary hearings by the ALJ. During these hearings, witnesses on behalf of Minnesota Power appeared to address questions from the public.

#### **IV. Environmental Impact Statement**

At the time when the Commission determines whether to issue a route permit, the Commission is to make a finding whether the EERA's EIS and the record created in the public hearing address the issues identified in the EIS Scoping Decision. Minn. R. 7850.2500, subp. 10, states:

The Public Utilities Commission shall determine the adequacy of the final environmental impact statement. . . . The final environmental impact statement is adequate if it:

- A. addresses the issues and alternatives raised in scoping to a reasonable extent considering the availability of information and the time limitations for considering the permit application;
- B. provides responses to the timely substantive comments received during the draft environmental impact statement review process; and
- C. was prepared in compliance with the procedures in parts 7850.1000 to 7850.5600.

Having reviewed the record in this matter, the Commission concurs with the finding of the ALJ that the evidence demonstrates that the final EIS is adequate because it addresses the issues and alternatives raised in the Scoping Decision.

Further, the EIS provides responses to the timely substantive comments received during the draft EIS review process. Finally, the EIS was prepared in compliance with Minn. R. 7850.1000 to 7850.5600.<sup>6</sup> The Commission thus finds that the Final EIS meets the requirements of Minn. R. Part 7850.2500, subp. 10, and will approve it.

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<sup>6</sup> ALJ Report, Conclusion of Law 14 at 135.

## V. The ALJ Report

On January 4, 2016, the ALJ filed her Findings of Fact, Conclusions of Law, and Recommendation regarding the EIS and the route permit proceeding. The ALJ Report recommended that the Commission grant Minnesota Power a route permit for the Great Northern 500 kV transmission line project along the Blue Route for all areas except in the Effie Variation Area in the project's East Section.

The ALJ Report thoroughly discussed the two route alternatives considered for the project: the Orange Route and the Blue Route. The ALJ Report contains an evaluation of both route alternatives using the route permitting criteria the Commission must consider in designating routes for high-voltage transmission lines, set forth in Minn. Stat. § 216E.03, subd. 7(b), and Minn. R. 7850.4100.

The ALJ found that the Blue Route best satisfies the route permit criteria in statute and rule. In the East Section of that route, the ALJ found that the Effie Variation and the East Bear Lake Variation better meet the route permit criteria. The Effie and East Bear Lake Variations were proposed by the DNR, and overwhelmingly favored by the public and communities in the Effie Variation Area.<sup>7</sup> The ALJ also recommended adoption of the Trout Lake Modification<sup>8</sup> to minimize the impact of the Blue Route on residences in that alignment area. Other alignment modifications should be considered during the Plan and Profile process.

The ALJ Report is well reasoned, comprehensive, and thorough. She made some 704 findings of fact, 26 conclusions of law, and a recommendation on route selection based on those findings and conclusions. Some 439 findings of fact specifically address the route permit criteria set forth above (Findings 249-688). The ALJ Report also included a summary of public comments and government agency participation.

The ALJ Report also included the following conclusions and recommendations:

- That the final EIS is adequate for use in this proceeding based on the record.
- That all procedural requirements under statute and rule were met based on the record.
- That the Standard Route Permit Conditions be incorporated into the Route Permit, unless modified herein.
- That the Special Route Permit Conditions, including those related to electric fields, be incorporated into the route permit.

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<sup>7</sup> ALJ Report, Finding 558.

<sup>8</sup> ALJ Report at Findings 687-688. The Trout Lake Modification is located in the central portion of the Blackberry Variation. It shifts the centerline away from two residences so that only one residence would be located within 1,000 feet of the alignment. All other land ownership along the Trout Lake Alignment is corporate.

- That the Commission determine, in its expertise, whether Minnesota Power’s request to use the National Electrical Standards Code (NESC) 5 mA Rule is acceptable for remote areas of the line where human habitation and use is minimal.<sup>9</sup>

Finally, the ALJ recommended that a number of Special Route Conditions proposed by the EERA be included in the route permit. These address the following: 1) a Construction Environmental Control Plan; 2) an Agriculture Mitigation Plan; 3) a Vegetation Management Plan; 4) an Avian Mitigation Plan; 5) Consultation with the United States Fish and Wildlife Service; and 6) a Programmatic Agreement. Modifications to the Route Permit Conditions and Special Conditions are set forth below in Section 6.

Having itself examined the record and having considered the ALJ Report as well as the exceptions filed thereto, the Commission concurs in nearly all of the ALJ’s findings and conclusions. In a few instances, however, the Commission will modify the ALJ’s findings and conclusions as delineated below. On all other issues, the Commission accepts, adopts, and incorporates her findings, conclusions, and recommendation.

## **VI. Modifications to the ALJ Findings and Conclusions**

### **A. Minnesota Power Recommendations**

#### **1. The Effie Variation and the East Bear Lake Variation**

Minnesota Power stated that it supports most of the ALJ’s Findings as being well-supported by the evidentiary record. Minnesota Power filed exceptions, however, to the ALJ’s recommendations regarding the Effie Variation, the East Bear Lake Variation, and the Trout Lake Alignment Modification, and recommended that the Commission make certain modifications, deletions, and additions to the ALJ Findings and Conclusions. Minnesota Power recommended changes to the ALJ Findings regarding the Effie Variation (Findings 577, 578-581, 235-237, 582, 584, and 587) and the East Bear Lake Variation (Finding 609).

The Effie Variation is an alternative to a portion of the Blue Route, in the project’s East Section. The Effie Variation would locate a portion of the project in a common corridor with both the existing 500 kV international kV line (owned by Xcel Energy) and the 230 kV international tie line (owned by Minnkota Power).

The Blue Route and Effie Variation have a common starting point where the existing 500 kV and 230 kV line corridors converge. The anticipated alignment of the Effie Variation would be along the west side of Xcel Energy’s existing 500 kV line. Minnkota’s 230 kV line parallels the east side of the Xcel line, resulting in a third HVTL in the same corridor.<sup>10</sup>

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<sup>9</sup> See discussion, *infra*, at p. 10, Finding 704.

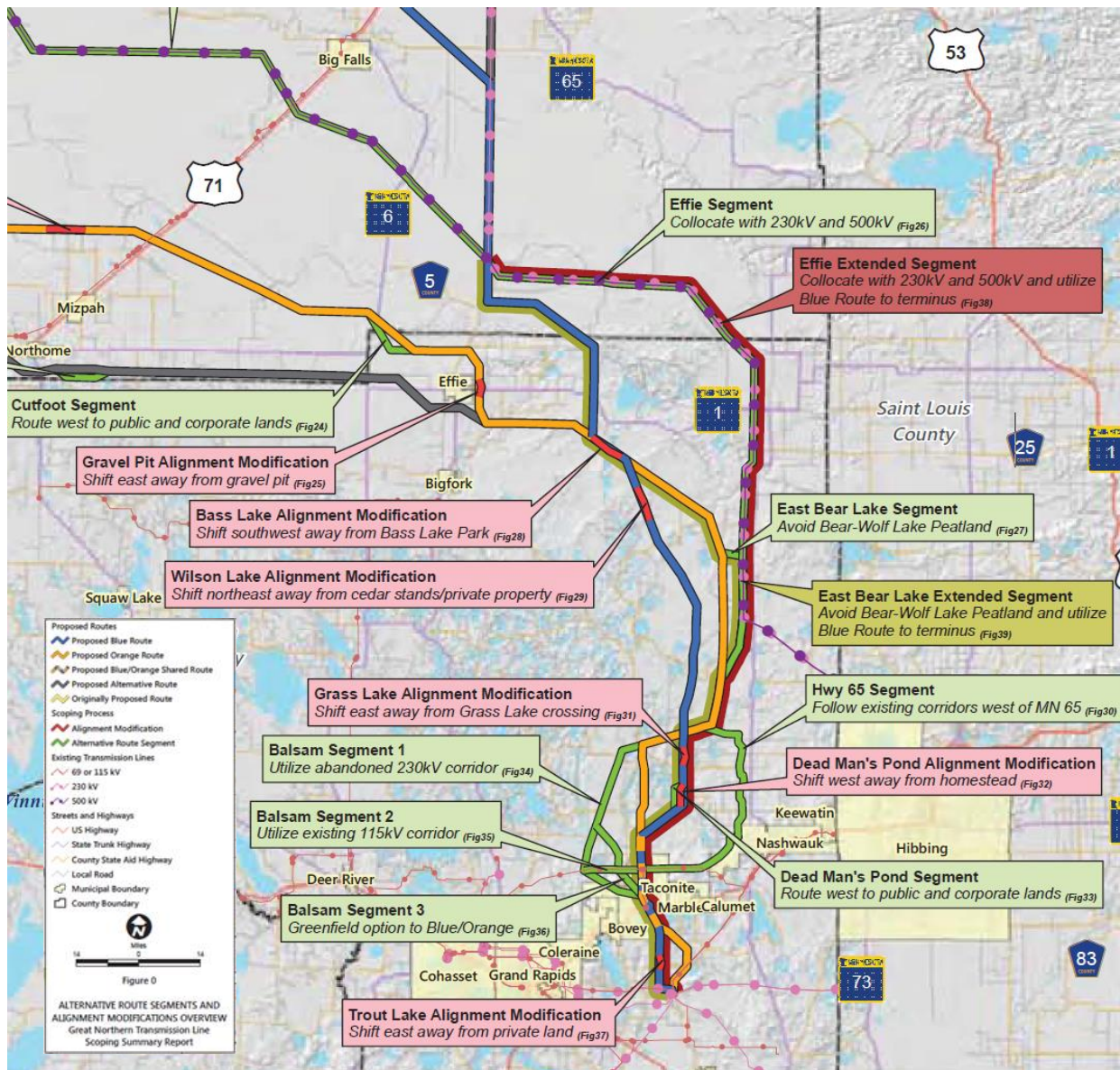
<sup>10</sup> ALJ Report, Finding 555-556.



Within the Effie Variation Area, the Blue Route is 41.1 miles in length; the Orange Route is 44.6 miles in length, and the Effie Variation is 49.9 miles in length. Neither the Blue Route nor the Orange Route parallels any existing utility right of ways. The Effie Variation parallels existing utility corridors for 80 percent of its distance.<sup>11</sup>

The DNR proposed the Effie Variation including the East Bear Lake Variation due to concerns with the impact of the new transmission line (using the Orange or Blue Route) through intact forested areas in the Effie area.

The three Route Alternatives considered in the Effie Variation Area are shown below:<sup>12</sup>



<sup>11</sup> ALJ Report, Finding 554.

<sup>12</sup> E-dockets **20161-117270-01**, Figure 2-1, Summary of Requested Routes Segments and Alignment Modifications (November 13, 2014).

Many of the Company's Exceptions to the Effie Variation focused on the close proximity of the three high-voltage transmission lines in one utility corridor and difficulty of maintenance of the line, and the risks of a catastrophic outage of the three lines with negative impacts on system reliability.

The public and communities in the Effie Variation Area overwhelmingly supported this Variation because despite the fact that it would run closer to some landowners' properties than the other alternatives,<sup>13</sup> it would add fewer new impacts to the corridor. Choosing the Effie Variation makes use of the existing utility corridor, would prevent new environmental impacts to untouched wilderness areas of the state, and prevent forest fragmentation of these pristine forest areas. Landowners also favored selection of the Effie Variation because that option would promote conservation of the natural environment, and limit impacts on sensitive or endangered areas of wildlife and rare vegetation.<sup>14</sup>

DNR requested that the triple-paralleled lines in the Effie Variation and East Bear Lake Areas be placed with as little separation as practicable, with no forested strip separating the lines, consistent with other required permits or licenses. DNR argued that this approach minimizes forest fragmentation, as reflected in the record.

The Company initially disagreed, arguing that increased separation of the lines in the Effie Variation and the East Bear Lake Variation Areas is necessary to mitigate reliability and safety issues, as well as to provide the necessary access to address operating and maintenance issues. The Company indicated that additional engineering analysis related to noise and electromagnetic fields would be necessary in order to develop a final design in the triple corridor area.

With respect to construction operation and maintenance of the line in the Effie Variation Area, the Company argued that addition of a third HVTL line in the same corridor might make it more difficult for power companies – particularly the utility operating the middle line - to operate helicopters or large equipment in the area of the lines. The ALJ found that Xcel Energy, which owns the middle line, did not object to the selection of the Effie Variation.<sup>15</sup> Nor did Xcel object to the Effie Variation at the Commission meeting, but simply stated that the paralleling of lines in the Effie Variation will require more study. Further, at the Commission meeting, the Company acknowledged that while separation of the lines is necessary, it is willing to work with the DNR to see if a compromise can be reached on the separation distance.

The ALJ Report addressed each of these issues raised by the Company in some detail (*See e.g.*, Findings 237, and 575-581.) After thorough consideration, the ALJ summarized her findings regarding these points in Finding 587:

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<sup>13</sup> ALJ Report, Findings 558-559.

<sup>14</sup> *See, e.g.*, ALJ Report at Finding 557.

<sup>15</sup> The ALJ Report addressed Xcel's concerns at Finding 237.

With respect to the potential drawbacks related to “triple paralleling” of HVTLs, Minnesota Power acknowledges that the challenges in constructing, maintaining, and inspecting the lines can be remedied through increased distance between lines and other forms of mitigation. Consequently, the concerns raised by Minnesota Power do not make the Effie Variation unfeasible.

In addition, the ALJ examined the Company’s concern regarding electromagnetic field and audible noise, and found it to be merely speculative, as the Company had provided insufficient data on which to determine these issues.<sup>16</sup>

The Commission has also examined the Company’s arguments regarding potential reliability issues of the HVTL in the proposed route as modified with the Effie Variation. At the Commission meeting, the Company confirmed that with its proposed changes in Route Permit alignment to the centerline, (discussed below at Section VII A), it is comfortable with the Effie Variation in terms of reliability in conjunction with existing special protection protocols.

The Commission has considered Minnesota Power’s Exceptions and recommended changes to the ALJ Findings regarding the Effie Variation and the East Bear Lake Variation. For the most part, the Company’s recommendations regarding the Effie Variation consist of restating or supplementing the record with additional detail and information previously considered by the ALJ in the proceeding, or striking information that appears to accurately reflect the testimony and evidence presented in the proceeding. Having carefully reviewed the record in this matter, the Commission finds that it need not modify the ALJ Report with the additional detail recommended by Minnesota Power regarding this subset of findings.

The Commission finds the ALJ Report to be comprehensive and thorough regarding the Effie Variation, the East Bear Lake Variation,<sup>17</sup> and the Trout Lake Alignment Modification. Sections 5C, D, and E of the ALJ Report provide a detailed description and thorough analysis of each of the Route Alternatives considered in the proceeding (the Blue Route, the Orange Route, and the Variation Areas applicable to each alternative). The Commission also will adopt the Trout Lake Modification to minimize the impact of the Blue Route on residences in that alignment area. The Report provides a comprehensive analysis of the each of the routing factors and criteria and requires no further facts or modifications to bolster it.

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<sup>16</sup> ALJ Report Finding 580:

With respect to EMFs and noise, Minnesota Power noted that there is a potential for incrementally higher EMF and audible noise due to the addition of a third line in the same corridor. Minnesota Power, however, did not provide any data on how much more EMFs and audible noise might result from an additional line, rendering this claim merely speculative. (Foot note omitted)

<sup>17</sup> In its Exception to the East Bear Lake Variation (Finding 609), Minnesota Power stated that while it agreed with the ALJ’s summary of facts, it excepted to the finding for the same reasons it objected to the Effie Variation. Minnesota Power recommended that ALJ’s Recommendations 18-20 be modified to eliminate the East Bear Lake Variation. The Commission observes that as only a part of the East Bear Lake Variation is included in the Effie Variation, it is unlikely that the remainder of the East Bear Lake Variation outside of the Effie Variation would be chosen during the Plan and Profile review. The Commission will not alter the Finding; instead the Commission will take administrative notice that a portion of the East Bear Lake Variation would be included in the Effie Variation.

As is clear from the administrative record, the Effie Variation and East Bear Lake Variation use existing utility corridors, thus reducing new impacts to pristine areas of wilderness in the state and preventing further forest fragmentation. These Variations also leave intact large blocks of habitats, including those associated with the Minnesota Biological Survey Sites of Biodiversity Significance, old growth forest, peatlands, forested wetlands, and critical wildlife habitat, particularly for the Canada lynx.<sup>18</sup>

Further, to ensure that issues regarding system reliability are addressed, the Commission will require that prior to actual project construction, Minnesota Power file a letter stating that the Regional Planning Authority has studied the triple-line configuration as permitted by the Commission and determined or confirmed that the triple paralleling of the project area meets all applicable NERC standards.

Minnesota Power's Exceptions to the Trout Lake Alignment Modification are addressed separately below (Finding 688).

## **2. Further Modifications and Clarifications to the ALJ Report**

The Company also filed additional exceptions to clarify or otherwise correct certain findings. After consideration, the Commission will accept only those modifications to the ALJ Findings and Conclusions listed below.

### **a. Finding 577**

Finding 577 summarizes Xcel Energy's comments regarding the Effie Variation. Minnesota Power recommended that the Commission modify Finding of Fact 577 to provide additional detail regarding safety and to delete the word infrequent. The Commission disagrees that additional detail is necessary, but agrees that that deletion of the word infrequent is appropriate, as the word is somewhat ambiguous in this context. The word infrequent will be stricken.

In the case of the Effie Variation, the middle line would be Xcel Energy's 500 kV line. In its comments, Xcel explained that having three lines in one corridor may make it more difficult for Xcel to employ helicopters for ~~infrequent~~ inspections and it may require more precaution when servicing its line.

### **b. Finding 688/Conclusion 21**

#### *Finding 688*

Minnesota Power requested that the following language be added to ALJ Finding 688. Minnesota Power explained that its proposed language was not adopted by the ALJ, albeit included in the record. The Commission agrees that the additional information will improve the record; accordingly, it will modify Finding of Fact 688 as set forth below:

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<sup>18</sup> ALJ Report, Conclusion 19.

The Trout Lake Alignment Modification shifts the centerline away from the two residences located west of the comparable segment of the Proposed Blue Route, so only one residence would be located within 1,000 feet of the alignment. All other land ownership along the Trout Lake Alignment Modification is corporate. Although the Alignment Modification would avoid impacts to the landowner's private property, it would be 150 feet longer and would add three additional angle structures, raising cost and feasibility concerns.

In addition to the Variations discussed above, a number of Alignment Modifications (or shifts of the anticipated alignment of the Project within the currently designated route) were included in the environmental review of the Project. Generally, such shifts of the precise alignment come forward during the "Plan and Profile" stage of routing. Once a route is approved, the Company will work with landowners and gain additional "on the ground" information, including conducting field surveys. That information often leads to the Company and landowners agreeing to move the alignment to some place other than originally anticipated and designated in the record.

The Commission will also require Minnesota Power to provide an informational filing regarding the Trout Lake Alignment modification cost of angle structures, specific feasibility concerns, and an overall comparison of impacts previously identified in the record. The Commission also requests the Department to provide additional analysis of these issues and make a recommendation to the Commission for a final determination as part of the Plan and Profile process.

#### *Conclusion 21*

Finally, the Commission will modify ALJ Recommendation 21 for clarity as follows:

~~The Administrative Law Judge further recommends that the Commission adopt the Trout Lake Alignment Modification so as to minimize the impact of the Blue Route on residences in that alignment area. Other alignment modifications shall be considered during the Commission's final review and in the Plan and Profile process and that Minnesota Power work with landowner to minimize impacts to landowners in determining route alignments.~~

#### **c. Finding 301**

Minnesota Power requested that Finding 301 be modified as follows, to correct the in-service date and more accurately reflect the record in this proceeding:

Manitoba Hydro asserts that if it is required to amend its application to the NEB to address a different border crossing location and thus select a different route for the Canadian portion of the line, such change will "jeopardize" the Project as a whole because it will cause delays in the process and could potentially impact the June ~~2010-2020~~ in-service date agreed to by Minnesota Power and Manitoba Hydro in their contracts for this Project. The record reflects that the formal Canadian approval process began in November 2014 and is based on a specific international border crossing. ~~Unfortunately, the record is unclear as to how long the Canadian~~



~~approval process could take if a border crossing location is selected other than the Proposed Border Crossing.349~~

The Commission agrees with the proposed modifications to the finding, as they more accurately reflect the record in this matter. The Commission will modify the Finding as proposed by Minnesota Power.

#### **d. Finding 704**

In its Exceptions, Minnesota Power objected to the Electric Field standard identified in Section 4.7.2 of the Generic Route Permit. Minnesota Power requested to use the National Electrical Standards Code (NESC) 5 milliamp (mA) Rule in remote areas of the line where human habitation and use is minimal. Minnesota Power argued that Finding 704 should be modified to use the NESC Standard, as follows:

~~704. The DOC-EERA did not expressly oppose the Company's request to use the NESC 5 mA Rule for remote areas of the line. The record supports the Company's request to provide this limited modification to the Electric Field General Condition. However, the Administrative Law Judge is without sufficient information in the record to provide analysis of the Company's request and can, therefore, make no informed recommendation related to this request.~~

The Commission has reviewed Minnesota's Power's testimony submitted in support of the modification to the electric field limitation, and the arguments made at the Commission meeting on this matter. The Commission finds that the record does not include sufficient analysis and evaluation of use of the NESC 5mA level to justify its use. Nor did Minnesota Power provide an adequate means by which to calculate, evaluate, and administer the NESC 5mA level.

Instead, the Commission will modify Finding 704 to incorporate the standard for electrical fields set in Section 4.7.2 of the Generic Route Permit.

~~704. The DOC-EERA did not expressly oppose the Company's request to use the NESC 5 mA Rule for remote areas of the line. The Generic Route Permit includes standards for electric performance including for electric fields. Specifically, section 4.7.2 of the Generic Route Permit states "The transmission line shall be designed, constructed, and operated in such a manner that the electric field measured one meter above ground level immediately below the transmission line shall not exceed 8.0 kV/m rms." However, ~~the~~ Administrative Law Judge is without sufficient information in the record to provide analysis of the Company's request and can, therefore, make no informed recommendation related to this request.~~

#### **B. Department of Natural Resources Exceptions**

The Minnesota Department of Natural Resources (DNR) filed Exceptions on February 3, 2016. Minnesota Power objected to the filing as untimely and that the agency was not a formal party to the proceedings. The Commission will allow the agency's Exceptions to be considered. The Commission specifically requested the agency's participation in the development of the record and the public hearing in this matter beginning on August 1, 2014.

## 1. Finding 277

The DNR proposed the following modification to Finding 277, which the Commission will accept and adopt:

~~While~~ The 230 kV Variation crosses the least amount of land (both public and private); ~~a~~ An airstrip, important to the region, would be located within one mile from the anticipated alignment for the Highway 310 Variation.<sup>324</sup> Public comment overwhelmingly opposed any HVTL that could interfere with this airstrip important to residents in the area.

<sup>324</sup> Ex.119, Vol. 1, Pt.7 of 14, at 255-59 (FEIS).

## 2. Finding 597 and Footnote 604

DNR recommended striking Finding 597 and footnote 604 because the agency's review shows that there is no agricultural land use along the East Bear Lake Variation.

~~597. The East Bear Lake Variation would cross nearly two times more agricultural land than the Orange Route (160 acres versus 85 acres). Both the Orange Route and the East Bear Lake Variation would cross a relatively similar amount of state forest land. The East Bear Lake Variation would cross more expired or terminated mineral lease lands. However, the East Bear Lake Variation would parallel an existing utility corridor for the majority of its length.~~<sup>604</sup>

<sup>604</sup>Id.

## C. Other Modifications to the ALJ Report

The citation for Finding of Fact 59 is corrected as follows:

In addition to soliciting public comment at the scoping meetings, on July 31, 2014, the Commission sent a letter to various state agencies requesting their participation in the development of the record, the environmental review, and the public hearings for the Project.<sup>77</sup>

<sup>77</sup> Ex. 101 (Notice of Public Information and Scoping Meeting). Minnesota Public Utilities Commission Letter to State Agency Technical Representatives Regarding Participation in Record Development and Public Hearings, e-Dockets Filing Number 20148-10111956-01, August 1, 2014.

## VII. Route Permit Modifications and Conditions

The ALJ recommended that a number of Special Route Permit Conditions be included in the route permit. After discussion at the Commission meeting, the Commission also modified certain permit conditions. The Commission approves inclusion of the Special Route Permit Conditions, with certain modifications proposed by the parties.

The Commission will adopt the following permit modifications and conditions.

### **A. Effie Variation Routing Modification**

In its Exceptions, Minnesota Power stated that if the Commission were to adopt the Effie Variation as part of the route permit, the proposed centerline alignment contemplated in the FEIS and ALJ Report should be revised. Minnesota Power submitted a proposed centerline map for the Effie Variation as Exhibit B to their Exceptions.

The Commission agrees with this modification. It does not result in a route change as the proposal is entirely within the Effie Variation route corridor. The centerline alignment modification will be attached to the Route Permit as part of the Route Maps.

### **B. Generic Route Permit Language Changes to the General Route Permit Conditions**

Prior to the Commission meeting, the DNR requested modifications to the draft Route Permit Conditions to add a permitting requirement to General Condition Section 4.8.1, and to make certain revisions to the Special Conditions addressing the Construction Environmental Control

Plan (CECP) (Section 5.01), and requiring the inclusion of a Mineral Resource Plan (Section 5.06).<sup>19</sup> These modifications were discussed and accepted by all parties at the Commission meeting, and are set forth below:

#### **4.8.1**

The Permittee shall comply with applicable NERC planning standards and requirements of the NESC including clearances to ground, clearance to crossing utilities, clearance to buildings, right-of-way widths, erecting power poles, and stringing of transmission line conductors.

When triple paralleling lines within the permitted route width, lines shall be located in compliance with above standards and in compliance with other required permits or licenses recognizing safety, access, and operating and maintenance issues for all impacted lines regardless of ownership. Permittee shall consult with MNDNR regarding forestry and other potential corridor impacts prior to submitting the Plan and Profile for review by the Department and the Commission.

Further, the Commission will require that prior to actual project construction, Minnesota Power file a letter stating that the Regional Planning Authority has studied the line as permitted by the Commission and determined or confirmed that the project meets all applicable NERC standards.

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<sup>19</sup> During the Commission meeting, Minnesota Power also agreed to take a further look at the Route Permit's Agricultural Mitigation Plan to determine whether the criteria regarding apiaries listed in Section 4.2.6, "Application of Herbicides," contains appropriate notice and distance criteria.



### C. Special Route Permit Conditions

DNR and Minnesota Power each offered comments regarding proposed Special Route Permit Conditions 5.01, Construction Environmental Control Plan, and 5.06, Mineral Resource Plan, 5.01 and 5.06 the day prior to the meeting.<sup>20</sup> There was extensive discussion of these provisions at the Commission meeting. Each provision is discussed below:

#### 5.01 Construction Environmental Control Plan

The DNR proposed including a new requirement for a Mineral Resource Plan in Condition 5.1, and requiring Minnesota Power to provide an independent dedicated environmental inspectors and monitors to oversee the construction process and monitor compliance with the Vegetation Management Plan, the Avian Mitigation Plan, and all environmental permits. DNR noted the importance of third party monitoring for large energy projects, and stated that it has found such monitoring helpful in prior Commission large energy projects. DNR stated such monitoring has become a fairly consistent requirement for large transmission lines.

The Company asserted that the provisions of the Mineral Resource Plan are largely covered by DNR licensing, with the exception of county tax-forfeiture land. The Company also initially disagreed that the use of an independent monitor was necessary, given overall permit obligations and incentives to ensure compliance. Finally, the Company balked at paying for the work, and raised concerns that the scope of the work to be conducted pursuant to the Mineral Resource Plan is too vague. At the Commission meeting, however, the Company agreed to consult with DNR on these issues.

After discussion at the meeting, the Commission determined to delete the reference to the Mineral Resource Plan in this provision and move it to new provision 5.06.

The Permittee shall develop a Construction Environmental Control Plan (CECP) that shall include all environmental control plans and special conditions imposed by permits or licenses issued by state or federal agencies related to agency-managed resources. Plans within the CECP shall include, but not be limited to, the Agricultural Impact Mitigation Plan, the Avian Mitigation Plan, the Vegetation Management Plan, ~~the Mineral Resource Plan,~~ and a Stormwater Pollution Prevention Plan. The CECP shall be filed with the Commission 30 days prior to submitting the plan and profile for any segment of the Project. ~~The Mineral Resource Plan shall be filed 30 days prior to tower erection construction.~~

The Permittee shall provide dedicated independent environmental inspectors and monitors to oversee the construction process and to monitor compliance with 1) the Vegetation Management Plan, 2) the Avian Mitigation Plan, and 3) the requirements of this and all other environmental permits, excluding any mineral resource plan.

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<sup>20</sup> The substance of these comments is found in Document C-2 – Amended Decision Options Requested by MN DNR with Replies from the Department and Minnesota Power (February 26, 2016).

### 5.0.6 Mineral Resource Plan

DNR noted that transmission lines create noise for geophysical detection methods (non-drilling) of mineral exploration, particularly for greenfield routing. Some portions of the project have areas of probable or known non-ferrous state-owned minerals. Revenue from possible future mining, which could be substantial, would fund Minnesota schools. The DNR stated that obtaining data prior to placement of the transmission line is important, as it would help mitigate the possible loss of future revenue and reduce the possibility of having to move the line at some future point. After discussion at the meeting, Minnesota Power agreed to consult with DNR in the development of a Mineral Resource Plan, and to file its proposed Mineral Resource Plan as a compliance filing in its Plan and Profile submission. If DNR has any objections to the plan, akin to the other route permit plans, it may file objections or deny the Company's license to cross application.

The Permittee shall develop a Mineral Resource Plan (MRP) to be submitted as a compliance filing 30 days prior to the Plan and Profile. The Permittee shall consult with the MNDNR regarding the scope and content of the MRP. The purpose of the MRP will be to identify measures to avoid interference with the exploration or mining operations conducted on state-owned mining units. The MRP would include (1) General description of state-owned mineral resources in the project area; and (2) Documentation of consultation with the MNDNR regarding measures to avoid interference with exploration and encumbrance of state-owned minerals.

The Commission will approve the foregoing changes in the Route Permit language. The Route Permit incorporating these changes is attached to this Order.

### ORDER

1. The Commission finds that the EIS prepared by the EERA for the Minnesota Power Great Northern 500 kV Transmission Line meets the requirements of Minn. R. 7850.2500, subp. 10, in that:
  - A. addresses the issues and alternatives to a reasonable extent considering the availability of information and the time limitations for considering the permit application;
  - B. provides responses to the timely substantive comments received during the draft environmental impact statement review process; and
  - C. was prepared in compliance with the procedures in parts 7850.1000 to 7850.5600.
2. The Commission approves and adopts the ALJ's Findings of Fact, Conclusions of Law, and Recommendations for the Great Northern 500 kV Transmission Line project with the modifications to the findings and route permit conditions set forth in the Order.
3. The Commission finds that the draft route permit satisfies the considerations of permitting criteria contained in Minn. Stat. § 216E.03, subd. 7(b), and Minn. R. 7850.4100 and grants Minnesota Power a route permit for the project with the conditions in the Order.

4. Prior to actual project construction, Minnesota Power shall file a letter stating that the Regional Planning Authority/Planning Coordinator and the Transmission Planner have studied the triple-line corridor as permitted by the Commission and have determined or confirmed that the project conforms with applicable transmission system planning requirements and business practices including all applicable North American Electric Reliability Corporation (NERC) Reliability Standards.
5. Minnesota Power shall provide an informational filing regarding the Trout Lake Alignment modification cost of angle structures, specific feasibility concerns, and an overall comparison of impacts previously identified in the record. The Commission requests the Department to provide additional analysis of these materials and make a recommendation to the Commission for a final determination as part of the Plan and Profile process.
6. The Commission hereby issues the route permit for the Minnesota Power Great Northern Transmission Line 500 kV Great Northern Transmission Line in the form attached.
7. This order shall become effective immediately.

BY ORDER OF THE COMMISSION

Daniel P. Wolf  
Executive Secretary



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