BEFORE THE MINNESOTA PUBLIC UTILITIES COMMISSION

Nancy Lange	Chair
Dan Lipschultz	Commissioner
Matthew Schuerger	Commissioner
Katie J. Sieben	Commissioner
John A. Tuma	Commissioner

In the Matter of the Application of Freeborn Wind Energy LLC for a Route Permit for the Freeborn Wind Transmission Line in Freeborn County

ISSUE DATE: December 19, 2018

DOCKET NO. IP-6946/TL-17-322

ORDER APPROVING ROUTE PERMIT

PROCEDURAL HISTORY

On September 20, 2017, Freeborn Wind Energy LLC (Freeborn Wind or the Company) filed a route permit application to build seven miles of high-voltage transmission line (HVTL) with a capacity of 161 kilovolts (kV) in Freeborn County. Freeborn Wind proposes to erect wind turbines near the city of Glenville on the Iowa border,[1] and seeks to build a transmission line (the Project) to permit the resulting electricity to reach the transmission grid.

On December 5, 2017, the Commission issued an order finding that Freeborn Wind had fulfilled the filing requirements for a route permit. The Commission extended the period for the Minnesota Department of Commerce (Department) to prepare an environmental assessment (EA), addressing the Project's human and environmental impacts, and the impacts of other possible routes. And the Commission asked the Office of Administrative Hearings to assign an Administrative Law Judge (ALJ) to convene a public hearing on the matter, and to prepare findings, conclusions, and recommendations on the merits of the proposed route alternatives and any conditions to be included in a route permit.

On December 19, 2017, the staff of the Commission and the Department convened a public meeting in Albert Lea to provide information about the Project and discuss the appropriate scope of the environmental assessment. The meeting, and subsequent comment period, permitted the public to submit comments on potential consequences arising from the Project, potential measures to mitigate those consequences, and alternative routes for consideration.

On January 25, 2018, the Department issued its Scoping Summary recommending a list of routes and segments to be considered in its environmental assessment. On March 5, the Commission issued an order approving the Department's list, and adding one more route segment for analysis.

On March 8, 2018, the Department issued its environmental assessment Scoping Decision, identifying the list of routes and route segments it would analyze in its environmental

[1] *See* Docket No. IP-6946/WS-17-410, *In the Matter of Freeborn Wind Energy, LLC for a Large Wind Energy Conversion System Site Permit for the 84 MW Freeborn Wind Farm in Freeborn County.*

assessment.

On March 22, 2018, the Commission filed its generic route permit template, setting forth terms and conditions typically included with each route permit.

On May 14, 2018, the Department issued its environmental assessment, including the generic route permit template. On May 21, the Department published notice of the environmental assessment in the *Environmental Quality Board Monitor* in accordance with Minn. R. 7850.3700, subd. 6.

On May 31, 2018, ALJ James Mortenson convened a public hearing on this matter in Albert Lea. Approximately 20 of the approximately 60 attendees spoke. And approximately 25 people submitted written comments by the June 12, 2018 comment deadline.

By June 28, 2018, the ALJ had received briefs on routing issues and replies to the public comments from Freeborn Wind and the Department. The Department also revised its environmental assessment in response to the public comments.

On July 26, 2018, the ALJ filed his Findings of Fact, Conclusions of Law, and Recommendations (ALJ Report), recommending that the Commission approve the route permit for the Project with four additional special conditions.

By August 10, 2018, the Commission had received exceptions to the ALJ Report from an informal association of people owning land near the Project (Association of Freeborn County Landowners, or AFCL), and from Robert B. Knutson. The Commission also received a letter from the Department supporting the ALJ's recommendations.

On September 20, 2018, the Commission met to consider the matter, and heard oral arguments from the Department, Freeborn Wind, and the Association of Freeborn County Landowners.

FINDINGS AND CONCLUSIONS

I. Summary

In this order the Commission—

- finds that the environmental assessment and the record created at the public hearing address the issues identified in the environmental assessment Scoping Decision;

- adopts the findings, conclusions, and recommendations in the ALJ Report with two modifications; and

- issues a high-voltage transmission line route permit for the Orange Route combined with the Purple Paralleling Route Segment, as discussed below.

II. The Proposed Project

Freeborn Wind proposed to build approximately seven miles of a new single circuit 161 kV

HVTL in Freeborn County's Shell Rock Township, to connect its proposed 200 megawatt (MW) Freeborn Wind Farm to the transmission grid. The Freeborn Wind Farm straddles the Minnesota-Iowa border and is capable of generating up to 84 megawatts (MW) in Freeborn County, Minnesota, and up to 116 MW in the neighboring jurisdiction of Worth County, Iowa. Freeborn Wind would build the line from a new substation, to be built near the intersection of 110th Street and 840th Avenue, to an existing substation located southeast of Glenville, Minnesota, near the intersection of US Highway 65 and 140th Street.

Northern States Power Company d/b/a Xcel Energy (Xcel) has contracted to buy Freeborn Wind upon conclusion of all development activities, and to assume Freeborn Wind's obligations.[2]

III. The Legal Standard

Anyone building more than 1,500 feet of transmission line in Minnesota with a capacity of at least 100 kilovolts (kV) must first obtain a route permit from the Commission.[3] In evaluating route permits, the Commission strives to locate electric facilities in an orderly manner compatible with environmental preservation and the efficient use of resources, with the goal of conserving resources, minimizing environmental impacts, minimizing human settlement and other land use conflicts, and ensuring the state's electric energy security.[4] To aid this analysis, the Commission considers the following factors:[5]

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;

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[2] *See In the Matter of the Petition of Xcel Energy for Approval of the Acquisition of Wind Generation from the Company's 2016-2030 Integrated Resource Plan*, Docket No. E002/M-16-777, Order Approving Petition, Granting Variance, and Requiring Compliance Filing (Sept. 1, 2017).

[3] Minn. Stat. § 216E.01, subd. 4; § 216E.03, subd. 2.

[4] Minn. Stat. § 216E.02; Minn. Stat. § 216E.03, subd. 7(a); Minn. R. 7850.4000.

[5] Minn. R. 7850.4100; see also Minn. Stat. § 216E.03, subd. 7(b).

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.

The Commission generally requires an environmental impact statement (EIS) and contested case proceedings in order to evaluate a route permit application.[6] But when an applicant seeks to build a transmission line of no more than 200 kV, the Commission offers alternative review procedures—accepting an environmental assessment in lieu of an EIS, and public hearings in lieu of contested case proceedings.[7]

IV. The Environmental Assessment

Minn. R. 7850.3700, subp. 4, states that an environmental assessment includes –

A. a general description of the proposed facility;

B. a list of any alternative sites or routes that are addressed;

C. a discussion of the potential impacts;

D. a discussion of mitigative measures that could reasonably be implemented to eliminate or minimize any adverse impacts identified for the proposed project and each alternative site or route analyzed;

E. an analysis of the feasibility of each alternative site or route considered;

F. a list of permits required for the project; and

G. a discussion of other matters identified in the scoping process.

The ALJ reviewed the environmental assessment and concluded that it is adequate. The Commission has also reviewed the environmental assessment under Minn. R. 7850.3900, subp.

[6] Minn. R. 7850.1700–.2700.

[7] Minn. Stat. § 216E.04, subd. 2; Minn. R. 7850.2800–.3900.

2, which requires the Commission to determine whether the environmental assessment and the record created at the public hearing address the issues identified in the Scoping Decision. Based on its review of the environmental assessment, the Commission finds that, under Minn. R. 7850.3900, subp. 2, the environmental assessment and the record as a whole address the issues identified in the Scoping Decision.

V. Route Alternatives and Route Segment Alternatives

The environmental assessment evaluated the route and route segment alternatives depicted in Figure 1 and described below:

A. Teal Route

Beginning at the proposed Wind Farm Substation at the southeast corner of the intersection of 110th Street and 840th Avenue, the Teal Route travels north along 840th Avenue, then turns west and crosses through agricultural land to a point west of 820th Avenue. There the line turns north and west, crossing an existing transmission line owned by ITC Midwest LLC (ITC Line). The Teal Route follows the west side of the ITC Line north to 130th Street. The line then turns west and parallels 130th Street to the south for a distance, then crosses to the north and follows the road until it reaches US Highway 65. From there, it follows the east side of the highway north, crossing the Shell Rock River, to the Glenworth Substation.

B. Orange Route

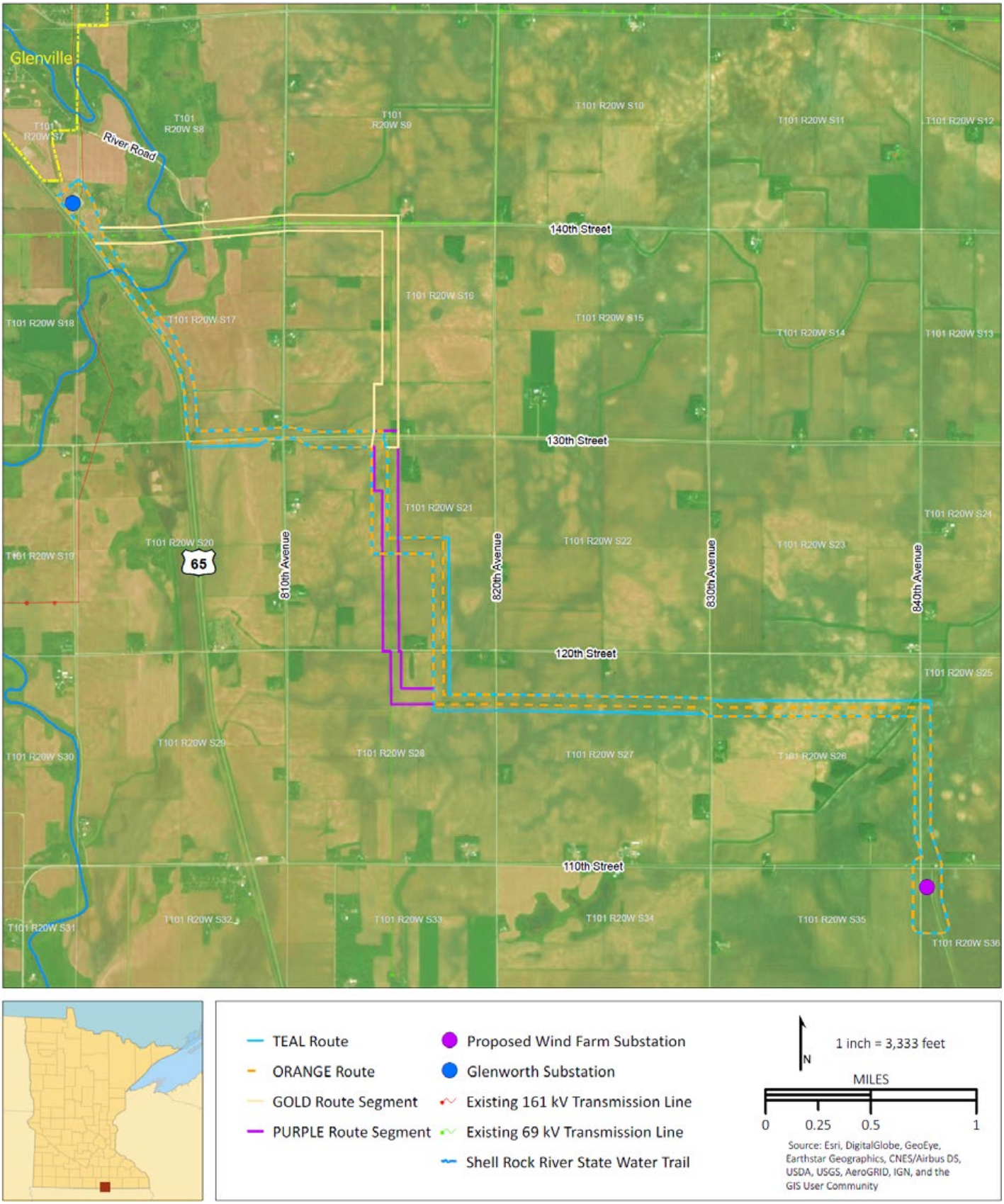
The Orange Route follows the same path as the Teal Route but (1) narrows the corridor where necessary to avoid private land held by landowners not participating in the Freeborn Wind Farm, and (2) expands the corridor for the half-mile south of 130th Street to allow for co-locating the route with the existing ITC Line, provided Freeborn Wind can secure the necessary easements.

C. Purple Route Segment

The environmental assessment also discusses two route segments—Purple and Gold—that deviate from the Teal/Orange Routes by following existing transmission line corridors.

The Purple Route Segment deviates from the Teal and Orange Routes in that it continues further west along field lines until it intersects the ITC Line corridor, and then turns north until it rejoins the Teal and Orange Routes. The Department explored two possible methods for building along the Purple Route Segment: building the line adjacent to the existing ITC Line (Purple Parallel) or installing the line on taller towers within the existing right-of-way (Purple Overbuild).

Figure 1: Route and Route Segment Alternatives



D. Gold Route Segment

Where the ITC Line intersects 130th Street, the Teal and Orange Routes turn west. In contrast, the Gold Route Segment continues north along the ITC Line corridor until it intersects another transmission line owned by Dairyland Power Cooperative (Dairyland Line) along 140th Street/River Road, and then turns west until—after crossing the Shell Rock River—it rejoins the Teal and Orange Routes. Similar to the Purple Route Segment, the Department explored two methods for building the line along the Gold Route Segment: building the line adjacent to the existing ITC and Dairyland Lines (Gold Parallel) or installing the line on taller towers within the existing right-of-way (Gold Overbuild).

VI. Comments

A. Comments of Government Agencies

The Minnesota Department of Commerce conducted a thorough analysis of the record and recommended granting a route permit for the Project along the Orange Route, modified to incorporate the Purple Parallel Route. According to the Department, this route combination would minimize the potential harm to landowners who were not supporting the Project, people seeking recreation, and wildlife—especially birds.

The Minnesota Department of Transportation (MnDOT) noted some complexities that would arise if the Commission were to route the Project in MnDOT's right-of-way along US Highway 65.

The Minnesota Department of Natural Resources (DNR) recommended that Freeborn Wind install bird diverters on any portion of the line crossing the Shell Rock River. DNR also recommended that Freeborn Wind manage the vegetation around the Project's crossing of the Shell Rock River using the "wire/border zone method." This method recognizes that restrictions on the type and height of vegetation growing directly below a wire (the wire zone) need not apply to vegetation elsewhere in the right-of-way (the border zone).

B. Comments of AFCL and the Public

Supporters of the proposed transmission line argued that the Project would generate employment, increase tax revenues, provide revenues for landowners, aid the environment by facilitating reliance on wind power, and generally promote the greater good. Opponents, including AFCL, discussed threats to wildlife, habitat, waterways, wetlands, water quality, and karst topography; electromagnetic fields; concrete or utility pole chemicals leaching into the soil and groundwater; recreation and aesthetics; emergency radio signals, and property values. And AFCL questioned Freeborn Wind's authority to interconnect with the larger transmission grid.

Commentors also discussed how they would be affected if the Commission were to approve one route rather than another.

VII. ALJ Report

The ALJ Report contains 268 findings of fact, 12 conclusions of law, and recommendations. The report provides a description of the proposed project and the route alternatives; a technical description of the transmission line structures, conductors, right-of-way widths; the Project's proposed schedule and costs; identification of the issues raised by the public and government agencies participating in the proceedings; the applicable statutes and rules; and facts related to the adequacy of the environmental assessment.

The ALJ concluded that the Commission should grant Freeborn Wind a Route Permit for a 161 kV high-voltage transmission line along the Orange Route and the Purple Parallel Route segment, and include the Company's proposed modification to narrow the route by 130th Street to match the Orange Route in this area.

The ALJ also recommended adopting the following Special Route Permit Conditions (that is, conditions that supersede any conflicting permit provisions) directing Freeborn Wind to do the following:

- 6.1 — Provide documentation when it files its Plan and Profile outlining how it will comply with Section 5.3.5 of the generic route permit template, which imposes limits on construction noise.

- 6.2 — Work with the local electric service provider to ensure that overhead power lines do not follow both sides of 130th Street, with Freeborn Wind bearing any resulting cost.

- 6.3 — Refrain from building structures over karst bedrock—and to this end, investigate the karst geology; include geotechnical testing results in its Plan and Profile filing for all proposed pole locations; and file a report for all geotechnical investigations completed, including the methodology used, the results identified, and the conclusions drawn from the investigation.

- 6.4 — Use the wire/border zone method for clearing and maintaining vegetation in the right-of-way.

VIII. Response to ALJ Report

A. The Department

The Department filed a letter supporting the ALJ Report.

B. Freeborn Wind

Freeborn Wind also generally supported the report, but objected to two of the ALJ's proposed additions to the route permit language. First, while noise considerations feature prominently in the discussion of Freeborn Wind's proposed wind farm, the Company states that the Commission has not previously sought to regulate noise related to the construction and operation of a transmission line—and Freeborn Wind questions the relevance of these restrictions to the current

project.

Second, Freeborn Wind acknowledges that it has agreed with the DNR to implement the wire/border zone method of managing vegetation where the Project's right-of-way crosses the Shell Rock River, but argued that this management method is not warranted elsewhere along the Project's corridor.

C. Association of Freeborn County Landowners

AFCL raised various objections to the ALJ Report. AFCL questioned whether Freeborn Wind has, or will obtain, the necessary property rights to build its project. It argued that the Company's land agents acted inappropriately in securing and documenting easements, that the county lacks authority to use road easements for transmission lines, and that the law does not grant Freeborn Wind eminent domain powers to acquire easements without a landowner's consent.

Finally, AFCL argued that the ALJ gave insufficient attention to the Project's consequences for nesting bald eagles, the Shell Rock River State Water Trail, and electric and magnetic fields.

D. Robert B. Knutson

Robert B. Knutson, who is a notary, alleged irregularities on the part of a person who notarized some of the leases related to the Project.

IX. Commission Analysis and Action

A. Exceptions Rejected

The Commission is persuaded that the ALJ Report generally reflects appropriate findings, conclusions, and recommendations, despite the following exceptions:

Approval of related wind farm: AFCL objected to approving construction of the proposed transmission line intended to connect the proposed Freeborn Wind Farm to the transmission grid, noting that the ALJ presiding over the contested case proceedings for the site permit for the Wind Farm recommended withholding the site permit. Given that the Commission has now elected to grant the permit for the wind farm (with conditions),[8] this objection no longer applies.

Alternative Review Process: AFCL objected to use of the "alternative review process" in lieu of the standard review process for evaluating Freeborn Wind's application. As noted above, the alternative review process is available for analyzing lines intended to transmit less than 200 kV. Freeborn Wind seeks to build a 161 kV transmission line, and the Commission finds no fault with analyzing Freeborn Wind's application using the alternative review process.

Property rights: AFCL and Mr. Knutson cited various grounds to question whether Freeborn Wind has obtained, or will obtain, the property rights necessary to build its project—including references

[8] *See* n. 1, *supra*, Order Issuing Site Permit, issued in Docket No. IP-6946/WS-17-410 contemporaneously with this order.

to improprieties by land agents. But the extent of Freeborn Wind's current or future property rights is beyond the scope of these proceedings. These are disputes to be resolved between the Company, the relevant property owners, and the local units of government.

Electric and magnetic fields: AFCL objected that the Project would generate electric and magnetic fields that could interfere with the operation of pacemakers and other devices, and that the ALJ Report neglected to address this issue. However, the environmental assessment discusses electric fields explicitly, concluding as follows:

> Implantable Medical Devices
>
> The [electromagnetic field's] overall impact intensity level is expected to be negligible across routing options. Impacts to human health are not anticipated. Potential impacts, should they occur, would be long-term and localized. Impacts can be mitigated.[9]

Moreover, the generic route permit template includes conditions requiring a permittee to limit the electric field generated by the transmission line and to correct any interference the line may cause to communications devices.[10] In contrast to the regulation of electric fields, the Commission has no standard for regulating magnetic fields—and the Department concludes that such regulation would be unwarranted.[11] The Commission concurs with this analysis.

Eagle nests: AFCL complained that the ALJ gave insufficient consideration to the Project's consequences for nesting bald eagles. The ALJ Report discusses the Project's consequences for bald eagles and other avian and bat species at Findings 216–223. The Report notes that Freeborn Wind conducted multiple surveys to find eagle nests near the Project's various corridors; the nearest one was 0.3 miles away—and within 130 feet of another 161 kV transmission line.[12] Nevertheless, Freeborn Wind has committed to adopt the Avian Power Line Interaction Committee standards to minimize harm to avian species, and to install bird diverters where the Project crosses the Shell Rock River. Finally, the fact that the Purple and Gold Overbuild options posed an increased risk of bird collision—due to the height of the polls and the number of conductors—influenced the ALJ's choice to reject those options.

Shell Lake River State Water Trail: AFCL complained that the ALJ gave insufficient attention to the Project's consequences for the Shell Rock River State Water Trail. The ALJ Report discusses the trail at Findings 109–115. The ALJ finds that each of the proposed routes crosses the Shell Lake River, but because the Orange Route crosses adjacent to US Highway 65 and a railroad bridge, "recreationalists' attention [would be drawn to the] passing traffic or trains as opposed to

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[9] Environmental Assessment at 48–49.

[10] Generic route permit template, sections 5.4.1, 5.4.2 and 5.4.3.

[11] Department Comments, at 6 (June 28, 2018).

[12] ALJ Report, Findings 217–218.

the HVTL. The river crossing is unavoidable, but the overall impact intensity level is anticipated to be minimal."[13]

Corridor sharing: AFCL argued that the ALJ Report failed to address Minn. Stat. § 216E.03, subd. 7(e), which requires the Commission to –

> make specific findings that it has considered locating a route for a high-voltage transmission line on an existing high-voltage transmission route and the use of parallel existing highway right-of-way and, to the extent those are not used for the route, … state the reasons.

The record of these proceedings amply documents the parties' efforts to locate the proposed transmission line along the route of existing transmission lines—most notably, via consideration of the Gold Route Segment. However, the Company, the Department, and the ALJ each concluded that this route would have the greatest consequences for landowners that have not consented to the Project.[14] In contrast, the Company, the Department, and the ALJ found that the Orange Route with the Purple Parallel Route Segment minimizes such consequences,[15] and therefore they each recommended that route. The Commission concurs in their analysis and conclusion.

B. Commission Action

In addition to some 268 findings of fact and 12 conclusions of law, the ALJ made two general recommendations. First, the ALJ recommended that the Commission issue a route permit authorizing Freeborn Wind to build the Project along the Orange Route and the Purple Parallel Route segment, narrowing the Purple Route by 130th Street to match the Orange Route in this area. Second, the ALJ recommended that the Commission incorporate into its route permit the conditions contained in the generic route permit template, plus four Special Conditions directing Freeborn Wind to do the following:

> 6.1 — Provide documentation when it files its Plan and Profile outlining how it will comply with Section 5.3.5 of the generic route permit template, which imposes limits on construction noise.
>
> 6.2 — Work with the local electric service provider to ensure that overhead power lines do not follow both sides of 130th Street, with Freeborn Wind bearing any resulting cost.

[13] *Id*., at Finding 113.

[14] *Id*., at Finding 87.

[15] *Id*., at Finding 89.

6.3 — Refrain from building structures over karst bedrock—and to this end, investigate the karst geology; include geotechnical testing results in its Plan and Profile filing for all proposed pole locations; and file a report for all geotechnical investigations completed, including the methodology used, the results identified, and the conclusions drawn from the investigation.

6.4 — Use the wire/border zone method for clear and maintaining vegetation in the right-of-way.

The Commission has reviewed the environmental assessment—especially the "Routing Factors" section which analyzed the relative merits of all the route alternatives with respect to the routing factors found in Minnesota Rules, part 7850.4100—the ALJ Report, and the comments of the parties. On this basis, the Commission generally finds the ALJ's findings, conclusions, and recommendations to be thorough and well-reasoned.

In particular, the Commission concurs that the Orange Route combined with the Purple Paralleling Route Segment is the most feasible route for this project among the alternatives evaluated. Overall, this route will have the least impact on the natural and human environments and can be built with a minimum amount of mitigation. The Commission finds that this route satisfies the conditions of Minn. R. 7850.2800 – 7850.3900; is consistent with the goals set forth in Minn. Stat. § 216.03, subd. 7, and Minn. R. 7850.4000 to conserve resources, minimize environmental impacts, and minimize human settlement and other land use conflicts; and best ensures the state's electric energy security through efficient, cost-effective power supply and electric transmission infrastructure.

Accordingly, the Commission will adopt the ALJ's findings, conclusions, and recommendations—with two exceptions.

First, as Freeborn Wind observed, while noise regulation has been a major focus of discussion regarding the proposed Freeborn Wind Farm, the Commission has not previously made noise regulation a special condition of a transmission line route permit. The generic route permit template already directs a permittee to comply with the noise standards established under Minn. R. 7030.0010 to 7030.0080, and to limit nighttime noise levels by striving to do construction and maintenance during daytime working hours.[16] The Commission is not persuaded that any additional noise conditions are warranted for this project, and will therefore decline to adopt the ALJ's proposed Special Condition 6.1.

Second, Freeborn Wind has agreed to implement a wire/border zone method for clearing and managing vegetation where the Project's right-of-way crosses the Shell Rock River, which is where vegetative management is most sensitive. But regarding the rest of the right-of-way, the Commission is persuaded that the terms set forth in the generic route permit template will suffice.[17] Consequently the Commission will limit the application of the ALJ's proposed Special Condition 6.4 to areas around the Shell Rock River.

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[16] Generic route permit template, at section 5.2.5.

[17] *Id*., at sections 5.3.9 through 5.3.12.

The Commission will therefore adopt the ALJ Report and issue the route permit to Freeborn Wind as set forth in Attachment 1.

ORDER

1. The Commission finds that the environmental assessment and the record created at the public hearing address the issues identified in the environmental assessment Scoping Decision.

2. The Commission approves and adopts the findings, conclusions, and recommendations in the ALJ's July 26, 2018 Findings of Fact, Conclusions of Law, and Recommendations, and the terms of the generic route permit template, except that the Commission will modify the permit terms to—

   A. Omit Special Condition 6.1 (regarding noise regulation) and

   B. Limit the application of Special Condition 6.4 (regarding management of vegetation in the transmission line right-of-way) to the Shell Rock River area.

3. The Commission hereby issues to Freeborn Wind Energy LLC a high-voltage transmission line route permit for the Orange Route combined with the Purple Paralleling Route Segment, as set forth in Attachment 1.

4. This order shall become effective immediately.

BY ORDER OF THE COMMISSION

Daniel P. Wolf

Daniel P. Wolf
Executive Secretary

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In the Matter of the Application of Freeborn Wind Energy LLC for a Route Permit for the Freeborn Wind Transmission Line in Freeborn County	ISSUE DATE: December 19, 2018 DOCKET NO. IP-6946/TL-17-322

Attachment 1: Route Permit

STATE OF MINNESOTA PUBLIC UTILITIES COMMISSION

ROUTE PERMIT FOR A
HIGH-VOLTAGE TRANSMISSION LINE AND ASSOCIATED FACILITIES

IN
FREEBORN COUNTY

ISSUED TO
FREEBORN WIND ENERGY LLC

PUC DOCKET NO. IP-6946/TL-17-322

In accordance with the requirements of Minnesota Statutes Chapter 216E and Minnesota Rules Chapter 7850, this route permit is hereby issued to:

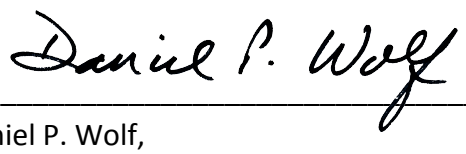
FREEBORN WIND ENERGY LLC

Freeborn Wind Energy LLC is authorized by this route permit to construct and operate an approximately 7-mile long, 161 kilovolt high-voltage transmission line in Freeborn County.

The high-voltage transmission line and associated facilities shall be built within the route identified in this permit and as portrayed on the official route maps, and in compliance with the conditions specified in this permit.

Approved and adopted this 19th day of December, 2018.

BY ORDER OF THE COMMISSION



Daniel P. Wolf,
Executive Secretary

CONTENTS

FIGURES

ATTACHMENTS

1.0 ROUTE PERMIT

The Minnesota Public Utilities Commission (Commission) hereby issues this route permit to Freeborn Wind Energy LLC (Freeborn Wind or Permittee) pursuant to Minnesota Statutes Chapter 216E and Minnesota Rules Chapter 7850. This permit authorizes the Freeborn Wind to construct and operate an approximately 7-mile long, 161-kilovolt (kV) high-voltage transmission line in Freeborn County and as identified in the attached route permit maps, hereby incorporated into this document.

1.1 Pre-emption

Pursuant to Minn. Stat. § 216E.10, this permit shall be the sole route approval required to be obtained by the Permittee for construction of the transmission facilities and this permit shall supersede and preempt all zoning, building, or land use rules, regulations, or ordinances promulgated by regional, county, local, and special purpose government.

2.0 PROJECT DESCRIPTION

The project includes approximately 7.0 miles of a new single circuit 161 kV high-voltage transmission line (HVTL) to interconnect the proposed up to 200 megawatt (MW) Freeborn Wind Farm located in Freeborn County, Minnesota and Worth County, Iowa.[1]

The project will originate at the proposed Freeborn Wind Farm Substation and run northwest to interconnect at the existing Glenworth Substation located southeast of Glenville, Minnesota. Power generated from the Freeborn Wind Farm Substation will be transmitted to the Glenworth Substation.

2.1 Project Location

The origin of the HVTL is at the Freeborn Wind Farm Substation located at the southeast corner of the intersection of 110th Street and 840th Avenue in Shell Rock Township, approximately 7 miles southeast of the Glenworth Substation. The HVTL will terminate at the Glenworth Substation.

[1] The Freeborn Wind Farm site permit application is Commission Docket Number IP-6946/WS-17-410. The proposed Freeborn Wind Farm Substation is part of the site permit application.

County	Township Name	Township	Range	Sections
Freeborn	Shell Rock	101N	20W	7, 8, 16, 17, 20, 21, 25, 26, 27, 28, 35, 36

2.2 Substations and Associated Facilities

There are no additional substations or associated facilities with this HVTL permit.

2.3 Structures

Structures for the Project are wood, laminated wood, or steel poles with braced post insulators. Wood or laminated braced post poles (braced post structure TSP-161 structure type) will be used for the majority of the project. A cantilever design may be used in some locations with all davit arms and conductors installed on one side of the pole to allow a narrower right-of-way. Direct embedded poles may be used for tangent structures. Rock filled culvert or concrete drilled pier foundations may be used in areas with poor soils. Dead-end structures will be installed with concrete drilled pier foundations of up to 30 feet in depth.

Transmission structures for the project will range from 60 to 80 feet above ground. The typical span between poles outside of substation locations will be approximately 550 to 900 feet.

2.4 Conductors

The approved conductor for the project is T2 477 thousand circular mil (kcmil) aluminum core steel-supported (“Hawk”) conductor or one with comparable capacity (up to 265 MW) with a phasing space of 11 feet.

The table below details specifics on the various structure and conductor types as presented in the route permit application.

Line Type	Conductor	Structure		Foundation	Height	Span
		Type	Material			
Single Circuit	T2 477 kcmil ACSR or comparable	Direct Embedded or Poured Concrete - TSP161, TSVP-161, TS-161L-LA, TDE-161L-J or SUBDE-161S	Wood, Laminated Wood, or Steel	3-6 feet in diameter	60-80 feet	550-900 feet or 300 feet for the Substation Deadend Structure

3.0 DESIGNATED ROUTE

The route designated by the Commission in this permit is the route described below and shown on the route maps attached to this permit. The route is generally described as follows:

The HVTL line will originate at the proposed Wind Farm Substation site located at the southeast corner of the intersection of 110th Street and 840th Avenue in Shell Rock Township. From the Wind Farm Substation, the line will proceed north and parallel 840th Avenue and turn west to cross through agricultural land to and existing 69 kV transmission line west of 820th Avenue. The HVTL then crosses the transmission line and turns north through more agricultural land. It crosses 810th Avenue and parallels 130th Street westerly until it reaches the east side of US 65.

The HVTL then proceeds goes north-by-northwest, adjacent to the east side of US 65 crossing more agricultural land, the Shell Rock River and natural areas associated with the Shell Rock River and terminates at the existing Glenworth Substation.

The route width for the project is generally 400 feet wide, but varies by location as identified in Table 5 of the Freeborn Wind to Glenworth Substation Transmission Line Route Permit Application, dated September 20, 2018, and the enclosed Official Route Map. The identified route width is intended to provide the Permittee with flexibility for minor adjustments of the specific alignment or right-of-way to accommodate landowner requests and unforeseen conditions. The final alignment (i.e., permanent and maintained rights-of-way) will be located within this designated route unless otherwise authorized by the Commission.

4.0 RIGHT-OF-WAY

The approved right-of-way width for the project is up to 80 feet (40 feet on either side of the centerline). This permit anticipates that the right-of-way will generally conform to the anticipated alignment as noted on the attached route permit maps unless changes are requested by individual landowners or unforeseen conditions are encountered or are otherwise provided for by this permit.

Any right-of-way modifications within the designated route shall be located so as to have comparable overall impacts relative to the factors in Minn. R. 7850.4100, as does the right-of-way identified in this permit, and shall be specifically identified and documented in and approved as part of the plan and profile submitted pursuant to Section 9.1 of this permit.

Where the transmission line parallels existing highway and other road rights-of-way, the transmission line right-of-way shall occupy and utilize the existing right-of-way to the maximum extent possible; consistent with the criteria in Minn. R. 7850.4100 and the other requirements of this permit; and for highways under the jurisdiction of the Minnesota Department of Transportation, the procedures for accommodating utilities in trunk highway rights-of-way.

5.0 GENERAL CONDITIONS

The Permittee shall comply with the following conditions during construction and operation of the transmission line and associated facilities over the life of this permit.

5.1 Permit Distribution

Within 30 days of permit issuance, the Permittee shall provide all affected landowners with a copy of this permit and the complaint procedures. In no case shall the landowner receive this route permit and complaint procedures less than five days prior to the start of construction on their property. An affected landowner is any landowner or designee that is within or adjacent to the permitted route.

At the time of first contact, the Permittee shall also provide all affected landowners with a copy of the Department of Commerce's Rights-of-Way and Easements for Energy Facility Construction and Operation fact sheet.[2]

[2] http://mn.gov/commerce/energyfacilities/documents/Easements%20Fact%20Sheet_08.05.14.pdf

5.2 Access to Property

The Permittee shall notify landowners or their designee at least 14 days in advance but not greater than 60 days in advance of entering the property.

5.3 Construction and Operation Practices

The Permittee shall follow those specific construction practices and material specifications described in the Freeborn Wind to Glenworth Substation Transmission Line Route Permit Application, dated September 20, 2018, and the record of the proceedings unless this permit establishes a different requirement in which case this permit shall prevail.

5.3.1 Field Representative

The Permittee shall designate a field representative responsible for overseeing compliance with the conditions of this permit during construction of the project. This person shall be accessible by telephone or other means during normal business hours throughout site preparation, construction, cleanup, and restoration.

The Permittee shall file with the Commission the name, address, email, phone number, and emergency phone number of the field representative 14 days prior to commencing construction. The Permittee shall provide the field representative's contact information to affected landowners, residents, local government units and other interested persons 14 days prior to commencing construction. The Permittee may change the field representative at any time upon notice to the Commission, affected landowners, residents, local government units, and other interested persons.

5.3.2 Employee Training and Education of Permit Terms and Conditions

The Permittee shall inform and educate all employees, contractors, and other persons involved in the construction and ongoing operation of the transmission line of the terms and conditions of this permit.

5.3.3 Public Services, Public Utilities, and Existing Easements

During construction, the Permittee shall minimize any disruption to public services or public utilities. To the extent disruptions to public services or public utilities occur these will be

temporary and the Permittee will restore service promptly. Where any impacts to utilities have the potential to occur, the Permittee will work with both landowners and local agencies to determine the most appropriate transmission structure placement.

The Permittee shall consult with landowners, townships, cities, and counties along the route and consider concerns regarding tree clearing, distance from existing structures, drain tiles, pole depth, and placement in relationship to existing roads and road expansion plans.

The Permittee shall cooperate with county and city road authorities to develop appropriate signage and traffic management during construction.

5.3.4 Temporary Work Space

The Permittee shall limit temporary easements to special construction access needs and additional staging or lay-down areas required outside of the authorized right-of-way. Temporary space shall be selected to limit the removal and impacts to vegetation. Temporary easements outside of the authorized transmission line right-of-way will be obtained from affected landowners through rental agreements and are not provided for in this permit.

Temporary driveways may be constructed between the roadway and the structures to minimize impact using the shortest route possible. Construction mats should be used to minimize impacts on access paths and construction areas.

5.3.5 Noise

The Permittee shall comply with noise standards established under Minn. R. 7030.0010 to 7030.0080. Construction and maintenance activities shall be limited to daytime working hours to the extent practicable to ensure nighttime noise level standards will not be exceeded.

5.3.6 Aesthetics

The Permittee shall consider input pertaining to visual impacts from landowners or land management agencies prior to the final location of structures, rights-of-way, and other areas with the potential for visual disturbance. Care shall be used to preserve the natural landscape, minimize tree removal, and prevent any unnecessary destruction of the natural surroundings in the vicinity of the project during construction and maintenance. The Permittee shall work with landowners to locate the high-voltage transmission line to minimize the loss of agricultural land, forest, and wetlands, and to avoid homes and farmsteads. Structures shall be placed at a

distance, consistent with sound engineering principles and system reliability criteria, from intersecting roads, highways, or trail crossings.

5.3.7 Soil Erosion and Sediment Control

The Permittee shall implement those erosion prevention and sediment control practices recommended by the Minnesota Pollution Control Agency Construction Stormwater Program.

The Permittee shall implement reasonable measures to minimize erosion and sedimentation during construction and shall employ perimeter sediment controls, protect exposed soil by promptly planting, seeding, using erosion control blankets and turf reinforcement mats, stabilizing slopes, protecting storm drain inlets, protecting soil stockpiles, and controlling vehicle tracking. Contours shall be graded as required so that all surfaces provide for proper drainage, blend with the natural terrain, and are left in a condition that will facilitate re-vegetation and prevent erosion. All areas disturbed during construction of the facilities shall be returned to pre-construction conditions.

In accordance with Minnesota Pollution Control Agency requirements, the Permittee shall obtain a National Pollutant Discharge Elimination System (NPDES)/State Disposal System (SDS) Construction Stormwater permit from the Minnesota Pollution Control Agency.

5.3.8 Wetlands and Water Resources

Wetland impact avoidance measures that shall be implemented during design and construction of the transmission line will include spacing and placing the power poles at variable distances to span and avoid wetlands, watercourses, and floodplains. Unavoidable wetland impacts as a result of the placement of poles shall be limited to the immediate area around the poles. To minimize impacts, construction in wetland areas shall occur during frozen ground conditions where practicable and shall be according to permit requirements by the applicable permitting authority. When construction during winter is not possible, wooden or composite mats shall be used to protect wetland vegetation. Soil excavated from the wetlands and riparian areas shall be contained and not placed back into the wetland or riparian area. Wetlands and riparian areas shall be accessed using the shortest route possible in order to minimize travel through wetland areas and prevent unnecessary impacts. No staging or stringing set up areas shall be placed within or adjacent to wetlands or water resources, as practicable. Power pole structures shall be assembled on upland areas before they are brought to the site for installation.

Areas disturbed by construction activities shall be restored to pre-construction conditions. Restoration of the wetlands will be performed by the Permittee in accordance with the requirements of applicable state and federal permits or laws and landowner agreements.

All requirements of the U.S. Army Corps of Engineers (wetlands under federal jurisdiction), Minnesota Department of Natural Resources (Public Waters/Wetlands), and County (wetlands under the jurisdiction of the Minnesota Wetland Conservation Act) shall be met.

5.3.9 Vegetation Management

The Permittee shall minimize the number of trees to be removed in selecting the right-of-way specifically preserving to the maximum extent practicable windbreaks, shelterbelts, living snow fences, and vegetation in areas such as trail and stream crossings where vegetative screening may minimize aesthetic impacts, to the extent that such actions do not violate sound engineering principles or system reliability criteria.

Tall growing species located within the transmission line right-of-way that endanger the safe and reliable operation of the transmission facility will be removed by the Permittee. The Permittee shall leave undisturbed, to the extent possible, existing low growing species in the right-of-way or replant such species in the right-of-way to blend the difference between the right-of-way and adjacent areas, to the extent that the low growing vegetation that will not pose a threat to the transmission facility or impede construction.

5.3.10 Application of Pesticides

The Permittee shall restrict pesticide use to those pesticides and methods of application approved by the Minnesota Department of Agriculture, Minnesota Department of Natural Resources, and the U.S. Environmental Protection Agency. Selective foliage or basal application shall be used when practicable. All pesticides shall be applied in a safe and cautious manner so as not to damage adjacent properties including crops, orchards, tree farms, apiaries, or gardens. The Permittee shall contact the landowner or designee to obtain approval for the use of pesticide at least 14 days prior to any application on their property. The landowner may request that there be no application of pesticides on any part of the site within the landowner's property. The Permittee shall provide notice of pesticide application to affected landowners, and known beekeepers operating apiaries within three miles of the project site at least 14 days prior to such application.

5.3.11 Invasive Species

The Permittee shall employ best management practices to avoid the potential spread of invasive species on lands disturbed by project construction activities.

5.3.12 Noxious Weeds

The Permittee shall take all reasonable precautions against the spread of noxious weeds during all phases of construction. When utilizing seed to establish temporary and permanent vegetative cover on exposed soil, the Permittee shall select site appropriate seed certified to be free of noxious weeds. To the extent possible, the Permittee shall use native seed mixes. The Permittee shall consult with landowners on the selection and use of seed for replanting.

5.3.13 Roads

The Permittee shall advise the appropriate governing bodies having jurisdiction over all state, county, city, or township roads that will be used during the construction phase of the project. Where practical, existing roadways shall be used for all activities associated with construction of the facility. Oversize or overweight loads associated with the facility shall not be hauled across public roads without required permits and approvals.

The Permittee shall build no more access roads than necessary. Access roads shall not be constructed across streams and drainage ways without the required permits and approvals. Access roads shall be constructed in accordance with all township, county, or state road requirements and required permits.

The Permittee shall promptly repair private roads or lanes damaged when moving equipment or when accessing construction workspace, unless otherwise negotiated with the affected landowner.

5.3.14 Archaeological and Historic Resources

The Permittee shall make every effort to avoid impacts to identified archaeological and historic resources when constructing the transmission facility. In the event that a resource is encountered, the Permittee shall contact and consult with the State Historic Preservation Office and the State Archaeologist. Where feasible, avoidance of the resource is required. Where not feasible, mitigation must include an effort to minimize project impacts on the resource consistent with State Historic Preservation Office and State Archaeologist requirements.

Prior to construction, workers shall be trained about the need to avoid cultural properties, how to identify cultural properties, and procedures to follow if undocumented cultural properties, including gravesites, are found during construction. If human remains are encountered during construction, the Permittee shall immediately halt construction and promptly notify local law enforcement and the State Archaeologist. Construction at such location shall not proceed until authorized by local law enforcement or the State Archaeologist.

5.3.15 Avian Protection

The Permittee in cooperation with the Minnesota Department of Natural Resources shall identify areas of the project where bird flight diverters will be incorporated into the transmission line design to prevent large avian collisions attributed to visibility issues. Standard transmission design shall incorporate adequate spacing of conductors and grounding devices in accordance with Avian Power Line Interaction Committee standards to eliminate the risk of electrocution to raptors with larger wingspans that may simultaneously come in contact with a conductor and grounding devices.

5.3.16 Restoration

The Permittee shall restore the right-of-way, temporary work spaces, access roads, abandoned right-of-way, and other public or private lands affected by construction of the transmission line. Restoration within the right-of-way must be compatible with the safe operation, maintenance, and inspection of the transmission line. Within 60 days after completion of all restoration activities, the Permittee shall advise the Commission in writing of the completion of such activities.

5.3.17 Cleanup

All waste and scrap that is the product of construction shall be removed from the right-of-way and all premises on which construction activities were conducted and properly disposed of upon completion of each task. Personal litter, including bottles, cans, and paper from construction activities shall be removed on a daily basis.

5.3.18 Pollution and Hazardous Wastes

All appropriate precautions to protect against pollution of the environment must be taken by the Permittee. The Permittee shall be responsible for compliance with all laws applicable to the

generation, storage, transportation, clean up, and disposal of all wastes generated during construction and restoration of the right-of-way.

5.3.19 Damages

The Permittee shall fairly restore or compensate landowners for damage to crops, fences, private roads and lanes, landscaping, drain tile, or other damages sustained during construction.

5.4 Electrical Performance Standards

5.4.1 Grounding

The Permittee shall design, construct, and operate the transmission line in a manner so that the maximum induced steady-state short-circuit current shall be limited to five milliamperes root mean square (rms) alternating current between the ground and any non-stationary object within the right-of-way, including but not limited to large motor vehicles and agricultural equipment. All fixed metallic objects on or off the right-of-way, except electric fences that parallel or cross the right-of-way, shall be grounded to the extent necessary to limit the induced short-circuit current between ground and the object so as not to exceed one milliampere rms under steady-state conditions of the transmission line and to comply with the ground fault conditions specified in the National Electric Safety Code. The Permittee shall address and rectify any induced current problems that arise during transmission line operation.

5.4.2 Electric Field

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.

5.4.3 Interference with Communication Devices

If the presence or operation of the transmission line interferes with radio, television, satellite, wireless internet, Global Positioning System (GPS)-based agriculture navigation system, or other communication devices, the Permittee shall take whatever action is necessary to restore or provide reception equivalent to reception levels in the immediate area just prior to the construction of the line.

5.5 Other Requirements

5.5.1 Safety Codes and Design Requirements

The transmission line and associated facilities shall be designed to meet or exceed all relevant local and state codes, the National Electric Safety Code, and North American Electric Reliability Corporation requirements. This includes standards relating to clearances to ground, clearance to crossing utilities, clearance to buildings, strength of materials, clearances over roadways, right-of-way widths, and permit requirements.

5.5.2 Other Permits and Regulations

The Permittee shall comply with all applicable state rules and statutes. The Permittee shall obtain all required permits for the project and comply with the conditions of those permits unless those permits conflict with or are preempted by federal or state permits and regulations. A list of the permits known to be required is included in the permit application. The Permittee shall submit a copy of such permits to the Commission upon request.

6.0 SPECIAL CONDITIONS

Special conditions shall take precedence over other conditions of this permit should there be a conflict.

6.1 Line Placement along 130th Street

The Permittee is required to consult with the local electric service provider to ensure that overhead power lines do not follow both sides of 130th Street. The Permittee shall incur all costs associated with meeting this requirement.

6.2 Karst Geology Investigations

The Permittee shall provide geotechnical testing results at all proposed pole locations when it files its plan and profile. The Permittee must file a report for all geotechnical investigations completed, which must include methodology, results, and conclusions drawn from the investigation. Structures shall not be located over karst bedrock.

6.3 Wire/Border Zone Clearing and Maintenance

The permittee must utilize the wire/border zone method of right-of-way clearing and maintenance in the Shell Rock River area and incorporate the method in the Vegetation Management Plan required in Section 5.3.9.

7.0 DELAY IN CONSTRUCTION

If the Permittee has not begun building or improving the route within four years of the date of this permit, the Permittee shall file a report on its failure to build and the Commission may consider suspending the permit in accordance with Minn. R. 7850.4700.

8.0 COMPLAINT PROCEDURES

Prior to the start of construction, the Permittee shall submit to the Commission the procedures that will be used to receive and respond to complaints. The procedures shall be in accordance with the requirements of Minn. R. 7829.1500 or Minn. R. 7829.1700, and as set forth in the complaint procedures attached to this permit.

Upon request, the Permittee shall assist the Commission with the disposition of unresolved or longstanding complaints. This assistance shall include, but is not limited to, the submittal of complaint correspondence and complaint resolution efforts.

9.0 COMPLIANCE REQUIREMENTS

Failure to timely and properly make compliance filings required by this permit is a failure to comply with the conditions of this permit. Compliance filings must be electronically filed with the Commission.

9.1 Plan and Profile

At least 30 days before right-of-way preparation for construction begins on any segment or portion of the project, the Permittee shall provide the Commission with a plan and profile of the right-of-way and the specifications and drawings for right-of-way preparation, construction, structure specifications and locations, cleanup, and restoration for the transmission line. The documentation shall include maps depicting the plan and profile including the right-of-way, alignment, and structures in relation to the route and alignment approved per this permit.

The Permittee may not commence construction until the 30 days has expired or until the Commission has advised the Permittee in writing that it has completed its review of the

documents and determined that the planned construction is consistent with this permit. If the Permittee intends to make any significant changes in its plan and profile or the specifications and drawings after submission to the Commission, the Permittee shall notify the Commission at least five days before implementing the changes. No changes shall be made that would be in violation of any of the terms of this permit.

9.2 Status Reports

The Permittee shall report to the Commission on progress during finalization of the route, design of structures, and construction of the transmission line. The Permittee need not report more frequently than monthly. Reports shall begin with the submittal of the plan and profile for the project and continue until completion of restoration.

9.3 Notification to Commission

At least three days before the line is to be placed into service, the Permittee shall notify the Commission of the date on which the line will be placed into service and the date on which construction was complete.

9.4 As-Builts

Within 90 days after completion of construction, the Permittee shall submit copies of all final as-built plans and specifications developed during the project.

9.5 Global Positioning System (GPS) interference with radio or television, satellite, wireless internet, GPS-based agriculture navigation systems, or other communication devices is caused by Data

Within 90 days after completion of construction, the Permittee shall submit to the Commission, in the format requested by the Commission, geo-spatial information (e.g., ArcGIS compatible map files, GPS coordinates, associated database of characteristics) for all structures associated with the transmission line and each substation connected.

10.0 PERMIT AMENDMENT

This permit may be amended at any time by the Commission. Any person may request an amendment of the conditions of this permit by submitting a request to the Commission in writing describing the amendment sought and the reasons for the amendment. The Commission will mail notice of receipt of the request to the Permittee. The Commission may

amend the conditions after affording the Permittee and interested persons such process as is required.

11.0 TRANSFER OF PERMIT

The Permittee may request at any time that the Commission transfer this permit to another person or entity. The Permittee shall provide the name and description of the person or entity to whom the permit is requested to be transferred, the reasons for the transfer, a description of the facilities affected, and the proposed effective date of the transfer.

The person to whom the permit is to be transferred shall provide the Commission with such information as the Commission shall require to determine whether the new Permittee can comply with the conditions of the permit. The Commission may authorize transfer of the permit after affording the Permittee, the new Permittee, and interested persons such process as is required.

12.0 REVOCATION OR SUSPENSION OF THE PERMIT

The Commission may initiate action to revoke or suspend this permit at any time. The Commission shall act in accordance with the requirements of Minn. R. 7850.5100, to revoke or suspend the permit.