Appendices

Appendix A. Environmental Assessment Scoping Decision

In the Matter of the Application of Great River Energy and Minnesota Power for a Certificate of Need and Route Permit for the Menahga Area 115 kV Transmission Line Project in Hubbard, Wadena, and Becker Counties, Minnesota

ENVIRONMENTAL ASSESSMENT SCOPING DECISION

DOCKET NO. ET2, E015/CN-14-787
DOCKET NO. ET2, E015/TL-14-797

The above matter has come before the deputy commissioner of the Department of Commerce (Department) for a decision on the scope of the environmental assessment (EA) to be prepared for the Menahga Area 115 kV transmission line project proposed by Great River Energy and Minnesota Power in Hubbard, Wadena, and Becker counties.

Project Description
Great River Energy and Minnesota Power (applicants) propose to construct approximately 22.5 miles of new 115 kV transmission line from the existing Hubbard substation westward to a new Straight River substation, and then southward to a new Blueberry substation near the city of Menahga and to a new Red Eye substation. The project is proposed to include a short section of double-circuit 115 kV line and modifications to existing substations.

Applicants are requesting a 500 foot route width for the project with a larger route width in select areas. Applicants indicate that the new 115 kV line will require a right-of-way (easement) of 100 feet. Transmission line structures for the new 115 kV line will be 60 to 90 feet in height, with a span between structures in the range of 275 to 400 feet. Applicants indicate that construction on the project is anticipated to commence in late spring 2016 and be completed by early 2017.

Project Purpose
Applicants indicate in their application that the proposed project is needed to relieve potential overloads on the existing 34.5 kV transmission system near the city of Menahga, Minn., and to serve a proposed, new oil pumping station in the area.

Regulatory Background
The applicants' proposed project requires two separate approvals from the Minnesota Public Utilities Commission (Commission) – a certificate of need (CN) and a route permit. The applicants submitted a joint certificate of need and route permit application to the Commission on January 15, 2015. The Commission accepted the application as complete March 18, 2015.

Department of Commerce, Energy Environmental Review and Analysis (EERA) staff is responsible for conducting environmental review for CN and route permit applications submitted to the Commission.[1] As two concurrent environmental reviews are required – one for the CN

[1] Minnesota Rule 7849.1200; Minnesota Rule 7850.3700.

application and one for the route permit application – the Department has elected to combine the environmental review for these applications.[2] An environmental assessment (EA) will be prepared to meet the requirements of both review processes.

Scoping Process

Scoping is the first step in the development of the EA for the project. The scoping process has two primary purposes: (1) to gather public input as to the impacts, mitigation measures, and alternatives to study in the EA, and (2) to focus the EA on those impacts, mitigation measures, and alternatives that will aid in the Commission's decisions on the CN and route permit applications.

EERA staff gathered input on the scope of the EA through a public meeting and an associated comment period. This scoping decision identifies the impacts and mitigation measures that will be analyzed in the EA, including route and site alternatives for the project. Additionally, this scoping decision identifies alternatives to the project itself that will be analyzed in the EA.

Public Scoping Meetings

Commission staff and EERA staff held a joint public information and environmental assessment scoping meeting on March 24, 2015, in the city of Menahga, Minn. Approximately 35 persons attended the meeting. Comments were received from several persons at these meetings. Comments included impacts and mitigation measures to study in the EA, including specific route alternatives.[3] Specific impacts suggested for study included impacts to property values, dairy farms, rare plants, and windbreaks.[4]

Public Comments

A comment period, ending on April 10, 2015, provided the public an opportunity to submit comments on issues and alternatives for consideration in the scope of the EA. Comments were received from 10 persons and one state agency.[5] These comments included impacts and mitigation measures to study in the EA, including specific route and site alternatives.

Commenters noted potential impacts to property values, gravel pits, rare plants, windbreaks, and television/cell phone reception.[6] Commenters also noted potential impacts to beef and dairy cattle.[7] One commenter noted potential impacts to a local cemetery with suggestions for appropriate pole placement.[8]

[2] Minnesota Rule 7849.1900.
[3] Oral Comments on Scope of Environmental Assessment, eDockets Number 20154-109244-01 [hereinafter Oral Comments].
[4] Id.
[5] Written Comments on Scope of Environmental Assessment, eDockets Number 20154-109244-02 [hereinafter Written Comments].
[6] Id.
[7] Id.
[8] Id.

Of the 15 written comments received,[9] 10 of them proposed or supported a route or site alternative to mitigate potential impacts of the project. These alternatives are discussed further below.

Agency Comments

The Minnesota Department of Transportation (MnDOT) noted its accommodation policy for the placement of utilities along and across highway rights-of-way.[10] MnDOT indicated that the applicants' proposed route along Highway 87 west of the city of Menahga may occupy a portion of the highway ROW.[11] Further, MNDOT noted that tree coverage along Highway 87 is extensive, and that MnDOT's roadside vegetation management unit will need to review potential impacts to native plant communities, threatened and endangered plant species, specimen trees, and other woody vegetation along the MnDOT Highway 87 ROW.[12]

Alternatives to the Project

One comment was received during the scoping process that proposed an alternative to the applicants' project.[13] This alternative proposed a relocated and reconfigured Straight River substation, rather than the Hubbard substation, as the northern substation endpoint for the project.[14]

Commission Review

After close of the public comment period, EERA staff conferred with the applicants on the alternatives proposed for study in the EA. On May 6, 2015, EERA staff provided the Commission with a summary of the EA scoping process.[15] The summary discussed the route and site alternatives that were proposed during the scoping process and those alternatives that the Department intended to recommend for inclusion in the scope of the EA. On May 21, 2015, the Commission considered what action, if any, it should take with respect to the route alternatives to be considered in the EA. The Commission took no action.

HAVING REVIEWED THE MATTER, consulted with Department staff, and in accordance with Minnesota Rule 7850.3700, I hereby make the following scoping decision:

MATTERS TO BE ADDRESSED

The issues outlined below will be analyzed in the EA for the proposed Menahga Area 115 kV transmission line project. The EA will describe the project and the human and environmental resources of the project area. It will provide information on the potential impacts of the project

[9] Some commenters submitted more than one comment during the scoping process.
[10] Written Comments.
[11] Id.
[12] Id.
[13] Id.
[14] Id.
[15] Department of Commerce, Comments and Recommendations on EA Scoping Process, May 6, 2015, eDockets Number 20155-110162-01 [hereinafter Department Comments and Recommendations].

as they relate to the topics outlined in this scoping decision, including possible mitigation measures. It will identify impacts that cannot be avoided and irretrievable commitments of resources, as well as permits from other government entities that may be required for the project. The EA will discuss the relative merits of the route and site alternatives studied in the EA using the routing factors found in Minnesota Rule 7850.4100.

The EA will include a description and analysis of the human and environmental impacts of the proposed project and alternatives to the project that would have otherwise been required by Minnesota Rule 7849.1500 in an environmental report for a certificate of need. This includes evaluating matters of size, type, and timing that would not normally be included in an EA for a route permit application.

I. GENERAL DESCRIPTION OF THE PROJECT

A. Project Description
B. Project Purpose
C. Route Description
    1. Route Width
    2. Right-of-Way
D. Substation Description
E. Project Costs

II. REGULATORY FRAMEWORK

A. Certificate of Need
B. High Voltage Transmission Line Route Permit
C. Environmental Review Process

III. ENGINEERING AND DESIGN

A. Transmission Line Structures
B. Transmission Line Conductors
C. Substations

IV. CONSTRUCTION

A. Right-of-Way Acquisition
B. Construction
    1. Transmission Line
    2. Substation
C. Restoration
D. Operation and Maintenance

V. AFFECTED ENVIRONMENT, POTENTIAL IMPACTS, AND MITIGATIVE MEASURES

The EA will include a discussion of the following human and environmental resources potentially impacted by the proposed project and the route and site alternatives described herein (Section VI). Potential impacts, both positive and negative, of the project and each alternative will be described. Based on the impacts identified, the EA will describe mitigation measures that could reasonably be implemented to reduce or eliminate the

identified impacts. The EA will describe any unavoidable impacts resulting from implementation of the proposed project.

Data and analyses in the EA will be commensurate with the importance of potential impacts and the relevance of the information to a reasoned choice among alternatives and to the consideration of the need for mitigation measures.[16] EERA staff will consider the relationship between the cost of data and analyses and the relevance and importance of the information in determining the level of detail of information to be prepared for the EA. Less important material may be summarized, consolidated or simply referenced.

If relevant information cannot be obtained within timelines prescribed by statute and rule, or if the costs of obtaining such information is excessive, or the means to obtain it is not known, EERA staff will include in the EA a statement that such information is incomplete or unavailable and the relevance of the information in evaluating potential impacts or alternatives.[17]

A. Environmental Setting
B. Socioeconomics
C. Human Settlements
    1. Noise
    2. Aesthetics
    3. Displacement
    4. Property Values
    5. Public Services
        a) Roads and Highways
        b) Utilities
        c) Emergency Services
    6. Electronic Interference
        a) Radio
        b) Television
        c) Wireless Phone / Internet Services
D. Public Health and Safety
    1. Electric and Magnetic Fields
    2. Implantable Medical Devices
    3. Stray Voltage
    4. Induced Voltage
    5. Air Quality
E. Land Based Economies
    1. Agriculture
    2. Forestry
    3. Mining
    4. Recreation and Tourism
F. Archaeological and Historic Resources
G. Natural Environment

[16] Minnesota Rule 4410.2300.
[17] Minnesota Rule 4410.2500.

1. Water Resources
   a) Surface Waters
   b) Groundwater
   c) Wetlands
2. Soils
3. Flora
4. Fauna

H. Threatened / Endangered / Rare and Unique Natural Resources
I. Zoning and Land Use Compatibility
J. Electric System Reliability
K. Operation and Maintenance Costs that are Design Dependent
L. Adverse Impacts that Cannot be Avoided
M. Irreversible and Irretrievable Commitments of Resources

VI. ROUTES AND SITES TO BE EVALUATED IN THE ENVIRONMENTAL ASSESSMENT

The EA will evaluate the route and substation sites proposed by the applicants in their joint certificate of need and route permit application. In addition, the following route and substation site alternatives will be evaluated in the EA (see attached map).

Blueberry Route Alternative

This route alternative, in lieu of proceeding along Highway 87 west of the city of Menahga, would instead follow the county line (Wadena Line Rd.) south approximately 0.7 miles and then turn eastward crossing Section 30 of Blueberry Township and enter the Blueberry substation from the west.

Western Blueberry Substation Site Alternative

This site alternative for the Blueberry substation would be located on the western edge of Section 30 of Blueberry Township, at the point where the Blueberry route alternative turns eastward. If the Blueberry substation were constructed at this alternative western site, the existing 34.5 kV line would need to be extended westward to reach the substation. This alternative substation site would only be used in conjunction with the Blueberry route alternative.

Pipeline South Route Alternative

This route alternative would proceed from the Blueberry substation, east along the 34.5 kV line right-of-way, and then southeast along the western edge of the Minnesota Pipeline Company (MPL) right-of-way to the Red Eye substation.

East of 109th Ave. Route Alternative

This route alternative would proceed from the Blueberry substation, south along 111th Ave. and then cross country, east of and parallel to 109th Ave. to County State Aid Highway 13 (CSAH 13). From CSAH 13, this alternative would follow the applicants' proposed route to the Red Eye substation.

119th Ave. Route Alternative

This route alternative would proceed from the Blueberry substation, south along 111th Ave., east along 350th St., and then south along 119th Ave. and cross country to CSAH 13. From CSAH 13, this alternative would follow the applicants' proposed route to the Red Eye substation.

U.S. 71 Route Alternative

This route alternative would proceed from the Blueberry substation, east along the 34.5 kV line right-of-way, and then south along U.S. Route 71 to CSAH 13. From CSAH 13, this alternative would follow the applicants' proposed route to the Red Eye substation.

VII. ALTERNATIVES TO THE PROPOSED TRANSMISSION LINE PROJECT

The EA, in accordance with Minnesota Rule 7849.1500, will describe and analyze the feasibility and availability of the following system alternatives, and the human and environmental impacts and potential mitigation measures associated with each:

A. No-build Alternative
B. Demand Side Management
C. Purchased Power
D. Transmission Line of a Different Size
E. Upgrading of Existing Facilities
F. Generation Rather Than Transmission
G. Use of Renewable Energy Sources

VIII. IDENTIFICATION OF PERMITS

The EA will include a list and description of permits from other government entities that may be required for the proposed project.

ISSUES OUTSIDE THE SCOPE OF THE ENVIRONMENTAL ASSESSMENT

The EA for the Menahga Area 115 kV transmission line project will not consider the following:

A. Any route or site alternative not specifically identified for study in this scoping decision.
B. Any system alternative (an alternative to the proposed transmission line project) not specifically identified for study in this scoping decision.
C. Policy issues concerning whether utilities or local governments should be liable for the cost to relocate utility poles when roadways are widened.
D. The manner in which land owners are paid for transmission line right-of-way easements.
E. Of the alternatives proposed during the scoping process to mitigate potential impacts of the project, the following alternatives will not be included for further study in the EA:

Southern Straight River Substation Site and Route Alternative

This alternative would move the Straight River substation to a more southern location and use this substation, instead of the Hubbard substation, to: (1) feed the new 115 kV line, which would proceed southward out of the substation along the applicants' proposed route, and (2) feed the existing Pipeline substation via a new 34.5 kV line northward along the applicants' proposed route.[18]

This alternative introduces substantial new impacts related to transmission efficiencies and expansion and to project costs.[19] Thus, the alternative would not aid in the Commission's decision on the applicants' route permit application.

Pipeline North Route Alternative

This alternative would proceed from the Straight River substation, along the applicants' proposed route, then along the western edge of the MPL right-of-way for approximately 4.5 miles, and then along 111th Ave. to the Blueberry substation.[20] This alternative would significantly impact two irrigated agricultural fields just south of Hubbard Line Road.[21] Accordingly, this route alternative would not aid in the Commission's decision on the applicants' route permit application.

139th Ave. Route Alternative

This route alternative would proceed from the Blueberry substation, east along the 34.5 kV line right-of-way, and then south along 139th Ave. to CSAH 13. From CSAH 13, this alternative would follow the applicants' proposed route to the Red Eye substation.

This alternative introduces substantial new impacts to forested wetlands and to an industrial area in the city of Menahga.[22] Because of these impacts and because there are other routing alternatives that would avoid the potential impacts noted by the proposers of this alternative without introducing substantial new impacts, the alternative would not aid in the Commission's decision on the applicants' route permit application.

CSAH 23 Route Alternative

This alternative would proceed along County State Aid Highway 23 (CSAH 23) and would include (1) a new 115 kV line along CSAH 23, (2) a new 115 kV line from the Menahga switch station to the proposed Blueberry substation, and (3) a new 34.5 kV line from the Blueberry substation to the Pipeline substation.[23]

This alternative does not meet one of the needs for the project – relief of potential overloads on the existing 34.5 kV system in the project area.[24] Additionally, this alternative introduces substantial new impacts related to electrical reliability, human

[18] Department Comments and Recommendations.
[19] Id.
[20] Id.
[21] Id.
[22] Id.
[23] Id.
[24] Id.

settlements, land-based economies, and the natural environment.[25] Because of these impacts and because there are other routing alternatives that would avoid the potential impacts noted by the proposer of this alternative without introducing substantial new impacts, the alternative would not aid in the Commission's decision on the applicants' route permit application.

SCHEDULE

The EA is anticipated to be completed and available in September 2015. A public hearing will be held in the project area after issuance of the EA and is anticipated to occur in October 2015.

Signed this 26th day of May, 2015

STATE OF MINNESOTA
DEPARTMENT OF COMMERCE

William Grant, Deputy Commissioner

[25] Id.

Appendix B. Generic Route Permit Template

GENERIC ROUTE PERMIT TEMPLATE

STATE OF MINNESOTA PUBLIC UTILITIES COMMISSION

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

IN
[*COUNTY*]

ISSUED TO
[*PERMITTEE*]

PUC DOCKET NO. [*Docket Number*]

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

[*PERMITTEE*]

[*Permittee*] is authorized by this route permit to construct [*Provide a description of the project authorized by the Minnesota Public Utilities Commission*].

The 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 ____ day of [*Month, Year*]

BY ORDER OF THE COMMISSION

_____

Daniel P. Wolf,
Executive Secretary

CONTENTS

FIGURES

ATTACHMENTS

Attachment [ ] – Complaint Procedures
Attachment [ ] – Compliance Procedures

1.0 ROUTE PERMIT

The Minnesota Public Utilities Commission (Commission) hereby issues this route permit to [*Permittee Name*] (Permittee) pursuant to Minnesota Statutes Chapter 216E and Minnesota Rules Chapter 7850. This permit authorizes the [*Permittee Name*] to construct [*Provide a description of the project as authorized by the Minnesota Public Utilities Commission*], 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 route permit shall be the sole 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

[*Provide a description of the project as authorized by the Minnesota Public Utilities Commission*]

2.1 Project Location

[*Describe the location of the project including details such as the county, state, city, and townships, as appropriate*]

County	Township Name	Township	Range	Section

2.2 Associated Facilities and Substations

[*Provide a detailed description of the associated facilities and substations as authorized by the Commission*]

2.3 Structures

[*Provide a detailed description of the structures and conductors authorized by the Commission*]

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

Line Type	Conductor	Structure		Foundation	Height	Span
		Type	Material			

2.4 Conductors

2.5 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 (NESC), and North American Electric Reliability Corporation (NERC) 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.

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:

[*Provide detailed description of the authorized route including the route widths and any other specifics relevant to each segment. Also include a reference to the relevant route map to be attached to the permit.*]

The identified route widths will 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 below.

4.0 RIGHT-OF-WAY

The approved right-of-way width for the project is up to [*number*] feet.

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 alignment 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 alignment

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 route 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, the other requirements of this permit, and for highways under the jurisdiction of the Minnesota Department of Transportation (Mn/DOT) rules, policies, and procedures for accommodating utilities in trunk highway rights-of-way.

5.0 GENERAL CONDITIONS

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

5.1 Notification to Landowners

The Permittee shall provide all affected landowners with a copy of this permit and, as a separate information piece, the complaint procedures at the time of the first contact with the landowners after issuance of this permit. The Permittee shall contact landowners prior to entering the property or conducting maintenance along the route. 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.

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.[1]

5.2 Construction Practices

The Permittee shall follow those specific construction practices and material specifications described in [*Permittee Name*] Application to the Commission for a route permit for the [*Project Name*], dated [*Date*], unless this permit establishes a different requirement in which case this permit shall prevail.

5.2.1 Field Representative

At least 14 days prior to commencing construction, the Permittee shall advise the Commission in writing of the person or persons designated to be the field representative

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

for the Permittee with the responsibility to oversee compliance with the conditions of this permit during construction.

The field representative's address, phone number, emergency phone number, and email shall be provided to the Commission and shall be made available to affected landowners, residents, public officials and other interested persons. The Permittee may change the field representative at any time upon written notice to the Commission.

5.2.2 Employee Training and Education of Permit Terms and Conditions

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

5.2.3 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 would 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 work with the landowners, townships, cities, and counties along the route to accommodate 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.

5.2.4 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 also be used to minimize impacts on access paths and construction areas.

5.2.5 Noise

Construction and routine maintenance activities shall be limited to daytime working hours, as defined in Minn. R. 7030.0200, to ensure nighttime noise level standards will not be exceeded.

5.2.6 Site Sediment and Erosion Control

The Permittee shall implement those erosion prevention and sediment control practices recommended by the Minnesota Pollution Control Agency (MPCA) 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.

Where larger areas of one acre or more are disturbed or other areas designated by the MPCA, the Permittee shall obtain a National Pollutant Discharge Elimination System (NPDES)/State Disposal System (SDS) Construction Stormwater permit from the MPCA.

5.2.7 Aesthetics

The Permittee shall consider input pertaining to visual impacts from landowners or land management agencies prior to 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.

Structures shall be placed at a distance, consistent with sound engineering principles and system reliability criteria, from intersecting roads, highway, or trail crossings and could cross roads to minimize or avoid impacts.

5.2.8 Vegetation Removal and Protection

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.

5.2.9 Application of Herbicides

The Permittee shall restrict herbicide use to those herbicides and methods of application approved by the Minnesota Department of Agriculture and the U.S. Environmental Protection Agency. Selective foliage or basal application shall be used when practicable. The Permittee shall contact the landowner or his designee to obtain approval for the use of herbicide prior to any application on their property. The landowner may request that there be no application of herbicides on any part of the right-of-way within the landowner's property. All herbicides shall be applied in a safe and cautious manner so as not to damage crops, orchards, tree farms, or gardens.

5.2.10 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.

5.2.11 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.

5.2.12 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. 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 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.

5.2.13 Archaeological and Historic Resources

The Permittee shall consult with the State Historic Preservation Office (SHPO) concerning the extent of a Phase I archaeological survey and appropriate mitigation measures for the Project. Permittee shall document and submit to the Commission the results of the consultation, including those portions of the Project that will be surveyed and the extent of the survey with the Construction Environmental Control Plan for the Project.

For those portions of the Project that are surveyed, Permittee shall submit, with the plan and profile for these portions, the results of the survey and all applicable avoidance and mitigation measures employed or to be employed.

Permittee shall inform construction personnel of known archaeological resources along the permitted route for the Project and of archaeological survey results. Permittee shall employ a monitor that reports to and communicates with the Environmental Monitor to identify and report archaeological resources encountered during construction of the Project and to coordinate with SHPO on appropriate mitigation measures.

5.2.14 Avian Mitigation

The Permittee's 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.

The Permittee will consult with the Minnesota Department of Natural Resources regarding type and placement of bird diverters.

5.2.15 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.

5.2.16 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.

5.2.17 Damages

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

5.3 Electrical Performance Standards

5.3.1 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 NESC. The Permittee shall address and rectify any induced current problems that arise during transmission line operation.

5.3.2 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.

5.3.3 Interference with Communication Devices

If interference with radio or television, satellite, wireless internet, GPS-based agriculture navigation systems or other communication devices is caused by the presence or operation of the transmission line, the Permittee shall take whatever action is feasible to restore or provide reception equivalent to reception levels in the immediate area just prior to the construction of the line.

5.4 Other Requirements

5.4.1 Applicable Codes

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.

5.4.2 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 these permits. 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

The Permittee shall provide a report to the Commission as part of the plan and profile submission that describes the actions taken and mitigative measures developed regarding the Project and the following special conditions. Special conditions shall take precedence over other conditions of this permit should there be a conflict.

[*Describe any special conditions*]

Examples of special conditions included in permits:

- *Avian Mitigation Plan*
- *Environmental Control Plan*
- *Agriculture Mitigation Plan*
- *Vegetation Management Plan*
- *Property Restrictions*
- *Minnesota Department of Natural Resources Requirements*
- *Minnesota Pollution Control Requirements*
- *Minnesota State Historical Preservation Office Requirements*
- *Minnesota Department of Transportation Requirements*

7.0 DELAY IN CONSTRUCTION

If the Permittee has not commenced construction or improvement of the route within four years after the date of issuance of this permit the Permittee shall file a report on the failure to construct and the Commission shall consider suspension of 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 Periodic Status Reports

The Permittee shall report to the Commission on progress regarding finalization of the route, design of structures, and construction of the transmission line. The Permittee need not report more frequently than monthly.

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

9.5 GPS Data

Within 60 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.

Appendix C. Route Permit Example

STATE OF MINNESOTA PUBLIC UTILITIES COMMISSION

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

IN
COTTONWOOD, JACKSON AND MARTIN COUNTIES

ISSUED TO
ODELL WIND FARM, LLC

PUC DOCKET NUMBER IP-6914/TL-13-591

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

ODELL WIND FARM, LLC

Odell Wind Farm, LLC is authorized by this route permit to construct 9.5 miles of single circuit overhead 115 kilovolt (kV) High Voltage Transmission Line, up to 1,500 feet of a single 345 kV High Voltage Transmission Line, the Woad Hill Substation in Martin County, and associated facilities.

The 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 29th day of October, 2014

BY ORDER OF THE COMMISSION

Burl W. Haar,
Executive Secretary

This document can be made available in alternative formats (i.e., large print or audio) by calling 651-296-0406 (voice). Persons with hearing or speech disabilities may call us through their preferred Telecommunications Relay Service.

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ATTACHMENTS

Attachment A – Complaint Procedures for High-Voltage Transmission Lines

Attachment B – Compliance Filing Procedure for Permitted Energy Facilities

1.0 ROUTE PERMIT

The Minnesota Public Utilities Commission (Commission) hereby issues this route permit to Odell Wind Farm, LLC (Permittee) pursuant to Minnesota Statutes Chapter 216E and Minnesota Rules Chapter 7850. This permit authorizes the Odell Wind Farm, LLC to construct up to 9.5 miles of single circuit overhead 115 kilovolt (kV) High Voltage Transmission Line (HVTL) and up to 1,500 feet of a single 345 kV High Voltage Transmission Line, and as identified in the attached route permit maps, hereby incorporated into this permit.

1.1 Pre-emption

Pursuant to Minn. Stat. § 216E.10, this route permit shall be the sole 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 governments.

2.0 PROJECT DESCRIPTION

The Project includes construction of approximately 9.5 miles of 115 kV high voltage transmission line, and associated facilities, including a 1,500-foot 345 kV HVTL, in Cottonwood, Jackson, and Martin counties, Minnesota, beginning at the planned Odell Wind Farm Substation in Cottonwood County to the proposed Woad Hill Substation in Martin County (the Project). The Project will provide interconnection to the 200-megawatt (MW) Odell Wind Farm located in Cottonwood, Jackson, Watonwan, and Martin Counties.

2.1 Project Location

The Project area includes the following locations:

County	Township Name	Township	Range	Section
Cottonwood	Mountain Lake	105N	34W	32,33,34,35,36
Jackson	Kimball	104N	34W	1,2,3,4,5,11,12
Martin	Cedar	104N	34W	4,5,6,7,8,9,16,17

2.2 Associated Facilities

The transmission line and associated facilities shall be designed to meet or exceed all relevant local and state codes, the National Electric Safety Code (NESC), and North American Electric Reliability Corporation (NERC) 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. The transmission line shall be equipped with protective devices to safeguard the public if an accident occurs.

2.2.1 Substations

The new Woad Hill Substation will be constructed either in the NW or SE quadrant of 30th Avenue and south of 230th Street in Section 8 or Section 16 of Cedar Township in Martin County. The substation will consist of supporting structures for high voltage electrical structures, breakers, transformers, lightning protection, and control equipment. The area around the substation will be fenced with driveway access from the east and north. The ground within the substation will be graded and secondary containment areas for the transformer will be installed as necessary. Gravel will be placed on the surface of the ground in and around the substation to assist with weed control. The Woad Hill Substation will take up approximately 10 acres of land.

2.2.2 Structures

The Permittee will use wood and/or T steel structures capable of handling a single-circuit load by constructing the single-circuit transmission line on wood and/or steel monopole structures, direct-embedded in approximately 3-foot diameter holes augured to a depth of approximately fourteen percent of the total structure height, or approximately 9 to 14 feet. Pole structures will be located approximately 350 to 400 feet apart.

Final design and geotechnical investigations may warrant the use of special structures to avoid sensitive areas or to accommodate special engineering circumstances. Structure installations may require special engineering techniques in some locations, due to hydric soils, near and above surface bedrock, and other subsurface conditions. The near and above surface bedrock design and construction would typically involve using specialized drilling equipment to bore a hole directly into the bedrock. The need for self-supporting angle and dead-end or atypical structures will be determined during final design.

The table below identifies the structure types as presented in the route permit application.

Line Type	Conductor	Structure		Foundation	Approximate Height	Approximate Span
		Type	Material			
115 kV	1272 kcmil ACSR	Monopole	Wood	Direct embed	65-70 feet	400 feet
		Self-Supporting	Steel	Drilled Pier Concrete Foundation[1]		

2.2.3 Conductors

The conductor for each of the three phases of the 115 kV line will be 1272 kcmil (one thousand circular mils) ACSR (Aluminum Conductor Steel Reinforced) "Bittern" transmission line.

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 Project will connect the Odell Wind Farm Substation, extend approximately four miles to the east adjacent to County Highway 17, turn south and extend south into Jackson County for approximately one mile adjacent to County Road 85, then extend east for approximately three miles adjacent to 240th Street in Martin County, and turn south adjacent to 30th Avenue for approximately 1.5 miles ultimately terminating at the proposed Woad Hill Substation in Section 8 or Section 16 of Cedar Township in Martin County. The proposed Woad Hill Substation will be a new 345/115 kV substation on Northern States Power's Lakefield Junction-Wilmarth 345 kV transmission line.

The Project will utilize a variable 150 to 600 foot route width. The majority of the Route will be 150 feet wide extending from the road centerline. The route width in Sections 1 and 12 of Kimball Township in Jackson County will be 300 feet, extending 150 feet on both sides of the road centerline in order to provide flexibility to accommodate distances from home. The route width in Sections 6 and 7 of Cedar Township in Martin County will be 600 feet to allow flexibility to work around a known easement title issues.

[1] Drilled pier concrete foundations will be used for steel corner/dead-end structures if guying is not possible.

The identified route widths will 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 below.

3.1 Right-of-Way

The approved right-of-way for the project is up to 130 feet. The transmission easements for the Project include a strip of land that is 80 feet wide parallel and adjacent to the existing road right-of-way, and a strip of land comprising one-half of the existing road right-of-way. The road rights-of-way are generally 66 feet for township roads or 100 feet for county roads. The total easement width is 113 feet along township roads and 130 feet along county roads.

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 and agreed to by Permittee or for unforeseen conditions that 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 8.1 of this permit.

Where the transmission line route 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, the other requirements of this permit, and for highways under the jurisdiction of the Minnesota Department of Transportation (Mn/DOT) rules, policies, and procedures for accommodating utilities in trunk highway rights-of-way.

4.0 GENERAL CONDITIONS

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

4.1 Notification to Landowners

The Permittee shall provide all affected landowners with a copy of this permit and, as a separate information piece, the complaint procedures at the time of the first contact with the landowners after issuance of this permit.

The Permittee shall contact landowners prior to entering the property or conducting maintenance along the route.

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.

4.2 Construction Practices

The Permittee shall follow those specific construction practices and material specifications described in the Odell Wind Farm, LLC Application to the Commission for a route permit for the Odell Wind Farm, dated December 12, 2013, as amended by the June 6, 2014 Request for Route Width Expansion unless this permit establishes a different requirement in which case this permit shall prevail.

4.2.1 Field Representative

At least 14 days prior to commencing construction, the Permittee shall advise the Commission in writing of the person or persons designated to be the field representative for the Permittee with the responsibility to oversee compliance with the conditions of this permit during construction. This person shall be accessible by telephone during normal business hours throughout right-of-way preparation, construction, cleanup, and restoration.

The field representative's address, phone number, emergency phone number, and email shall be provided to the Commission and to affected landowners, residents, public officials and other interested persons. The Permittee may change the field representative at any time upon notice to landowners and the Commission.

4.2.2 Employee Training and Education of Permit Terms and Conditions

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

4.2.3 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 would 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 work with the landowners, townships, cities, and counties along the route to accommodate 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.

4.2.4 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 also be used to minimize impacts on access paths and construction areas.

4.2.5 Noise

Construction and routine maintenance activities shall be limited to daytime working hours, as defined in Minn. R. 7030.0200, to ensure nighttime noise level standards will not be exceeded.

4.2.6 Aesthetics

The Permittee shall consider input pertaining to visual impacts from landowners or land management agencies prior to 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.

Structures shall be placed at a distance, consistent with sound engineering principles and system reliability criteria, from intersecting roads, highway, or trail crossings and could cross roads to minimize or avoid impacts.

4.2.7 Vegetation Removal and Protection

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.

4.2.8 Application of Herbicides

The Permittee shall restrict herbicide use to those herbicides and methods of application approved by the Minnesota Department of Agriculture and the U.S. Environmental Protection Agency. Selective foliage or basal application shall be used when practicable. The Permittee shall contact the landowner or his designee to obtain approval for the use of herbicide prior to any application on their property. The landowner may request that there be no application of herbicides on any part of the right-of-way within the landowner's property. All herbicides shall be applied in a safe and cautious manner so as not to damage crops, orchards, tree farms, or gardens.

4.2.9 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.

4.2.10 Site Sediment and Erosion Control

The Permittee shall implement those erosion prevention and sediment control practices recommended by the Minnesota Pollution Control Agency (MPCA) 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.

Where larger areas of one acre or more are disturbed or other areas designated by the MPCA, the Permittee shall obtain a National Pollutant Discharge Elimination System (NPDES)/State Disposal System (SDS) Construction Stormwater permit from the MPCA.

4.2.11 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. 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 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.

4.2.12 Archaeological and Historic Resources

The Permittee shall make every effort to avoid impacts to identified archaeological and historic resources when installing the high-voltage transmission line on the approved route. The Permittee shall consult with the Minnesota State Historic Preservation Office (SHPO) prior to commencing construction to determine whether an archaeological survey will be necessary for any length of the transmission line route.

In the event that a resource is encountered, the Permittee shall contact and consult with SHPO. The Permittee shall not excavate at such locations until authorization is provided by SHPO. 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 SHPO and State Archaeologist requirements. If human remains are encountered during construction, the Permittee shall immediately halt construction at that location and promptly notify local law enforcement authorities and the State Archaeologist.

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.

4.2.13 Avian Mitigation

The Permittee's 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. The Permittee will consult with the Minnesota Department of Natural Resources regarding type and placement of bird diverters.

4.2.14 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.

4.2.15 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.

4.2.16 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.

4.2.17 Damages

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

4.3 Electrical Performance Standards

4.3.1 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 NESC. The Permittee shall address and rectify any induced current problems that arise during transmission line operation.

4.3.2 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.

4.3.3 Interference with Communication Devices

If interference with radio or television, satellite, wireless internet, GPS-based agriculture navigation systems or other communication devices is caused by the presence or operation of the transmission line, the Permittee shall take whatever action is feasible to restore or provide reception equivalent to reception levels in the immediate area just prior to the construction of the line.

4.4 Other Requirements

4.4.1 Applicable Codes

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.

4.4.2 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 these permits. 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.

5.0 SPECIAL CONDITIONS

The Permittee shall provide a report to the Commission as part of the plan and profile submission that describes the actions taken and mitigative measures developed regarding the project and the following special conditions. Special conditions shall take precedence over other conditions of this permit should there be a conflict.

5.1 Wildlife-Friendly Erosion Control Materials

The Permittee, in cooperation with the Minnesota Department of Natural Resources, shall use wildlife-friendly erosion control materials in areas known to be inhabited by wildlife species (birds, small mammals, reptiles, and amphibians) susceptible to entanglement in plastic netting.[2]

[2] http://files.dnr.state.mn.us/eco/nongame/wildlife-friendly-erosion-control.pdf

5.2 Rare and Unique Resources

The Permittee shall follow measures and recommendations for avoiding and minimizing impacts to Blanding's turtle populations as outlined in the Minnesota Department of Natural Resources Environmental Review Fact Sheet Series for the Blanding's Turtle.[3] Construction and maintenance personnel will be made aware of rare resources and plant communities during pre-construction meetings to minimize potential disturbance. The Permittee shall avoid impacts to State-listed endangered, threatened, and special concern species in all areas of the project including temporary workspaces associated with the project.

6.0 DELAY IN CONSTRUCTION

If the Permittee has not commenced construction or improvement of the route within four years after the date of issuance of this permit the Permittee shall file a report on the failure to construct and the Commission shall consider suspension of the permit in accordance with Minn. R. 7850.4700.

7.0 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.

8.0 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.

[3] http://files.dnr.state.mn.us/natural_resources/animals/reptiles_amphibians/turtles/blandings_turtle/factsheet.pdf

8.1 Plan and Profile

At least 30 calendar 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.

8.2 Periodic Status Reports

The Permittee shall report to the Commission on progress regarding finalization of the route, design of structures, and construction of the transmission line. The Permittee need not report more frequently than monthly.

8.3 Completion of Construction

8.3.1 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.

8.3.2 As-Built Plans and Specifications

Within 60 days after completion of construction, the Permittee shall submit copies of all final as-built plans and specifications developed during the project.

8.3.3 GPS Data

Within 60 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.

9.0 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.

10.0 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.

11.0 REVOCATION OR SUSPENSION OF 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.

Appendix F. Spatial Data Sources

Resource	Data Source	Website Link
USA Topographic Maps Basemap	ESRI	http://www.esri.com/software/arcgis/arcgisonline/maps/maps-and-map-layers
World Imagery Basemap	ESRI	http://www.esri.com/software/arcgis/arcgisonline/maps/maps-and-map-layers
World Street Map Basemap	ESRI	http://www.esri.com/software/arcgis/arcgisonline/maps/maps-and-map-layers
World Topographic Map Basemap	ESRI	http://www.esri.com/software/arcgis/arcgisonline/maps/maps-and-map-layers
DNR Wildlife Management Area	DNR	https://gisdata.mn.gov/dataset/bdry-dnr-wildlife-mgmt-areas-pub
FEMA Digital Flood Rate Insurance Maps (DFIRM), Minnesota	DNR	https://gisdata.mn.gov/dataset/water-dnr-fema-dfirm
GAP Land Cover	DNR	https://gisdata.mn.gov/dataset/biota-landcover-gap
MCBS Railroad Rights-of-Way Prairies	DNR	https://gisdata.mn.gov/dataset/biota-mcbs-railroad-prairies
MCBS Sites of Biodiversity Significance	DNR	https://gisdata.mn.gov/dataset/biota-mcbs-sites-of-biodiversity
Minnesota Snowmobile Trails	DNR	https://gisdata.mn.gov/dataset/trans-snowmobile-trails-mn
DNR Hydrography	DNR	https://gisdata.mn.gov/dataset/water-dnr-hydrography
DNR Native Plant Communities	DNR	https://gisdata.mn.gov/dataset/biota-dnr-native-plant-comm
DNR Native Prairies	DNR	https://gisdata.mn.gov/dataset/biota-dnr-native-prairies
National Wetland Inventory	DNR	https://gisdata.mn.gov/dataset/water-nat-wetlands-inv-2009-2014
Natural Heritage Information System (NHIS)	DNR	http://www.dnr.state.mn.us/nhnrp/nhis.html
Public Water Access Sites in Minnesota	DNR	https://gisdata.mn.gov/dataset/loc-water-access-sites
Public Waters (PW) Basin Delineations	DNR	https://gisdata.mn.gov/dataset/water-mn-public-waters
Scientific and Natural Area Units	DNR	https://gisdata.mn.gov/dataset/bdry-scientific-and-nat-areas
State Parks, Recreation Areas, and Waysides	DNR	https://gisdata.mn.gov/dataset/bdry-dnr-lrs-prk
City, Township, and Unorganized Territory (CTU) Boundaries	MnDOT	https://gisdata.mn.gov/dataset/bdry-mn-city-township-unorg

Resource	Data Source	Website Link
Minnesota Trails: Division of Parks and Trails	MnDOT	https://gisdata.mn.gov/dataset/trans-state-park-trails-roads
Roads	MnDOT	https://gisdata.mn.gov/dataset/trans-roads-mndot-tis
Digital General Soil Map of the United States (STATSGO2)	MnGEO	https://gisdata.mn.gov/dataset/geos-statsgo2
Soil Survey Geographic Data Base (SSURGO)	MnGEO	https://gisdata.mn.gov/dataset/geos-ssurgo
Impaired Wetlands	MPCA	https://gisdata.mn.gov/dataset/env-impaired-wetlands-2012