

**ROUTE PERMIT FOR CONSTRUCTION OF A HIGH
VOLTAGE TRANSMISSION LINE
IN
ST. LOUIS COUNTY, MINNESOTA
ISSUED TO
MINNESOTA POWER
AND
GREAT RIVER ENERGY
PUC DOCKET No. ET-2, E015/TL-06-1624**

In accordance with the requirements of Minnesota Statutes Chapter 216E and Minnesota Rules Chapter 4400, this Route Permit is hereby issued to:

Minnesota Power & Great River Energy

Minnesota Power (MP) and Great River Energy (GRE) are authorized by this route permit to construct approximately 15 miles of 115 kilovolt (kV) transmission line, a 115/69/46 kV substation located near the City of Tower and a 115 kV switching station located at the junction of MP's existing (115 kV) 34 Line and (115 kV) 34 Line Tap (located in White Township, Section 7, Township 59N, Range 15W) as proposed in the Company's Route Permit Application, dated December 22, 2006, and modified to incorporate the Citizen's Alternative Route – West (including the Reinhold Johnson Adjustment).

The transmission line shall be built within the route identified in this permit and as portrayed on the attached official route map, and in compliance with the conditions specified in this permit.

Approved and adopted this _____ day of July, 2007

BY ORDER OF THE COMMISSION

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Burl W. Haar,
Executive Secretary

I. ROUTE PERMIT

The Minnesota Public Utilities Commission (Commission) hereby issues this route permit to Minnesota Power (MP) and Great River Energy (GRE) (Permittees) pursuant to Minnesota Statutes Chapter 216E and Minnesota Rules Chapter 4400. This permit authorizes the MP and GRE to construct approximately 15 miles of 115 kV high voltage transmission line (HVTL), a 115/69/46 kV substation and a 115 kV switching station.

II. PROJECT DESCRIPTION

The Tower project consists of approximately 15 miles of 115 kilovolt (kV) transmission line, a 115/69/46 kV substation located near the City of Tower and a 115 kV switching station located at the junction of MP's existing (115 kV) 34 Line and (115 kV) 34 Line Tap (located in White Township, Section 7, Township 59N, Range 15W).

III. DESIGNATED ROUTE

The route designated by the Commission in this permit comprises the segments as described in detail below, as analyzed in the Environmental Assessment (EA), and shown on the Official Route Maps attached to this permit. In an effort to maximize MP and GRE's ability to accommodate individual landowners' needs, a route width of 150 feet on either side of the stated route centerline is approved.

Description of Route (Map 1)

The northern endpoint of the project is the Tower Substation that will be located on private property in the southeast corner of Section 5, Township 61 North, Range 15 West.

The new 115 kV transmission line will exit the Tower Substation and diagonal southeast approximately 0.75 mile through a parcel owned by the City of Tower in the southwest corner of Section 4.

The transmission route then continues southeasterly approximately 0.35 mile into State of Minnesota tax-forfeited land in Section 9, then turns directly south and continues along a subdivision line for about 0.50 mile through Section 9. At this point the route crosses a private parcel for approximately 0.25 mile in Section 9.

The transmission route continues south for 2.0 miles along the subdivision line in Sections 16 and 21, both of which are State of Minnesota tax-forfeited land.

At the boundary of Sections 21 and 28, the route turns southeasterly for approximately 0.35 mile and then south for approximately 0.25 mile, again on State of Minnesota tax-forfeited land. At the midpoint of Section 28, the route turns southwesterly for about 0.70 mile through State of Minnesota tax-forfeited land.

The transmission route then passes southwesterly through State of Minnesota tax-forfeited land in the very northwestern corner of Section 33 (approximately 0.35 mile). In Section 32, it turns west for approximately 0.50 mile and then south for 0.75 mile, again through State of Minnesota tax-forfeited land. The route then angles east about 0.25 mile.

Description of Route (Map 2)

From Section 32 of Kugler Township the route proceeds due south into Embarrass Township along a property subdivision line for approximately 0.90 miles to a gravel road. The route turns due west along the gravel road for about 0.25 mile and then turns due south at the Bergstedt Road. The route is centered on the Bergstedt Road. The intended right-of-way is located on the west side approximately on line with the existing Lake Country Power single-phase distribution line. Bergstedt Road is followed for approximately 2.0 miles.

The route crosses CSAH 135 and angles southwest for about 0.50 mile to follow a subdivision line located one quarter mile west of Levander Road. The route follows the subdivision line for approximately 3.85 miles and intersects with the MP 115 kV Virginia to Babbitt transmission line. The route follows the transmission line corridor W-SW for approximately 0.80 miles, terminating at the southern endpoint, the Embarrass Switching Station site. The intended right-of-way is on the south side of the transmission line corridor.

The approved right-of-way (ROW) widths for the 115 kV transmission project would be 100 feet for both structure design types being considered, with the understanding that the width of the right-of-way cleared for the single pole designs could be reduced in certain higher density and/or developed areas to minimize impacts to vegetation and property.

Tower Substation: The Tower Substation site is located 0.6 miles south of Tower and east of Highway 135. The site is privately owned and located in the northeast corner of the NW/SE, Section 5, Township 61 North, Range 15 West. Access to the site will be from an existing gravel access off of Highway 135. The site is fairly level and adjacent to an active gravel pit located to the south.

Embarrass Switching Station: The new Embarrass Switching Station will be constructed at the location of the existing 115 kV Line tap off of 115 kV Line #34 (Virginia to Laskin). The 115 kV line will enter from the northeast, creating an interconnection point of four 115 kV transmission lines. The switching station will look similar to a 115 kV substation, except there will be no transformers.

IV. PERMIT CONDITIONS

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

A. Plan and Profile. At least 14 calendar days before right-of-way preparation for construction begins, the Permittees 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, cleanup, and restoration for the transmission line. The Permittees may not commence construction until the 14 days has expired or until the Commission has advised the Permittees in writing that it has completed its review of the documents and determined that the planned construction is consistent with this permit. If the Permittees intend to make any significant changes in its plan and profile or the specifications and drawings after submission to the Commission, the Permittees 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.

B. Construction Practices.

1. Application. The Permittees shall follow those specific construction practices and material specifications described in the MP/GRE application to the Commission for a route permit, dated December 22, 2006, and as described in the EA unless this permit establishes a different requirement in which case this permit shall prevail.

2. Field Representative. At least 10 days prior to commencing construction, the Permittees shall advise the Commission in writing of the person or persons designated to be the field representative for the Permittees with the responsibility to oversee compliance with the conditions of this Permit during construction. This person's address, phone number, and emergency phone number shall be provided to the Commission, which may make the information available to local residents and public officials and other interested persons. The Permittees may change its field representative at any time upon written notice to the Commission.

3. Cleanup. All waste and scrap that is the product of construction shall be removed from the area 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. Vegetation Removal. The Permittees shall minimize the number of trees to be removed in selecting the right-of-way. As part of construction, low growing brush or tree species are allowable at the outer limits of the easement area. Taller tree species that endanger the safe and reliable operation of the transmission facility need to be removed. To the extent practical, low growing vegetation that

will not pose a threat to the transmission facility or impede construction should remain in the easement area.

5. Erosion Control. The Permittees shall implement reasonable measures to minimize runoff during construction and shall plant or seed non-agricultural areas that were disturbed where structures are installed.

6. Temporary Work Space. The Permittees shall limit temporary easements to special construction access needs and additional staging or lay-down areas required outside of the authorized ROW.

7. Restoration. The Permittees shall restore all temporary work spaces, access roads, abandoned ROW, and other private lands affected by construction of the transmission line. Restoration must be compatible with the safe operation, maintenance, and inspection of the transmission line.

MP and GRE will work with landowners, the DNR, and local wildlife management programs to restore and maintain the right-of-way to provide useful and functional habitat for plants, nesting birds, small animals and migrating animals and to minimize habitat fragmentation in a manner consistent with inspection and safe maintenance of the right-of-way.

Within 60 days after completion of all restoration activities, the Permittees shall advise the Commission in writing of the completion of such activities.

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

C. Periodic Status Reports. Upon request, the Permittees shall report to the Commission on progress regarding finalization of the route, design of structures, and construction of the transmission line. The Permittees need not report more frequently than quarterly.

D. Complaint Procedure. Prior to the start of construction, the Permittees shall submit to the Commission the company's procedures to be used to receive and respond to complaints. The procedures shall be in accordance with the requirements set forth in the complaint procedures attached to this permit.

E. Notification to Landowners. The Permittees shall provide all affected landowners with a copy of this permit at the time of the first contact with the landowners after issuance of this permit. MP and GRE shall contact landowners prior to entering the property or conducting maintenance along the route and avoid maintenance practices, particularly the use of fertilizer or pesticides, inconsistent with the landowner's or tenant's use of the land.

MP and GRE will work with landowners to locate the HVTL on their property to minimize the loss of agricultural land, forest, and wetlands, with due regard for proximity to homes and water supplies, following property lines and minimizing diagonal crossings to the greatest extent possible.

F. Completion of Construction.

- 1. Notification to Commission.** At least three days before the line is to be placed into service, the Permittees shall notify the Commission of the date on which the line will be placed into service and the date on which construction was complete.
- 2. As-Builts.** Upon request of the Commission, the Permittees shall submit copies of all the final as-built plans and specifications developed during the project.
- 3. GPS Data.** Within 60 days after completion of construction, the Permittees shall submit to the Commission, in the format requested by the Commission, geo-spatial information (GIS compatible maps, GPS coordinates, etc.) for all above ground structures associated with the transmission lines, each switch, and each substation connected.

G. Electrical Performance Standards.

- 1. Grounding.** The Permittees shall design, construct, and operate the transmission line in such a manner that the maximum steady-state short-circuit current shall be limited to five milliamperes rms alternating current between the ground and any non-stationary object within the ROW, including but not limited to large motor vehicles and agricultural equipment. All fixed metallic objects on or off the ROW, except electric fences that parallel or cross the right-of-way, shall be grounded to the extent necessary to limit the short circuit current between ground and the object so as not to exceed one milliamperes rms under steady state conditions of the transmission line and to comply with the ground fault conditions specified in the National Electric Safety Code.
- 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.
- 3. Interference with Communication Devices.** If interference with radio or television, satellite or other communication devices is caused by the presence or operation of the transmission line, the Permittees shall take whatever action is prudently feasible to restore or provide reception equivalent to reception levels in the immediate area just prior to the construction of the line.

H. Special Conditions

1. Archaeological and Historic Resources

MP and GRE will make every effort to avoid impacts to identified archaeological and historic resources when installing the HVTL on the approved route. In the event that an impact would occur, the Applicants will consult with SHPO and invited consulting parties (particularly the Bois Forte and other state and federal permitting or land management agencies). Where feasible, avoidance of the resource should be required. Where not feasible, mitigation for project-related impacts on National Register of Historic Properties (NRHP)-eligible archaeological and historic resources must include an effort to minimize project impacts on the resource.

2. Wetlands/Water Resources

Wetland impact avoidance measures that will 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. Unavoidable wetland impacts as a result of the placement of poles will be limited to the immediate area around the poles. To minimize impacts, construction in wetland areas will occur in the winter. If necessary, wooden mats or the Dura-Base Composite Mat System will be used to protect wetland vegetation. Compliance with all requirements of the USACE (wetlands under federal jurisdiction), MDNR (Public Waters/Wetlands), and St. Louis County (wetlands under the jurisdiction of the Minnesota Wetland Conservation Act) will be met.

Impacts to floodplains, in particular the placement of power pole structures, will be avoided to the maximum extent possible by placing these structures above the floodplain contours outside of the designated floodplain, and by spanning the floodplain with the transmission line.

If construction activities at the substation and switching station will result in the disturbance of one acre or more of soils, a National Pollutant Discharge Elimination System (NPDES) stormwater permit will be required. Erosion control measures and Best Management Practices (BMPs) will be followed during these activities.

I. Other Requirements.

1. Applicable Codes. The Permittees shall comply with applicable, North American Electric Reliability Council (NERC) construction standards and requirements of the National Electric Safety Code (NESC) including clearances to ground, clearance to crossing utilities, clearance to buildings, ROW widths, erecting power poles, and stringing of transmission line conductors.

2. Other Permits. The Permittees shall comply with all applicable state rules and statutes. The Permittees shall obtain all required permits for the project and comply with the conditions of these permits. A list of the required permits is included in the permit application and the environmental assessment. The Permittees shall submit a copy of such permits to the Commission upon request.

3. Pre-emption. Pursuant to Minnesota Statutes 216E.10, subdivisions 1 and 2, this route permit shall be the sole route approval required to be obtained by the Permittees 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.

J. Delay in Construction. If the Permittees has not commenced construction or improvement of the route within four years after the date of issuance of this permit, the Commission shall consider suspension of the permit in accordance with Minnesota Rule 4400.3750.

V. PERMIT AMENDMENT

The permit conditions in Section IV. 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 Permittees. The Commission may amend the conditions after affording the Permittees and interested persons such process as is required.

VI. TRANSFER OF PERMIT

The Permittees may request at any time that the Commission transfer this permit to another person or entity. The Permittees 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 permittees can comply with the conditions of the permit. The Commission may authorize transfer of the permit after affording the Permittees, the new permittee, and interested persons such process as is required.

VII. 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 Minnesota Rules part 4400.3950 to revoke or suspend the permit.

**PUBLIC UTILITIES COMMISSION
COMPLAINT REPORT PROCEDURES FOR
HIGH VOLTAGE TRANSMISSION LINES**

1. Purpose

To establish a uniform and timely method of reporting complaints received by the Permittees concerning the permit conditions for right-of-way preparation, construction, cleanup and restoration, and resolution of such complaints.

2. Scope

This reporting plan encompasses complaint report procedures and frequency.

3. Applicability

The procedures shall be used for all complaints received by the Permittees.

4. Definitions

Complaint - A statement presented by a person expressing dissatisfaction, resentment, or discontent as a direct result of right-of-way preparation, construction, cleanup and restoration. Complaints do not include requests, inquiries, questions, or general comments.

Substantial Complaint - Any complaints submitted to the Permittees in writing that, if substantiated, could result in permit modification or suspension pursuant to the applicable regulations.

Person - An individual, partnership, joint venture, private or public corporation, association, firm, public service company, cooperative, political subdivision, municipal corporation, government agency, public utility district, or any other entity, public or private, however organized.

5. Responsibilities

Everyone involved with right-of-way preparation, construction, cleanup and restoration is responsible to ensure expeditious and equitable resolution of all complaints. It is therefore, necessary to establish a uniform method for documenting and handling complaints directed to this project. The following procedures will satisfy this requirement:

- A. The Permittees shall document all complaints by maintaining a record of all applicable information concerning the complaint, including the following:
1. Name of the permittees and project.
 2. Name of complainant, address and phone number.
 3. Precise property description or tract number (where applicable).
 4. Nature of complaint.
 5. Response given.
 6. Name of person receiving complaint and date of receipt.

7. Name of person reporting complaint to the Minnesota Department of Commerce (DOC) and phone number.
8. Final disposition and date.

B. The Permittees shall assign an individual to summarize complaints for transmittal to the Commission.

6. Requirements

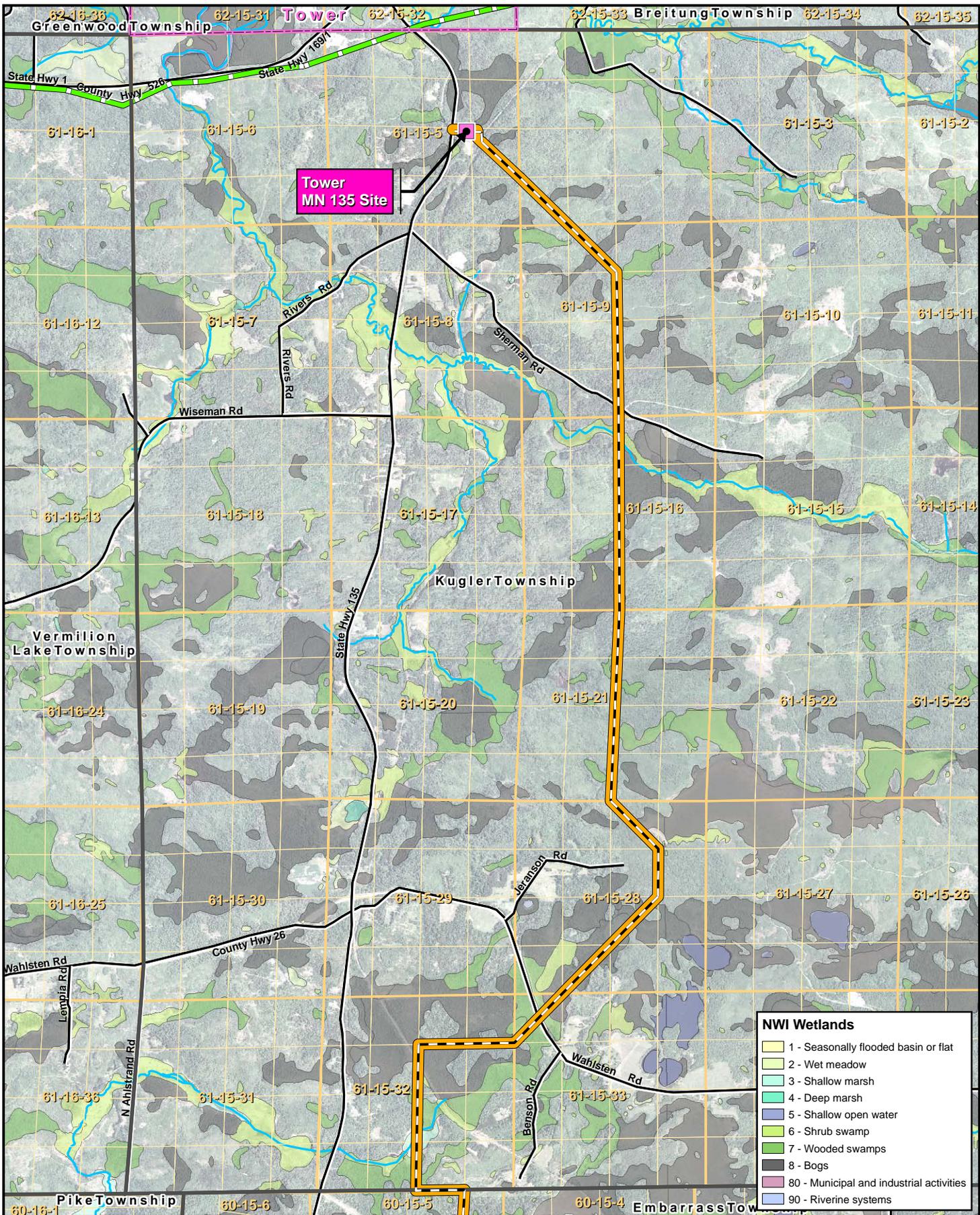
The Permittees shall report all complaints to the DOC according to the following schedule:

Immediate Reports - All substantial complaints shall be reported to the DOC by phone the same day received (or on the following working day for complaints received after working hours) at 651-296-9535.

Monthly Reports - By the 15th of each month, a summary of all complaints, including substantial complaints received or resolved during the proceeding month, and a copy of each complaint shall be sent to Minnesota Department of Commerce, 85 East 7th Place, Suite 500, Saint Paul, MN 55101.

7. Complaints Received by the DOC

Copies of complaints received directly by the DOC from aggrieved persons regarding right-of-way preparation, construction, cleanup and restoration shall be promptly sent to the Permittees.



NWI Wetlands	
[Light Green Box]	1 - Seasonally flooded basin or flat
[Light Green Box]	2 - Wet meadow
[Light Green Box]	3 - Shallow marsh
[Light Green Box]	4 - Deep marsh
[Light Blue Box]	5 - Shallow open water
[Light Green Box]	6 - Shrub swamp
[Light Green Box]	7 - Wooded swamps
[Dark Green Box]	8 - Bogs
[Pink Box]	80 - Municipal and industrial activities
[Light Blue Box]	90 - Riverine systems

Legend			
[Pink Box]	Substation Sites	[Pink Line]	Municipal Boundaries
[Thick Orange Dashed Line]	HVTL Route (300ft width)	[Black Line]	Civil Township Boundaries
[Thin Orange Dashed Line]	HVTL Planned Centerline	[Thin Orange Dashed Line]	PLS Section Lines (+/- 50' to 200')
[Thin Orange Dashed Line]	PLS 40's (Submeter to +/- 40')	[Green Line]	Existing MP 46kV Transmission Line
[Blue Line]	Existing MP 115kV Transmission Line	[Black Line]	Roads

Map Document: (S:\KOMM\mpow\050700\GIS\AMNPOW050700\Figure.XX Northern Area Route Permit 8_5x11 P.mxd)
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Projection:
UTM, Zone 15, Meters
NAD83

0 1,750
Feet

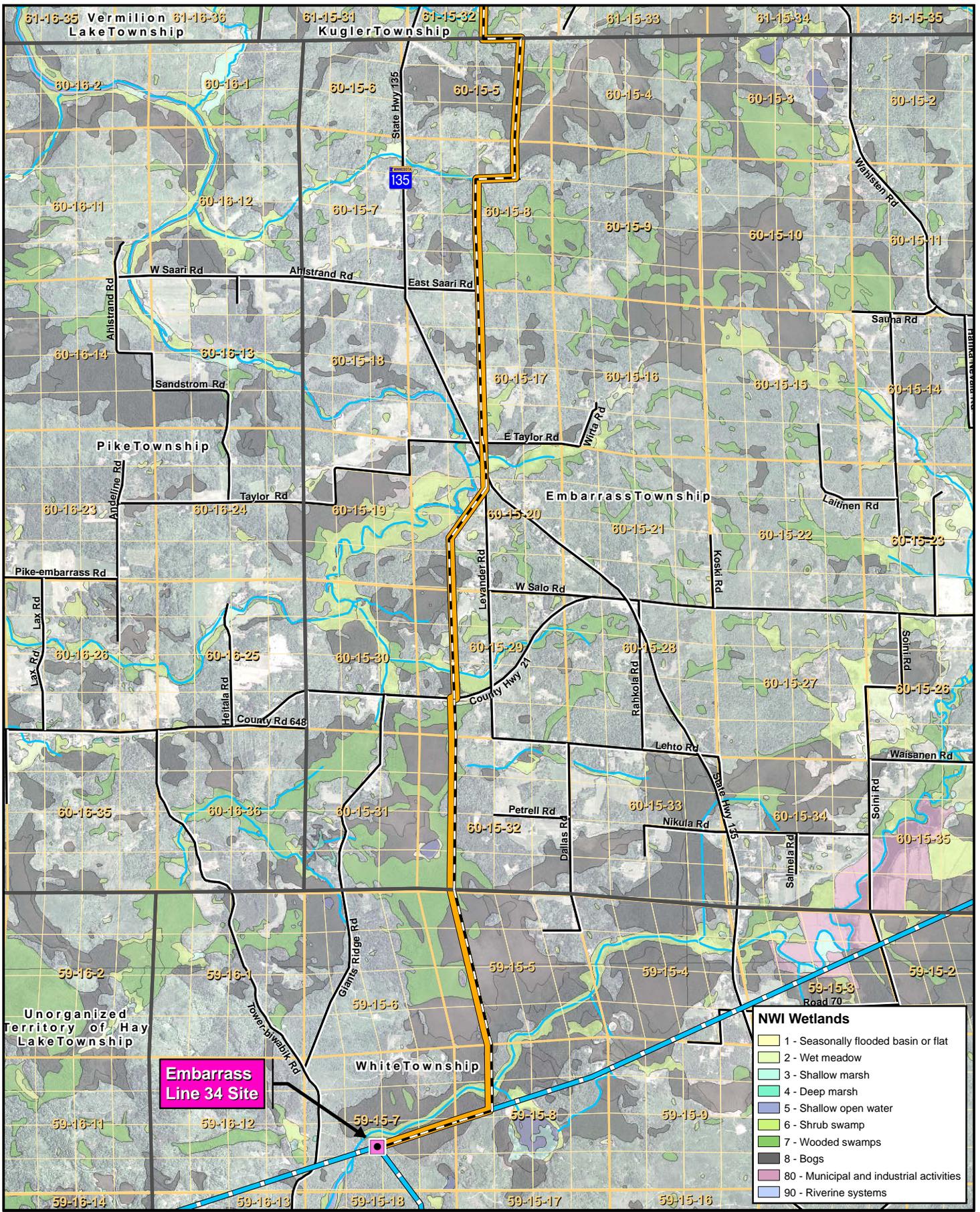
**Minnesota Power
Great River Energy**

**Map 1
Tower 115kV
Transmission
Route**

3535 VADNACER CENTER DR.
ST. PAUL, MN 55110
PHONE: (651) 490-2000
FAX: (651) 490-2150
WWW: 800-325-2655
www.sehinc.com

Project Number
AMNPOW0507.01

July
2007



NWI Wetlands	
[Light Yellow Box]	1 - Seasonally flooded basin or flat
[Light Green Box]	2 - Wet meadow
[Light Blue Box]	3 - Shallow marsh
[Medium Blue Box]	4 - Deep marsh
[Dark Blue Box]	5 - Shallow open water
[Light Green Box]	6 - Shrub swamp
[Dark Green Box]	7 - Wooded swamps
[Dark Grey Box]	8 - Bogs
[Pink Box]	80 - Municipal and industrial activities
[Light Blue Box]	90 - Riverine systems

Embarrass Line 34 Site

3535 VADNAIS CENTER DR.
ST. PAUL, MN 55110
PHONE: (651) 490-2000
FAX: (651) 490-2150
WWW: 800-325-2055
www.sehinc.com

Project Number
AMNPOW0507.01

July
2007

Legend

- Substation Sites
- HTVL Route (300ft width)
- HTVL Planned Centerline
- Municipal Boundaries
- Civil Township Boundaries
- PLS Section Lines (+/- 50' to 200')
- PLS 40's (Submeter to +/- 40')
- Existing MP 46kV Transmission Line
- Existing MP 115kV Transmission Line
- Roads

Source: NAIP 2003, USGS, MNDNR, USFWS, LMIC-EQB, Mn/DOT, GRE, MN Power, and SEH © SEH 2007

Projection:
UTM, Zone 15, Meters
NAD83

0 2,250 Feet

**Minnesota Power
Great River Energy**

**Map 2
Tower 115kV
Transmission Route**