APPENDIX F

2004 EQB Route Permit For 161 kV HVTL Between Fox Lake Substation and Lakefield Junction Substation in Jackson and Martin Counties

ROUTE PERMIT

FOR CONSTRUCTION OF A

HIGH VOLTAGE TRANSMISSION LINE

IN

JACKSON AND MARTIN COUNTIES

ISSUED TO

NORTHERN STATES POWER CO. d/b/a XCEL ENERGY

EQB DOCKET No. 03-64-TR-XCEL

In accordance with the requirements of Minnesota Statutes Section116C.575 and Minnesota Rules Chapter 4400, this Route Permit is hereby issued to:

NORTHERN STATES POWER CO. d/b/a XCEL ENERGY

Northern States Power Co. d/b/a Xcel Energy (hereinafter referred to as Xcel Energy) is authorized by this route permit to construct a new 161 kilovolt high voltage transmission line approximately 25.5 miles long between the Lakefield Junction Substation in Jackson County on the west end and the Fox Lake Substation in Martin County on the east end, along a route identified in this Permit and in compliance with the conditions specified in this Permit.

Approved and adopted this 16th day of September, 2004.

STATE OF MINNESOTA
ENVIRONMENTAL QUALITY BOARD

Robert A. Schroeder, Chair

I. ROUTE PERMIT

The Minnesota Environmental Quality Board hereby issues this Route Permit to Xcel Energy pursuant to Minnesota Statutes section 116C.575 and Minnesota Rules chapter 4400. This permit authorizes Xcel Energy to construct a 161 kilovolt high voltage transmission line and associated facilities in the Minnesota counties of Jackson and Martin.

II. PROJECT DESCRIPTION

The new alternating current high voltage transmission line authorized to be constructed under this Permit is a 161,000-volt (161 kV) line that will connect the Lakefield Junction Substation in Jackson County, Minnesota, and the Fox Lake Substation in Martin County, Minnesota. The line will require new right-of-way for most of its length, although approximately two-thirds of the line will be located immediately adjacent to the Interstate 90 (I-90) right-of-way. Approximately 1.5 miles of the line will involve double-circuiting with an existing 161 kV line owned by Alliant Energy.

The structures will be single pole, galvanized steel, davit arm structures. The majority of the structures will be built to support only a single circuit. Between the Lakefield Junction Substation and the intersection with I-90 (approximately Mile Post 2.2), the structures will be designed to support the proposed 161 kV circuit and a future circuit capable of up to 345 kV. Where the existing Alliant Energy 161 kV right-of-way is utilized, the structures shall be designed to support two 161 kV circuits.

The phase wires will be 795-kcmil 26/7 aluminum conductor steel supported (ACSS) with seven steel core strands and 26 outer aluminum strands. The conductor has an overall diameter of 1.108 inches. For lightning protection a 3/8-inch shield wire will be used.

This Permit also authorizes Xcel Energy to modify both the Lakefield Junction Substation and the Fox Lake Substation, as described in Xcel Energy's permit application and in the Environmental Assessment. The Lakefield Junction Substation will be modified to relocate existing transmission lines, utilize double circuit structures where appropriate, and relocate the existing 161 kV Alliant Energy line to exit from the north side of the substation. The Fox Lake Substation will be expanded 40 feet to the west.

III. DESIGNATED ROUTE

The route designated by the EQB in this Permit is the route described below and shown on the maps attached to this Permit. The route is generally described as follows, beginning at the Lakefield Junction Substation in Jackson County and ending at the Fox Lake Substation in Martin County.

A. From the Lakefield Junction Substation (Mile Post 0) south to the intersection with Interstate I-90 (Mile Post 2.2), the route designated is the route requested by Xcel Energy in its application. The designated route includes existing 345 kV and 161 kV line

rights-of-ways. Xcel Energy may relocate any of the transmission lines in this area to reduce the total number of structures around and entering the substation. The designated route is approximately 1,000 feet in width along this portion. This portion of the route is shown on Map D-2.

B. From the point where the line intersects I-90 and turns east (Mile Post 2.2) to Martin County Highway 14 (approximately Mile Post 7.7), the designated route is 500 feet in width from each side of the centerline of I-90, although Xcel Energy presently anticipates constructing along the north side of the Interstate and Xcel Energy shall place the transmission structures not more than 25 feet from the fence lines unless Xcel Energy determines that placing the structures farther from the fence line will minimize landowner impacts. This portion of the route is shown on Map D-2.

C. From Martin County Highway 14 to the east side of the Des Moines River, the route shall be on whichever side of I-90 that Xcel Energy determines allows the transmission line to cross the Des Moines River with the least amount of impact. The designated route is 500 feet in width from each side of the centerline of I-90. If Xcel Energy elects to cross the Des Moines River on the south side of the I-90, the route shall cross back to the north side of the Interstate by Mile Post 9 and follow the north side of the Interstate to the City of Jackson. The designated route is 500 feet in width from the north side of the centerline of I-90, and the transmission structures shall be placed not more than 25 feet from the fence line unless Xcel Energy determines that placing the structures farther from the fence line will minimize landowner impacts. This portion of the route is shown on Map D-3.

D. From the north-south quarter line of section 13, Des Moines Township, approximately 2,500 feet east of U.S. Highway 71, the designated route is the route identified as Route Option D-1-B in Appendix D.3a in the Environmental Assessment. Route Option D-1-B crosses to the south side of I-90, continues south along the west boundary of the Jackson Industrial Park, then east along the south side of the Jackson Industrial Park for a distance of approximately 3,000 feet. At the point where Route Option D-1-B intersects another route segment identified as Route Option D-5, the designated route is Route Option D-5. This portion of the route is shown on Map D-3a.

E. At the point where Route Option D-5 intersects Jackson County Highway 23, the designated route is either side of the existing east-west township road bordering sections 18 and 19 of Wisconsin Township. At the intersection with the north south half section line, the designated route proceeds north to the intersection with I-90 at approximately Mile Post 12. This portion of the route is shown on Map 3a. The designated route is 100 feet in either direction from the centerline of the township road as shown on Map D-3a.

F. From Mile Post 12 to Martin County Highway 7 (approximately Mile Post 20.7), the designated route is 500 feet in width from each side of the centerline of I-90, although Xcel Energy presently anticipates constructing along the south side of the Interstate and Xcel Energy shall place the transmission structures not more than 25 feet from the fence

line unless Xcel Energy determines that placing the structures farther from the fence line will minimize landowner impacts. This portion of the route is shown on Map D-4.

G. From approximately Martin County Highway 7 to State Highway 4 (approximately Mile Post 20.7 to Mile Post 24), the designated route is Route 3 (Xcel Energy Revised) which crosses over to north side of the freeway just east of Martin County Highway 7, proceeds east along the north side of the freeway, then crosses to the south side of I-90 just west of the Thomas Davis residence and then proceeds east along the south side of I-90 to a point just west of State Highway 4, where it crosses to the north side of the freeway, then proceeds northeast to a point where it intersects the Alliant 161 kV transmission line right-of-way. The designated route is 500 feet from the centerline of I-90 in the direction of construction, although Xcel Energy shall place the transmission structures not more than 25 feet from the fence line unless Xcel Energy determines that placing the structures farther from the fence line will minimize landowner impacts. This portion of the route is shown on Map D-5.

H. From the point where the route intersects the Alliant Energy 161 kV transmission line at State Highway 4 to the Fox Lake Substation, the designated route shall be the existing Alliant Energy 161 kV line on the south side of 125th and the north side of the Interstate, up to the point where the Alliant Line proceeds diagonally north and east into the Fox Lake Substation, unless otherwise negotiated with the land owner. At the point where the Alliant Line proceeds north and east the route boundary may extend east to the Xcel Energy's proposed north south proposed transmission line. In this segment, the new structures will support the Xcel Energy 161 kV line and the existing single circuit Alliant 161 kV line. This portion of the route is shown on Map D-5.

IV. PERMIT CONDITIONS

The Permittee 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 days before right-of-way preparation for construction begins, the Permittee shall provide the EQB 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 Permittee may not commence construction until the 14 days has expired or until the EQB 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 Xcel Energy has determined to construct the line on the opposite side of Interstate I-90 from the side identified in this Permit, Xcel Energy shall advise the EQB of the reasons for the change. If the Chair advises Xcel Energy within ten days of receipt of the submission that the chair intends to bring the matter to the Board for consideration of amending the permit, Xcel Energy shall not begin construction on the affected portion of the line until the Board has determined whether moving the line to the other side is acceptable. If the Permittee intends to make any significant changes in its plan and profile or the specifications and drawings after submission to the EQB, the Permittee shall notify the EQB 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 Permittee shall follow those specific construction practices and material specifications described in the Xcel Energy Application to the Minnesota Environmental Quality Board for a Route Permit for the Lakefield Junction-Fox Lake 161 kV Transmission Line dated November 25, 2003, unless this Permit establishes a different requirement in which case this Permit shall prevail.

2. Field Representative. At least ten days prior to commencing construction, the Permittee shall advise the EQB 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's address, phone number, and emergency phone number shall be provided to the EQB, which may make the information available to local residents and public officials and other interested persons. The Permittee may change its field representative at any time upon written notice to the EQB.

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 Permittee shall minimize the number of trees to be removed as part of the construction of the line, taking into account Permit Condition IV.E., which recognizes that the Permittee has obligations to comply with clearance requirements.

5. Erosion Control. The Permittee shall implement reasonable measures to minimize runoff during construction and shall plant or seed non-agricultural areas that were disturbed where structures are installed. Upon request, the Permittee shall submit to the EQB a copy of any Soil Erosion and Sediment Control Plan prepared for the Minnesota Pollution Control Agency as part of a stormwater runoff permit application.

6. 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.

7. Restoration. The Permittee shall restore all temporary work spaces, access roads, 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. Within sixty days after completion of all restoration activities, the Permittee shall advise the EQB in writing of the completion of such activities.

8. Notice of Permit. The Permittee 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 Permittee shall report to the EQB on progress regarding finalization of the route, design of structures, and construction of the transmission line. The Permittee need not report more frequently than quarterly.

D. Complaint Procedure. Prior to the start of construction, the Permittee shall submit to the EQB 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 Exhibit 1 attached to this Permit.

E. Notification to Landowners. The Permittee 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.

F. Completion of Construction.

1. Notification to EQB. At least three days before the line is to be placed into service, the Permittee shall notify the EQB 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 EQB, the Permittee shall submit copies of all the final as-built plans and specifications developed during the project.

3. GPS Data. Within sixty days after completion of construction, the Permittee shall submit to the EQB, in the format requested by the EQB, geo-spatial information (GIS compatible maps, GPS coordinates, etc.) for all above ground structures associated with the transmission lines and each substation connected.

G. Electrical Performance Standards.

1. Grounding. The Permittee 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 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 short circuit current between ground and the object so as not to exceed one milliampere rms under steady state conditions of the transmission line and to comply with the ground fault conditions specified in the National Electric Safety Code.

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 Permittee 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. Other Requirements.

1. Applicable Codes. The Permittee 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, right-of way widths, erecting power poles, and stringing of transmission line conductors.

2. Other Permits. 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 required permits is included in the permit application and the environmental assessment. The Permittee shall submit a copy of such permits to the EQB upon request.

3. Pre-emption. Pursuant to Minnesota Statutes section 116C.61, subdivision 1, this Site Permit shall be the sole route approval required to be obtained by the Permittee 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.

I. 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 EQB shall consider suspension of the Permit in accordance with Minn. Rules part 4400.3750.

J. Special Conditions.

1. Permanent Right-of-Way Acquisition. The Permittee may obtain up to 80 feet of right-of-way when the transmission line does not parallel or utilize existing highway right-of-way, including those portions of the route where the line is to be double circuited with an existing line. Where the transmission line parallels the Interstate or other highway, Xcel Energy may acquire up to 45 feet of right-of-way, unless an agreement with a landowner requires acquisition of new right-of-way up to 80 feet.

2. Double-Circuit Structures.

a. **Lakefield Junction Substation.** The Permittee shall install structures designed to support up to a 345 kV and a 161 kV double-circuit from the Lakefield Junction Substation south to the intersection with the Interstate (approximately Mile Post 2.2).

b. **Fox Lake Substation.** The Permittee shall install structures designed to support two 161 kV circuits from the Fox Lake Substation south to the intersection with State Highway 4.

3. **I-90 and U.S. Highway 71 Interchange.** The Permittee shall avoid placing any transmission line structures in the Minnesota Department of Transportation's right-of-way at the I-90 and Highway 71 interchange, unless the Department agrees to the placement of the structures in the right-of-way. The route approved by this Permit shall include those areas required to allow the Permittee sufficient right-of-way at any interchange with the Interstate to comply with applicable MnDOT requirements.

4. **Des Moines River Crossing**. The Permittee shall advise the EQB Chair within ten days after it determines the side of the Interstate that will be used to cross the Des Moines River and the reasons for selecting that side of the Interstate.

5. **Swan Flight Diverters.** The Permittee shall install swan flight diverters on the shield wire from Highway 4 (approximately Mile Post 24) to the Fox Lake Substation.

V. PERMIT AMENDMENT

This permit may be amended at any time by the EQB. Any person may request an amendment of this permit by submitting a request to the Chair in writing describing the amendment sought and the reasons for the amendment. The Chair will mail notice of receipt of the request to the Permittee. The EQB may amend the permit after affording the Permittee and interested persons such process as is required.

VI. TRANSFER OF PERMIT

The Permittee may request at any time that the EQB 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 EQB with such information as the EQB shall require to determine whether the new permittee can comply with the conditions of the permit. The EQB may authorize transfer of the permit after affording the Permittee, the new permittee, and interested persons such process as is required.

VII. REVOCATION OR SUSPENSION OF THE PERMIT

The EQB may initiate action to revoke or suspend this permit at any time. The EQB shall act in accordance with the requirements of Minnesota Rules part 4400.3950 to revoke or suspend the permit.