



ENVIRONMENTAL ASSESSMENT

**XCEL ENERGY MANKATO ENERGY CENTER
Double Circuit 115 kV and Single Circuit 345 kV
High Voltage Transmission Lines and Substation Upgrade
EQB DOCKET No. 04-86-TR-XCEL**

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OVERVIEW

The Project. Xcel Energy is proposing to construct and operate three high voltage transmission lines to connect the Xcel Wilmarth substation to the recently permitted Mankato Energy Center natural gas-fired combined cycle large electric power generating plant, both in Lime Township of Blue Earth County, Minnesota. The transmission lines will be entirely on Xcel and Mankato Energy Center property. The proposed lines do cross a wetland area which will require some special precautions, and an authorization from the DNR is required.

The Process. Minnesota law requires a number of procedural steps as part of issuing the permit, such as public notices, a public information meeting, production of an Environmental Assessment, a public hearing and a formal discussion of the matter and decision by the Environmental Quality Board (EQB).

Certificate of Need. A separate Certificate of Need from the Minnesota Public Utilities Commission (PUC) is not required for the new transmission lines. These lines were specifically included in the Certificate of Need approving the Mankato Energy Center plant.

Permits. Xcel Energy is required to obtain a Route Permit from the EQB identifying the route along which the new transmission lines can be built (Minn. Stat. § 116C.57, subd. 2).

Environmental Assessment. As part of its review of an application for a Route Permit for the kind of project proposed here, the EQB is required to prepare a document called an Environmental Assessment (EA) Minn. Stat. § 116C.575, subd. 2, part 4. In the EA, the EQB evaluates the potential impacts of the project along the route proposed by the applicant and discusses ways to mitigate these potential impacts. The public is given an opportunity to participate in the development of the scoping decision, which identifies the routes and impacts that will be evaluated in the EA.

Major Decisions. The EQB must determine the appropriate route for these new transmission lines. The only route under review in this proceeding is the proposed route connecting the two adjacent properties in Lime Township. The EQB could include conditions in any Route Permit it issues if these conditions are necessary and appropriate. Also, all other permits that Xcel Energy is required to obtain will include pertinent conditions designed to minimize the environmental impacts of the transmission lines.

Public Hearing. The EQB is required to hold a public hearing on the application for a route permit (Minn. Stat. § 116C.575, subd. 6). The hearing is scheduled for October 28, 2004, in Mankato. Alan Mitchell of the EQB staff will preside at the hearing. Interested persons will have an opportunity at the hearing to ask questions about the project and to make comments that will become part of the administrative record. The hearing examiner shall ensure that the record created at the hearing is transmitted to the board. The final decision on the issuance of the permits will be made by the full EQB Board. It is anticipated that this matter will come before the EQB Board for a final decision at its monthly meeting in November 2004

1.0 Introduction

Xcel Energy has made an application to the Minnesota Environmental Quality Board (EQB) pursuant to the provisions of the Power Plant Siting Act (Minnesota Statutes, Sections 116C.51 to 116C.69) for a Route Permit authorizing construction of three High Voltage Transmission Lines (HVTL) and to modify the existing Xcel Wilmarth Substation. This is a minor project involving three 1000 feet long transmission lines with limited potential for environmental impact in the opinion of EQB staff. Those impacts of most concern are the wetland area crossed, short-term construction impacts, and visual impact of the new transmission line structures. The area of trees that will be impacted by the proposed project due to the routing of these transmission lines is expected to be approximately two acres.

1.1 Description

Xcel Energy proposes to construct a new 345 kilovolt (kV) HVTL and two new 115 kV (double circuit) HVTLs connecting the new 650 megawatt Mankato Energy Center gas-fired Large Electric Power Generating Plant (LEPGP) to the existing Xcel Wilmarth Substation. These new transmission lines will be located entirely on property owned by Xcel Energy or Mankato Energy Center. The route will be approximately 1000 feet long. The new Mankato Energy Center will have a switchyard where the line will connect with the new facility. The Wilmarth Substation will be expanded and modified to accommodate the new 345 kV and 115 kV lines.

1.2 Purpose

The proposed 115 kV and 345 kV HVTLs are intended to provide a direct connection for power generated from the new LEPPG plant to an existing Xcel substation and then into the transmission grid. This project will provide more reliable electric service to the residents of south central Minnesota, according to Angela Maiko, Xcel Energy, a member of the Minnesota Transmission Planning Engineers Group.

1.3 Sources of Information

Much of the information used in this Environmental Assessment (EA) is derived from the Route Permit Application prepared by Xcel Energy dated August 10, 2004. This document will hereinafter be referred to as the "Permit Application." Additional information used in this EA was derived from the Mankato Energy Center Site Permit Application prepared by Wenck Associates dated March 3, 2004. The Discussion of Electromagnetic Field (EMF) issues comes primarily from the White Paper developed by the Interagency Task Force in 2002 led by the Minnesota Health Department, hereinafter known as "EMF White Paper." Additional EMF information comes from earlier EQB EAs on HVTLs, in particular EQB Docket No. 03-64-TR-XCEL, a new 161 kV Line between the Lakefield Junction and Fox Lake Substations in Southwest Minnesota, and EQB Docket No. 03-65-TR-GRE PMG, a new 115 kV transmission line in Plymouth and Maple Grove, both of which are available for review on the EQB website: <http://www.eqb.state.mn.us/EnergyFacilities/index.html>

2.0 Regulatory Framework

In Minnesota, most of the larger HVTL projects go through a two stage regulatory process. First, application is made to the Minnesota Public Utilities Commission (PUC) for a Certificate of Need (CON). If a CON is granted, the utility must then obtain a Route Permit from the Environmental Quality Board (EQB) that designates a specific route for the HVTL.

2.1 Certificate of Need Requirement

The Minnesota Public Utilities Commission granted Mankato Energy Center a certificate of need on September 22, 2004 for the proposed facility and the transmission lines directly associated with the plant that is necessary to interconnect the plant to the transmission system.

2.2 Route Permit Requirement

Minnesota Statutes § 116C.57 subd 2a states, “Any person seeking to construct a large electric power generating plant or a high voltage transmission line must apply to the board for a site permit or a route permit.” “High voltage transmission line means a conductor of electric energy and associated facilities designed for and capable of operation at a nominal voltage of 100 kilovolts or more,” according to Minnesota Statutes § 116C.52 subd 4. The proposed 115 kV and 345 kV HVTLs in Mankato meet this definition, and the applicants are required to obtain a route permit from the EQB for the transmission lines.

EQB’s obligation is to choose routes that minimize adverse human and environmental impact while insuring continuing electric power system reliability and integrity, and also while insuring that electric energy needs are met and fulfilled in an orderly and timely fashion. The route permit will contain conditions specifying construction and system operation standards.

In August 2004, Xcel Energy applied to EQB for a route permit for the proposed new power line. They identified a preferred route for the new line in the application, shown in Figure 2 on page 27.

2.3 Environmental Assessment

For this project, and all other projects using the alternative route permitting process in Minnesota Rules, parts 4400.2000 to 4400.2900, the EQB prepares an Environmental Assessment (EA). The EA contains information on the human and environmental impacts of the proposed project. It addresses required methods to mitigate such impacts for all of the routes considered. The EA is the only state environmental review document required to be prepared on the project by the EQB.

The Environmental Quality Board held a public meeting on this project, as required by Minnesota Rules part 4400.2500, in Mankato on September 28, 2004. This meeting was intended to provide the public with an opportunity to learn about the proposed project, to suggest other route alternatives, and to identify concerns that should be considered by the EQB in preparing the EA. The EA will assist the board in making its decision on exactly what route to approve and what construction and operation conditions to attach to the final permit. Public comments on the scope of the EA were accepted until October 8, 2004. Information regarding this project and public comments can be found on the EQB website at www.eqb.state.mn.us/Docket.html?Id=7819.

After consideration of the public comments, the Chair of the EQB issued a Scoping Order on October 10, 2004. A copy of this order is found in Appendix A. No particular citizen concerns were raised on this project. In this EA, the EQB addresses the social, environmental and economic concerns associated with the new HVTL.

2.4 Public Hearing

The EQB is required by Minnesota Statutes § 116C.57 subd 2d to hold a public hearing once the EA has been completed. This hearing will be held in Mankato, at the Intergovernmental Center, starting at 3:00 PM on Thursday October 28, 2004. This hearing will be conducted by EQB staff member, Alan Mitchell. Further details about the hearing can be found online at <http://www.eqb.state.mn.us/Docket.html?Id=7819>. Interested persons may comment on the EA at the public hearing or submit written comments to the EQB until November 10, 2004. Persons may testify at the hearing without being first sworn under oath. Mr. Mitchell shall ensure that the record created at the hearing is preserved and transmitted to the EQB Board for deliberation.

Comments received on the EA shall become part of the record in the proceeding, but the Board is not required to revise or supplement the EA document. A final decision on a route permit will be made by the EQB Board at an open meeting within a few weeks after the public hearing, depending on the Board's schedule.

2.5 Applicable Codes

The HVTLs, regardless of route location, must meet all requirements of the National Electrical Safety Code (NESC). Xcel also uses all of the Rural Utilities Service (RUS) standards given in the "Design Manual for High Voltage Transmission Lines." These requirements and standards are designed to protect human health and the environment. They also ensure that the HVTL and all associated structures are built from high quality materials that will withstand the operational stresses placed upon them over the expected lifespan of the equipment provided normal routine operational and maintenance is performed.

Utilities must comply with the most recent edition of the NESC, as published by the Institute of Electrical and Electronics Engineers, Inc., and approved by the American National Standards Institute (ANSI), when constructing new facilities or reinvesting capital in existing facilities. See Minnesota Statutes § 326.243 and Minnesota Rules part 7826.0300 subp. 1.

The NESC is a voluntary utility developed set of standards intended to ensure that the public is protected. The NESC covers electric supply stations and overhead and underground electric supply and communication lines, and is applicable only to systems and equipment operated by utilities or similar systems on industrial premises. For more information, go to standards.ieee.org/faqs/NESCFAQ.html#q1.

2.6 Issues outside EQB Authority

The EQB will not, as part of this environmental review, consider whether a different size or different type of transmission line should be built instead of that which the applicants have proposed. The EQB will not consider other endpoints. The EQB will not consider the no-build option.

3.0 Proposed Project

Xcel Energy proposes to construct a new 345 kV transmission line and two new 115 kV transmission lines connecting the Mankato Energy Center to the Wilmarth Substation. The proposed route is located just north of the Mankato city limits in Lime Township, Blue Earth County. The Wilmarth Substation is located adjacent to the Minnesota River in an oxbow. There is a demolition waste landfill to the northeast of the substation, and the proposed Mankato Energy Center will be located 1000 feet to the east of the substation. North and east of the area where the substation is and the gas plant will be, agricultural and conservation lands are the prevailing land use. The transmission lines will cross a wetland area that lies between the existing Xcel Wilmarth substation and the site where the proposed Mankato Energy Center will be constructed.

The route will be approximately 1000 feet long. The Wilmarth Substation will be expanded to accommodate the new 345 kV and 115 kV lines. At the Wilmarth Substation, electricity from the new power plant will enter Xcel Energy's transmission system for distribution within the Mid-Continent Area Power Pool (MAPP). The 115 kV lines will run parallel as they exit the northern portion of the Mankato Energy Center switchyard. The two 115 kV lines will then transition to a single pole, double circuit structure and will run south to the southern edge of the Mankato Energy Center plant site before heading west into the Wilmarth Substation near the existing access road to the substation. The 115 kV lines will terminate on the southern edge of the Wilmarth Substation where the existing 115 kV bays are located. The 345 kV line will begin at the southern edge of the Mankato Energy Center switchyard and will extend west over the 115 kV and 161 kV lines that run along the eastern edge of the Wilmarth Substation. The 345 kV line will terminate on the northern edge of the Wilmarth Substation. The Wilmarth Substation will be expanded to the south to accommodate the two new 115 kV HVTLs entering the facility.

The 345 kV and 115 kV HVTLs will need to cross over several existing transmission lines that enter or pass by the Wilmarth Substation between the substation and the Mankato Energy Center. Certain clearance requirements will need to be met in order to design lines that comply with the National Electric Safety Code (NESC). Xcel Energy's current plans propose to relocate the Summit-to-Wilmarth 115 kV line to a new pole just east of the substation, which will terminate in a new bay that will be constructed as part of the substation expansion.

3.1 Transmission Structure Designs (115 kV and 345 kV lines)

115 Kilovolt line designs Figure 3.1 of the Route Permit Application depicts the double circuit structures that are proposed to be used for the 115 kV lines. A steel dead end structure will be constructed for the 115 kV lines as they enter the Mankato Energy Center. The double circuit 115 kV lines will be constructed on a single steel pole with a concrete or caisson foundation. The conductors will be 795 Aluminum Conductor - Steel Reinforced (ACSR). The conductor capacity will be 975 amps or 190 Megavolt Ampere (MVA).

345 Kilovolt line designs. Figure 3.2 of the Route Permit Application depicts the H-frame structure that will be used for the 345 kV line. The 345 kV line is planned to be constructed on wood H-frame structures. Depending upon the final design selected and location of the structures, steel H-frame structures may also be used. The 345 kV conductor is proposed to be double-bundled (two conductors) 795 ACSR conductors for each phase. The conductor capacity of the line will be 1950 amps or 388 MVA. The steel HVTL support structures will be carried by a drilled concrete pier foundation that will require an excavation 15 to 20 feet deep and four to six feet in diameter.

The table below summarizes the structure design for each of the lines.

Table 3.1 Structure Design Summary

Line Voltage	Structure Type	Pole Type	Foundation	Circuit Type	Height (feet)
115 Kv	Davit Arm	Steel	Concrete/Steel Caisson	Double	70–80
345 kV	H Frame	Steel/Wood	Concrete/Steel Caisson	Single	80–115

Site Restoration following Structure Installation. Erosion control measures will be implemented to minimize erosion during construction. During construction, crews will attempt to limit ground disturbance wherever possible. Disturbed areas will be restored to their original condition to the extent practicable. Post-construction reclamation activities include the removing and disposing of debris, dismantling all temporary facilities (including staging and lay down areas), leveling or filling tire ruts, employing appropriate erosion control measures and reseeding areas disturbed by construction activities with vegetation similar to that, which was removed.

3.2 Substation Designs

Modifications to this substation will include:

- The existing 345 kV area of the substation will accommodate the need for the additional 345 kV equipment. The major equipment to be added will include two 345 kV circuit breakers, a new overhead line termination structure, protective relaying for the new connection, and associated switches and bus work.
- An expansion, approximately 200 feet by 75 feet in size, will occur to the south to accommodate the relocation of three existing 115-69 kV transformers and allow more space for the new 115 kV transmission lines connections. The major equipment to be added will include seven new 115 kV circuit breakers, two sets of 69 kV underground

cable for two of the relocated transformers, expansion of the existing steel structures, protective relaying for the new and modified lines, transformers, and bus, and associated switch and bus work. Trenching work will be required within the fenced area to bury underground control and power cables. Gravel will be placed over the affected area.

Xcel Energy will design a flood control berm around the additions to the Wilmarth Substation. The Company will also upgrade the oil retention structures, in conjunction with the Spill Prevention, Control and Countermeasure (SPCC) plan for the facility.

3.3 Project Cost Estimate

Xcel Energy has prepared a preliminary cost estimate for the transmission lines and substation work associated with this application. The Project costs are estimated to be \$ 9.5 million.

Table 3.3 Preliminary Cost Estimate:

345 kV Transmission Line	\$350,000
Two 115 kV Transmission Lines	\$475,000
Wilmarth Substation Expansion and Upgrades	\$8,700,000
Total Project Costs:	\$9,525,000

3.4 MISO Interconnection and Transmission Load Study

Angela Maiko, Xcel Energy Transmission Planning Engineer, supplied an update on the status of the MISO Transmission Service and Interconnection which were initiated to examine the potential electrical system reliability impacts of the addition of the proposed Mankato Energy Center Plant on the overall transmission grid. This information was supplied in a personal email message dated October 6, 2004 to George Johnson, Minnesota Environmental Quality Board.

This study identified thermal and system stability issues that will need to be addressed by Xcel Energy as part of the HVTL upgrade for this project. Transformer overloads will be aggravated by Mankato Energy Park generation scheduled to be in-service in 2006. To avoid these impacts, Xcel Energy will seek permits to initiate a number of other transmission line upgrade projects to mitigate the potential system stability and reliability impacts that connecting the new Mankato Energy Center power plant to the transmission grid through the Xcel Wilmarth substation could cause, if no preventative actions were taken.

These include:

1. Upgrade existing Eastwood 69 kV substation in the Mankato area to 115 kV
2. Move Wilmarth load to Summit substation
3. Construct new 2 mile 115 kV transmission line between the Eastwood and West Faribault 115 kV
4. Rebuild 69 kV line from Wilmarth to Eastwood to 115 kV

4.0 Potential Impacts of the Project

Due to the short span of these transmission lines many of the environmental factors normally of concern on longer routes are not relevant to this project. The most significant issue seems to be the impact of HVTLs crossing wetlands and floodplain areas.

4.1 Water Quality

The surface water resources that could be affected by the construction of the transmission line or the expansion of the substation are the Minnesota River, which is a DNR Public Water, and the adjacent wetland. The Minnesota River is located 800 feet to the west of the existing Wilmarth Substation. The Wilmarth Substation is located in an old oxbow of the Minnesota River.

The proposed transmission lines will cross a wetland complex identified as Palustrine, Emergent, Seasonally Flooded (PEMC) and Palustrine, Forested, Seasonally Flooded (PFOC) on the National Wetland Inventory (NWI) maps of the U.S. Fish and Wildlife Service (USFWS). These two types of wetland are adjacent to each other and characterized by slightly different vegetation. A wetland delineation at the site conducted by qualified staff of HDR Engineering Inc. confirmed the presence of this wetland complex area, located east of the Wilmarth substation. This wetland complex and its relationship to the proposed route are shown in figure 4 on page 37 of this report.

4.1.1 Water Resources

Transmission structures are generally designed for installation at existing grades, therefore, structure sites will not be graded or leveled, unless it is necessary to provide a reasonably level area for construction access and activities. Once construction is completed, any graded area will be restored to its original contour to the extent practicable. The steel structures will be supported by a drilled concrete pier foundation that will require an excavation 15 to 20 feet deep and four to six feet in diameter. Any excess soil will be removed from the site unless otherwise requested by the landowner.

4.1.2 Surface Water

Natural drainage in the area has been altered by previous development. During construction there is the possibility of sediment reaching surface waters as the ground is disturbed by excavation, grading, and construction traffic. Once the project is complete, there should be no further impact on surface water quality. No direct impacts to the Minnesota River are anticipated. There are no DNR Public Waters, as defined by Minnesota Statutes, Section 103G.005, subd 15, within the HVTL route proposed by Xcel Energy. Floodplain data was obtained from the Federal Emergency Management Agency (FEMA) and Flood Insurance Rate Maps (FIRM).¹ The HVTL route will cross a small section of the 100 year floodplain of the Minnesota River just north of Mankato. The HVTL route is situated at an elevation of approximately 780 feet above sea level.

¹ <http://www.msc.fema.gov/>

4.1.3 Groundwater

In the area between the substation and the new power plant the near-surface or water table aquifer is approximately twelve feet below grade². The transmission line support structure foundations will be set in the ground approximately 15 to 20 feet below grade. Groundwater, in the near surface water bearing zone or water-table aquifer, may be encountered during construction excavation. Dewatering for construction may require a DNR General Permit . This general permit authorizes temporary water appropriations for construction dewatering, landscaping, dust control, and hydrostatic testing of pipelines, tanks, and wastewater ponds.³

4.1.4 Wetlands

A permit from the US Army Corps of Engineers must be obtained for any dredging or filling activities in regulated wetlands. The placement of a transmission line structure in the wetland would be covered under the Corps of Engineers GP/LOP-98-MN permit for Minnesota. Xcel Energy does not expect it will need to dredge or fill any wetland as part of this project. If a wetland area is damaged or destroyed by construction activities, the Wetland Conservation Act administered by the City of Mankato and Blue Earth County may require restoration or replacement of the impacted site. The permit for issued to Mankato Energy Center for the gas plant and pipeline requires notification of the Blue Earth County wetland inspector prior to construction that may impact wetland areas. It would be reasonable to include a similar permit condition in the HVTL route permit for this project. Once the final transmission line structure locations are determined, an application for any necessary wetland permits will be submitted by Xcel to the appropriate authorities.

The wetland area along the proposed route is vegetated in sedges, cattails, bull-rush, iris, marsh marigold, reed canary grass. Actual wetland impacts will be determined once the substation and transmission line designs are finalized. Xcel Energy will make every attempt to minimize impacts to the wetlands through the careful placement of the poles and design of the substation. Normally when constructing transmission lines the preference is to span wetland areas if possible. Xcel Energy will acquire the appropriate permits from the Corps of Engineers, the City and County if structure placement in a wetland must occur. Xcel Energy expects the impacts to wetlands from the construction to be small, if any.

Depending on the final transmission line design requirements, Xcel Energy may place at least one transmission line structure in a wetland to accommodate the substation expansion and to tie into the Mankato Energy Center. There are certain clearance requirements that must be met for the 345 kV transmission line to cross the Summit-to-Loon Lake 115 kV transmission line. Given the terrain grade changes in the short distance between the plant and the substation, Xcel Energy is limited in its line design options to avoid wetlands between the plant and substation.

² Minnesota Department of Health, County Well Index (CWI)

³ Department of Natural Resources, General Permit for Temporary Water Appropriations. June, 1997.

4.1.5 Mitigative Measures for Water Resources

Where possible, Xcel Energy will attempt to avoid placing poles in wetlands. If placement of poles in wetlands is necessary, Xcel Energy will minimize impacts by using special construction mats to limit disturbance and compaction. The Company will also attempt to construct during the winter to further minimize any potential impacts to the wetlands. Xcel Energy will follow standard erosion control measures such as using silt fencing to prevent impacts to adjacent water bodies. If areas of the wetland are disturbed, Xcel Energy will restore the area to preconstruction contours and will allow the existing seed bank to revegetate the area. Any soil removed from the wetlands will not be placed back into the wetland.

4.2 Biological Resources

Biological resources are subdivided into three major classes: flora, fauna and rare and endangered species.

4.2.1 Flora

Flora that the transmission lines will cross will be typical of the types of vegetation found in emergent wetlands (PEMC) and wooded wetlands (PFOC). This area that the HVTL will cross is best seen in Figure 4 on page 38 of this report. The map is also found as Figure B.4, the Floodplain and NWI Map, located in the Xcel Energy Application to MEQB for a Route Permit. The area surrounding the substation has been previously disturbed, and is vegetated primarily in grasses and goldenrod, with several types of common weeds such as thistles and dandelions. Some wetland flora may be impacted by the Project due to pole placement and substation expansion. This wetland area is vegetated in sedges, cattails, bulrush, iris, marsh marigold, reed canary grass, and duckweed. The slopes surrounding the wetland are vegetated with several types of trees such as willow, box elder, and cottonwood. The area between the Mankato Energy Center and the Wilmarth Substation is vegetated with trees, primarily cottonwood, some of which will have to be removed due to the construction of the transmission line. Only those trees that would prevent the safe operation of the lines will be removed.

4.2.2 Potential Impacts

Impacts to trees will occur along the route right-of-way where the three new transmission lines cross between the proposed Mankato Energy Center and the Wilmarth Substation. It may be necessary to place transmission line poles within the wetland east of the site. Actual impacts to wetland flora will not be known until the final design of the transmission lines is complete.

The area of trees that will be impacted by the proposed project due to the routing of these transmission lines is expected to be approximately two acres. A width of 150 feet will be cleared for the 345 kV transmission line ROW, whereas the 115 kV transmission line will only require a width of 75 feet for the ROW. The table below summarizes the impacts for each line and the substation expansions.

Table 4.2
Summary of Impacts to Trees

Impact Action	ROW Width	Area Impacted
115 kV substation expansion	N/A	0.20
345 kV transmission line construction	150	1.20
115/115 kV transmission line	75	0.73
115 kV transmission line relocation	75	0.08
Total Area of Estimated Impact		2.21 acres

4.2.3 Mitigative Measures for Flora

Water and soil conservation practices may include containing excavated material, protecting exposed soil, and stabilizing restored soil. Xcel will strive to avoid major disturbances of the wetland during construction. To minimize impacts the Company will work to place poles where they should have the least impact. Xcel Energy will only remove trees located in the area of the substation expansion and right-of-way for the transmission lines, or that would impact the safe operation of the facility

4.3.1 Fauna

The Minnesota River is home to many types of wildlife common to Minnesota such as waterfowl, pheasant, deer, beaver, mink, raccoon, hawks, owls, songbirds, and shorebirds. There are also many types of fish in the river, most commonly carp, but walleye, northern pike, and smallmouth bass are also common. The wetland area immediately to the east of the Wilmarth Substation provides habitat for many different types of birds. Several types of waterfowl, egrets, warblers, and other perching birds were observed by Xcel and HDR Engineers Inc. staff during a field visit in May 2004. Evidence of use of the site by small mammals and deer was also present during the field visit.

4.3.2 Potential Impacts on Fauna

There is a potential for temporary displacement of wildlife during construction and loss of small amounts of habitat from the Project. Wildlife that inhabit the trees that will be removed for the transmission lines will likely be displaced. Comparable habitat is adjacent to the site, and it is likely that these organisms would only be displaced a short distance.

4.3.3 Mitigative Measures for Fauna

Since no permanent impacts to fauna are anticipated at this location, and the area does not have a history of bird collisions, no mitigation is necessary.

4.4.1 Rare and Unique Natural Resources

The following is a list of rare or unique resources identified by the DNR in a letter to HDR Engineering Inc. on behalf of Xcel Energy, dated July 6, 2004. These resources are located within one mile of the proposed Mankato Energy Center and 115 kV and 345 kV transmission lines. Six known occurrences of rare species or special communities have been identified. The resources in Table 4.4 were compiled using the DNR Natural Heritage Database (NHNRP Contact #: ERDB 20040929). A copy of DNR's response is found in Appendix C of this report. Even though certain rare or endangered species are found within a mile of the proposed project DNR staff states that this project is unlikely to have any negative impact on these species.

Table 4.4 Rare and Unique Resources

1) **LT: Listed Threatened; THR: Threatened; SPC: Special Concern**

2) **State Rank: A rank is assigned to the natural community type, which reflects the known extent and condition of that community in Minnesota. Ranks range from 1 (in greatest need of conservation action in the state) to 5 (secure under present conditions).**

Common Name	Number of Occurrences	Scientific Name	Federal Status ¹	MN Status ¹	State Rank ²
Racer	1	Coluber constrictor		SPC	
Silver Maple	N/A	Floodplain Forester Silver Maple			S3
Bald Eagle	1	Haliaeetus leucocephalus	LT	SPC	
Mesic Prairie	N/A	Mesic Praire			S1
Mussel Sampling Site	N/A	Mussel Sampling Site #121			
Paddlefish	1	Polyodon spathula		THR	

4.4.2 Potential Impacts

The DNR did not identify any known occurrences of rare and unique resources that would be affected by the proposed HVTL project. This review is similar to the one described in the Mankato Energy Center Site Permit Application (Appendix C.4 – C.6).

The USFWS did not identify any potential impacts to rare, threatened, or endangered species for the associated Mankato Energy Center project. Section 9.0 of the Mankato Energy Center Site Permit Application identifies the correspondence with the USFWS in more detail. Access <http://www.eqb.state.mn.us/pdf/FileRegister/Calpine-Mankato/MankatoSitePermitApp.pdf> on page 87 to view this report. The Mankato Energy Center application states on page 9-1, that the USFWS verbally confirmed that no federally listed species have been documented near the project area, and the plant would not adversely affect any threatened and endangered species or their critical habitat. However, DNR records identify a bald eagle nesting site, which is protected under the Bald & Golden Eagle Protection Act and the Federal Endangered Species Act, within one mile of the site. Activities within one-half mile of the eagle nest location need to be limited during nesting times. The Xcel Energy project is outside this half mile, so no measures would be required. Xcel Energy anticipates that the USFWS review of the effects on threatened and endangered species will be similar for the transmission line project.

4.4.3 Mitigative Measures

It is not anticipated that mitigative measures to protect rare and endangered species will be necessary for this project.

4.5 Aesthetics and Visual Impacts

The proposed structures for the transmission lines will be similar to the existing structures near the Wilmarth substation and compatible with existing land uses near the site. The land is currently owned by Xcel Energy or Calpine Mankato Energy Center and at this time is used by the utility for a generating station and a substation. There are a number of transmission line poles and related structures existing in the project area. The existing Wilmarth Substation will be expanded south on Xcel Energy property to accommodate the 115 kV transmission lines. North of the site is a rise in topography, and there are also several existing transmission lines that enter the substation and generating station from the north.

Xcel Energy proposes to place the two 115 kV circuits on a single set of transmission structures, specifically on double circuit, single pole, galvanized steel, davit structures. Xcel proposes to place the 345 kV circuit on single circuit, wood H-Frame structures. Each of the transmission lines will be approximately 1000 feet long. The aesthetic and visual impact will be insignificant.

To the south are industrial and manufacturing facilities, which include a waste processing company, auto salvage yard, scrap metal operations, a construction company, a U.S. Postal Service mail processing facility, and a household hazardous waste collection site. On the eastern edge of the site, there is a rise in topography to where the Mankato Energy Center will be located. The western edge of the site is bordered by the Minnesota River.

The proposed structures for the transmission line will be between 70 and 140 feet in height. These structures will be similar in height to the surrounding buildings, including the proposed Mankato Energy Center, and will thus be consistent with existing aesthetics and land use.

Mitigative Measures for Aesthetic Concerns. No aesthetic mitigative measures are anticipated since the structures of the new HVTLs will be comparable in height and appearance to those at the existing adjacent industrial, manufacturing, and utility facilities.

4.6 Air Quality

The major air quality concerns associated with HVTLs are ozone and nitrogen oxides generated by electromagnetic fields (corona) interacting with surrounding air. Corona can produce ozone and oxides of nitrogen in the air surrounding the conductor. Corona consists of the breakdown or ionization of air in a few centimeters or less immediately surrounding conductors.

Currently, both state and federal governments have regulations regarding permissible concentrations of ozone and oxides of nitrogen. Studies designed to monitor the production of ozone under transmission lines have generally been unable to detect any increase due to the transmission line facility. Given this, there will be no measurable impacts relating to ozone for the Project. The Project area presently meets all federal air quality standards.

During construction of the proposed transmission line and substation, there will be limited emissions from vehicles and other construction equipment and fugitive dust from ROW clearing. Temporary air quality impacts caused by construction-related emissions are expected to occur during this phase of activity. The magnitude of the construction emissions is influenced heavily by weather conditions and the specific construction activity occurring. Exhaust emissions from primarily diesel equipment will vary according to the phase of construction, but will be minimal and temporary. Adverse impacts to the surrounding environment will be minimal because of the short and intermittent nature of the emission and dust-producing construction phases.

Based on the information provided by Xcel Energy, EQB does not anticipate significant impacts to air quality, therefore no air mitigation measures are deemed necessary for this specific project.

4.7 Electric and Magnetic Fields

The term EMF refers to electric and magnetic fields that are present around any electrical device. Electric and magnetic fields arise from the flow of electricity and the voltage of a line. The intensity of the electric field is related to the voltage of the line and the intensity of the magnetic field is related to the current flow through the conductors.

In the Administrative Law Judge's "Report and Recommendations," following the Lakefield-Fox Lake transmission line public hearing (EQB Docket No. 03-64-TR-XCEL), the findings show "insufficient evidence to demonstrate a cause and effect relationship between EMF exposure and any adverse health effects." (p. 17.) For further findings, see the report at www.eqb.state.mn.us/Docket.html?Id=3843.

The question of whether exposure to power-frequency (60 Hz) electric and magnetic fields can cause biological responses or even health effects has been the subject of considerable research for the past three decades. The EQB has addressed this issue in the environmental review documents it has prepared for other proposed transmission lines. See *Environmental Assessment for Xcel Energy Lakefield Junction – Fox Lake 161 kV Transmission Line*, EQB Docket No. 03-64-TR-Xcel and *Environmental Assessment for Great River Energy 115 kV Proposal – Plymouth Maple Grove*, EQB Docket No. 03-65 TR-GRE-PMG. Both of these environmental assessments is available on the EQB webpage: <http://www.eqb.state.mn.us/>

Because there are no homeowners living within 1,500 feet of the proposed HVTLs this topic is covered briefly. Any person interested in knowing more about the EMF issue is encouraged to consult the references given in this section. Xcel has followed “prudent avoidance” guidance suggested by most public agencies. This includes using structure designs that minimize magnetic field levels and siting facilities in locations with fewer people living nearby.

Electric and Magnetic Fields and Public Health --- The following summary discussion about the health concerns related to electric and magnetic fields is taken from the EAs referred to above. The Minnesota Department of Health also maintains a web page with information about electric and magnetic fields at <http://www.health.state.mn.us/divs/eh/radiation/emf/>

4.7.1 Interagency White Paper on EMF

In 2002, Minnesota formed an Interagency Working Group to evaluate the body of research and develop policy recommendations to protect the public health from any potential problems resulting from HVTL EMF effects. The Working Group consisted of staff from the Department of Health, the Department of Commerce, the Public Utilities Commission, the Pollution Control Agency, and the Environmental Quality Board. The Department of Health coordinated the activities of the Working Group. In September 2002, the Working Group published its findings in a White Paper on Electric and Magnetic Field (EMF) Policy and Mitigation Options (hereinafter “White Paper”).⁴ The following quote from the White Paper summarizes the findings of the Working Group:

“Research on the health effects of EMF has been carried out since the 1970’s. Epidemiological studies have mixed results – some have shown no statistically significant association between exposure to EMF and health effects, some have shown a weak association. More recently, laboratory studies have failed to show such an association, or to establish a biological mechanism for how magnetic fields may cause cancer. A number of scientific panels convened by national and international health agencies and the United States Congress have reviewed the research carried out to date. Most concluded that there is insufficient evidence to prove an association between EMF

⁴ A White Paper on Electric and Magnetic Field (EMF) Policy and Mitigation Options, Minnesota State Interagency Working Group on EMF Issues, September 2002, <http://www.health.state.mn.us/divs/eh/radiation/emf/emfrept.pdf>

and health effects; however many of them also concluded that there is insufficient evidence to prove that EMF exposure is safe.”⁵

Other EMF Studies --- Recent studies of potential human health effects from transmission line EMF done in California⁶ and for the Arrowhead line EIS in Wisconsin⁷ have shown the same conclusions of no discernible health impacts from power lines. Both of these studies recommend the general precaution of minimizing unnecessary contact and advise prudent avoidance to EMF exposure.

The 1999 National Academy of Science report from its National Research Council found,

“No clear, convincing evidence exists to show that residential exposures to electric and magnetic fields (EMFs) are a threat to human health. After examining more than 500 studies spanning 17 years of research, the committee said there is no conclusive evidence that electromagnetic fields play a role in the development of cancer, reproductive and developmental abnormalities, or learning and behavioral problems. Specifically, no conclusive and consistent evidence shows that exposures to residential electric and magnetic fields produce cancer, adverse neurobehavioral effects, or reproductive and developmental effects.”⁸

On the basis of the most current information available and the expert advice of the Interagency workgroup on EMF lead by the Minnesota Department of Health, the EQB has not established any standard or regulatory limit on magnetic fields from HVTLs.

4.7.2 Radio and TV Interference

Corona on transmission line conductors can generate electromagnetic noise at the frequencies at which radio and television signals are transmitted. This noise can cause interference (primarily with AM radio stations and the video portion of TV signals) with the reception of these signals depending on the frequency and strength of the radio and television signal. However, this interference is often due to weak broadcast signals or poor receiving equipment. If interference occurs because of the power line, the electric utility is required to remedy problems so that reception is restored to its original quality.

⁵ “White Paper” pg. 1

⁶ California Department of Health, California EMF Program (2002), An Evaluation of Possible Risks from Electric and Magnetic Fields (EMFs) from Power Lines, Internal Wiring, Electrical Occupations and Appliances AND Policy Options in the Face of Possible Risks from Power Frequency Electric and Magnetic Fields (EMF) pg. 383

⁷ Arrowhead-Weston Transmission Project, Final Environmental Impact Statement (EIS) Wisconsin Public Service Comm., Oct 10, 2000 pg 5-21

⁸ National Academy of Science, National Research Council, Stevens, et al, 1999, Possible Exposure to Residential Electric and Magnetic Fields pg. 132

4.8 Land Use

The routing for the proposed High Voltage Transmission Line (HVTL) is made much easier by the fact that the new Large Electric Power Generating Plant (LEPGP) is being built adjacent to the existing Wilmarth substation. The only landowners involved will be the Calpine Mankato Energy Center (MEC) facility and Xcel Energy. The existing land use is properly zoned for industrial use. The route proposed by Xcel Energy and the MEC does not cross any prohibited sites as defined by the Power Plant Siting rules, including:

- National Parks;
- National historic sites and landmarks;
- National historic districts;
- National wildlife refuges;
- National monuments;
- National wild, scenic, and recreational river ways;
- State wild, scenic, and recreational rivers and their land use districts;
- State parks;
- Nature conservancy preserves;
- State Scientific and Natural Areas; and,
- State and national wilderness areas.

4.9 Noise

Construction Noise --- Noise will be generated by the construction of the HVTL; the construction noise will be predominantly intermittent sources originating from diesel engine driven construction equipment. Potential noise impacts will be mitigated by proper muffling equipment fitted to construction equipment and restricting activities conducted during nighttime hours.

Corona Noise --- Transmission conductors produce noise under certain conditions. The level of noise or its loudness depends on conductor conditions, voltage level, and weather conditions. Generally, noise levels during operation and maintenance of transmission lines is minimal.

Noise impacts from the proposed construction are incremental and not significant. Noise emission from a transmission line occurs during heavy rain and wet conductor conditions. In foggy, damp, or rainy weather conditions, power lines can create a subtle crackling sound due to the small amount of the electricity ionizing the moist air near the wires. During heavy rain the general background noise level, rain falling and wind blowing, is usually greater than the noise from the transmission line. In these conditions, very few people are out near the transmission line. For these reasons audible noise is not noticeable during heavy rain. During light rain,

dense fog, snow, and other times when there is moisture in the air, the proposed transmission lines will produce audible noise higher than rural background levels but similar to household background levels. During dry weather, audible noise from transmission lines is a barely perceptible, sporadic crackling sound.

4.10 Transportation

Traffic near the proposed HVTL will increase during construction. Local motorists will be temporarily inconvenienced by the increase in large construction vehicles on the roadways and possible delays in traffic. This impact is expected to last during the construction period of 12 months. Traffic due to the construction workers could be expected to produce local impacts over a thirty-minute period at the beginning and end of the day and each time a change in shift occurs.

5.0 IDENTIFICATION OF PERMITS

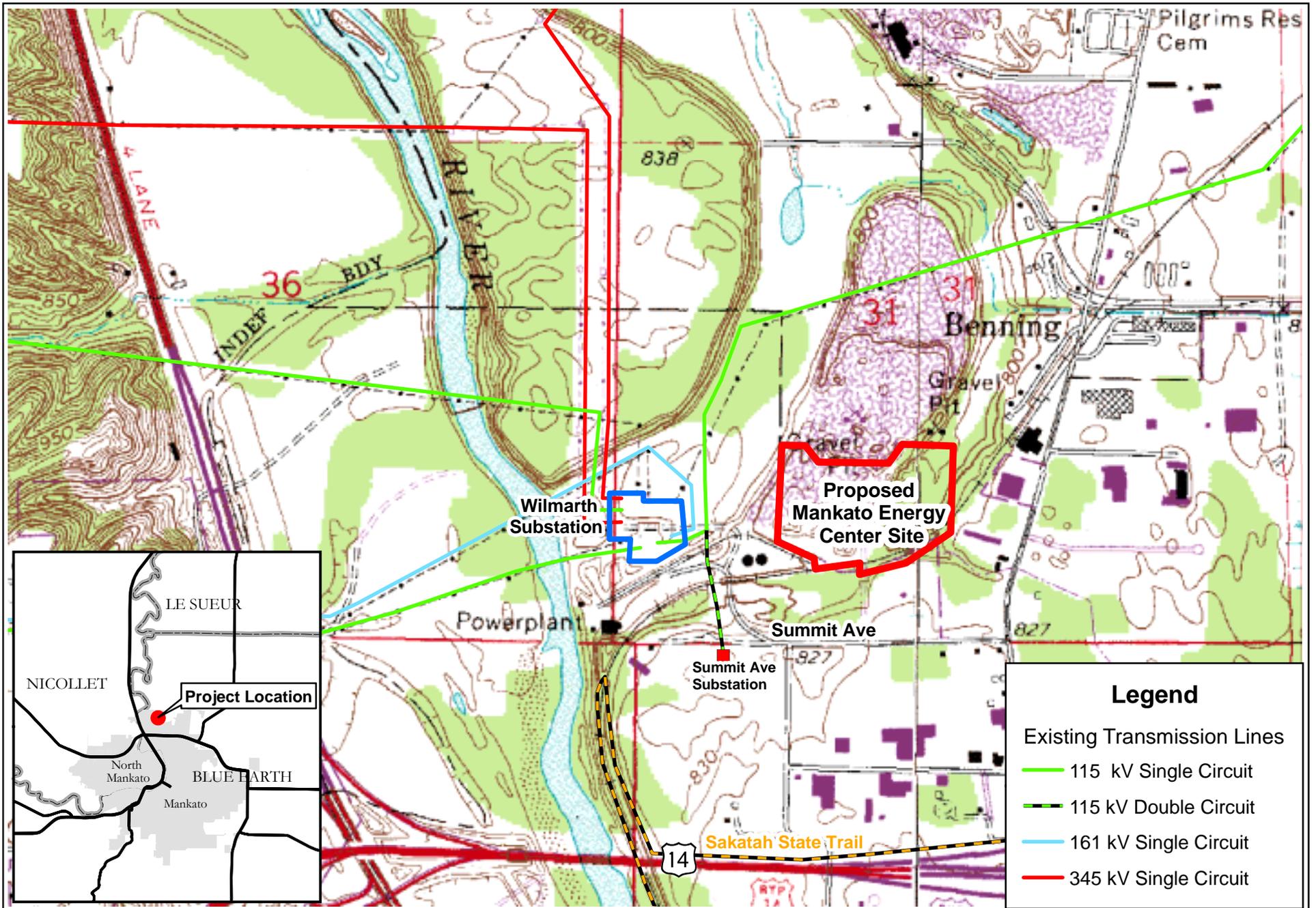
Table 5.1 Potentially Required Permits

Permit	Jurisdiction
<u>Local Approvals</u>	
City Road Crossing Permits	City of Mankato
Wetland Conservation Act Approval	City of Mankato/Blue Earth County
Land Use Permits for Public Lands	City of Mankato/Blue Earth County
Building Permits for substations	City of Mankato
Floodplain Permit	City of Mankato
<u>State of Minnesota Approvals</u>	
Road Crossing Permits	DOT
Route Permit Application (Alternative Process)	EQB
401 Certification	MPCA
NPDES Permit	MPCA
<u>Federal Approvals</u>	
Section 404 Permit (GP/LOP-98-MN)	U.S. Army Corps of Engineers

Table 6.1 List of Acronyms and Abbreviations used

ACSR	Aluminum conductor steel reinforced
ANSI	American National Standards Institute
CON	Certificate of Need
DOT	Department of Transportation
DNR	Minnesota Department of Natural Resources
EA	Environmental Assessment
EIS	Environmental Impact Statement
EMF	Electromagnetic field
EQB	Minnesota Environmental Quality Board
FEMA	Federal Emergency Management Agency
FIRM	Flood Insurance Rate Maps
G	Gauss
HVTL	High Voltage Transmission Line
Hz	Hertz
kV	Kilovolt
LEPGP	Large Electric Power Generating Plant
MAPP	Mid-Continent Area Power Pool

MDH	Minnesota Department of Health
MEC	Mankato Energy Center
MISO	Midwest Independent Systems Operator
MPCA	Minnesota Pollution Control Agency
MVA	Megavolt ampere
MW	megawatt
NESC	National Electrical Safety Code
NPDES	National Pollution Discharge Elimination System
NWI	National Wetlands Inventory
PEMC	Palustrine, Emergent, Seasonally Flooded
PFOC	Palustrine, Forested, Seasonally Flooded
PUC	Public Utilities Commission
PWI	Public Waters Inventory
ROW	Right-of-Way
SHPO	State Historic Preservation Office
SPCC	Spill Prevention, Control and Countermeasure
USDOE	United States Department of Energy
USFWS	United States Fish and Wildlife Service
USGS	United States Geological Survey



Legend

- Existing Transmission Lines
- 115 kV Single Circuit
- 115 kV Double Circuit
- 161 kV Single Circuit
- 345 kV Single Circuit

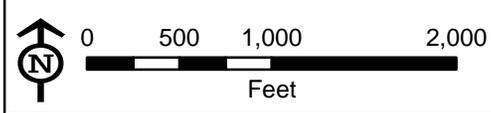
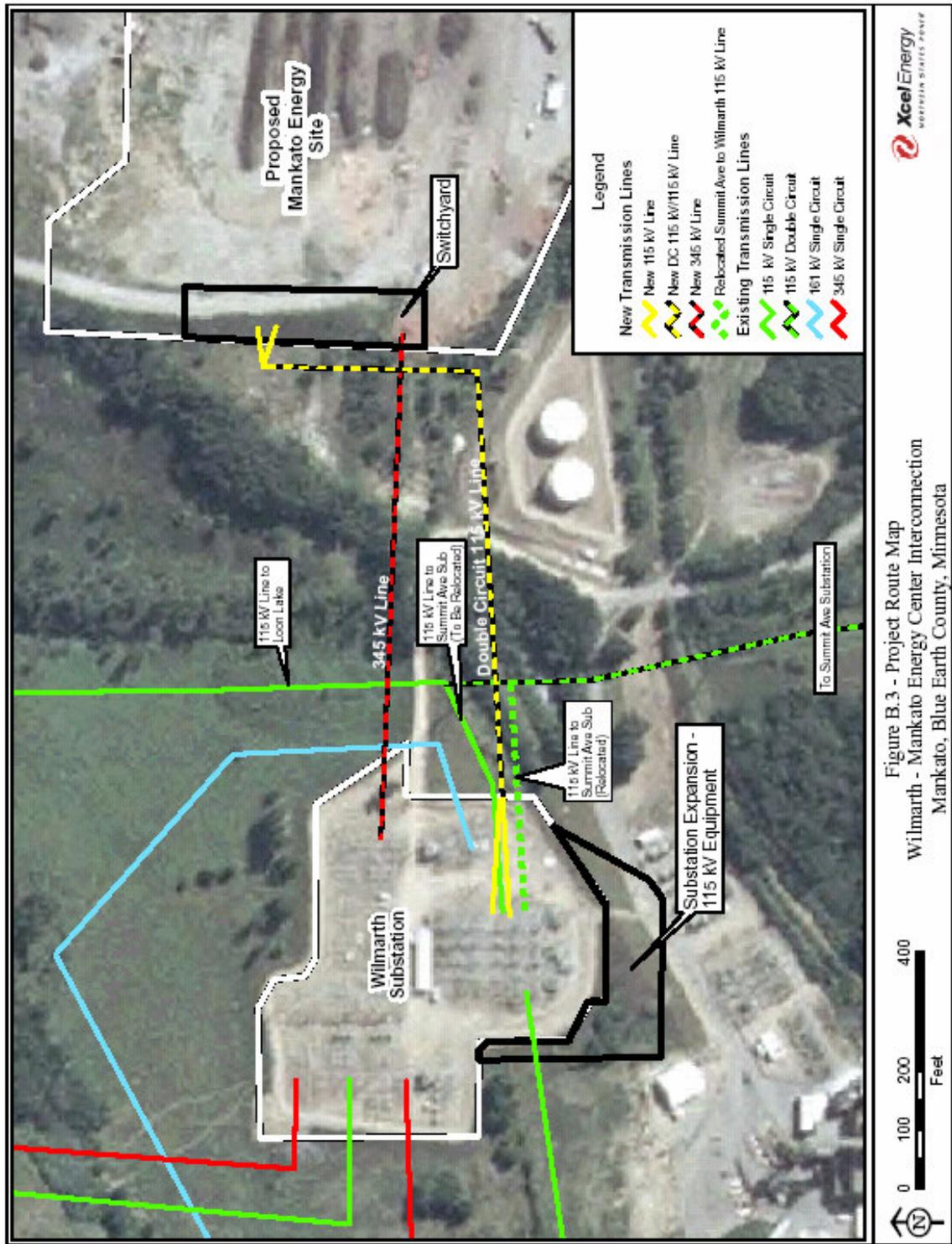


Figure B.2 - Project Location Map
 Wilmarth - Mankato Energy Center Interconnection
 Mankato, Blue Earth County, Minnesota



PROJECT ROUTE MAP



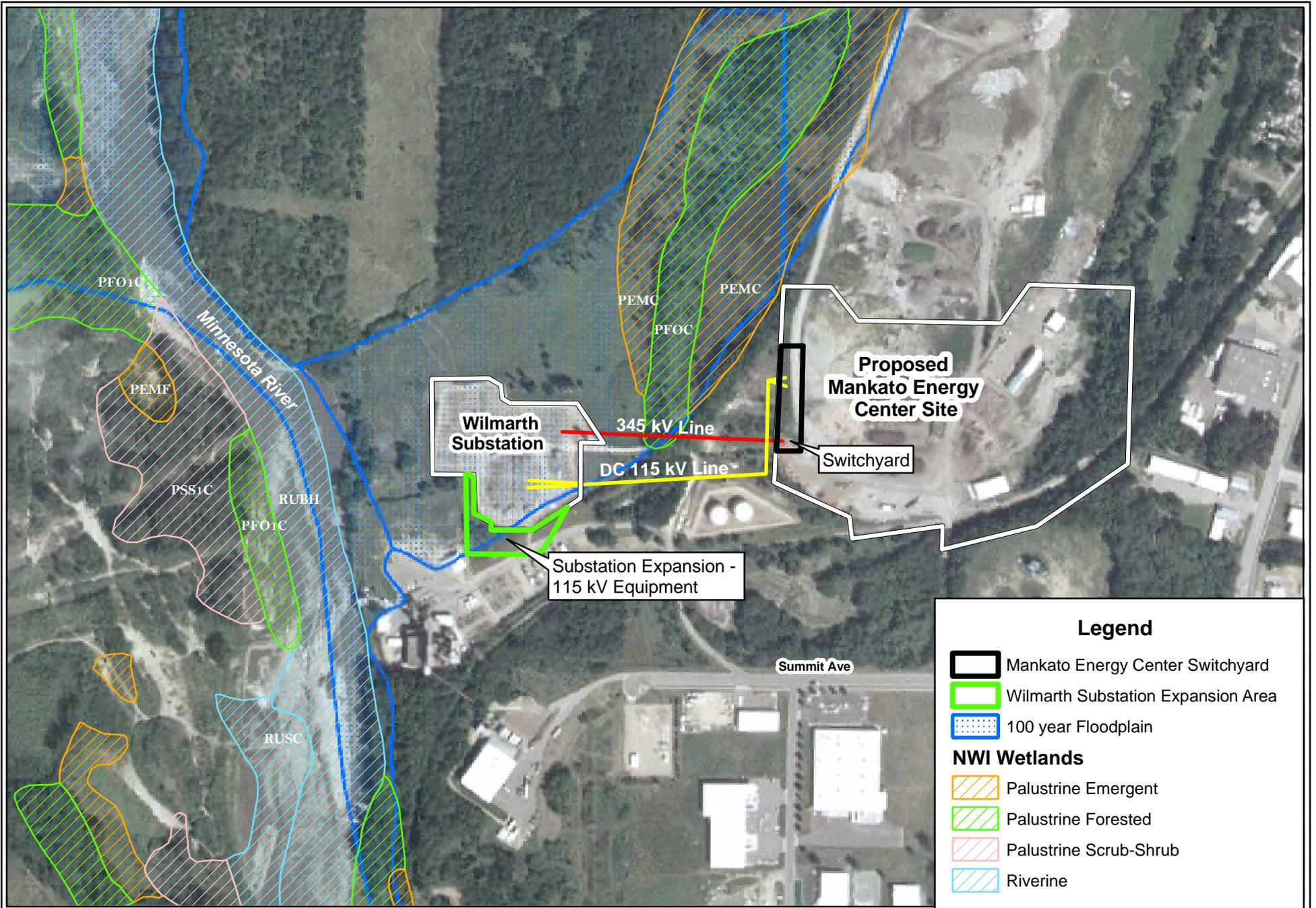
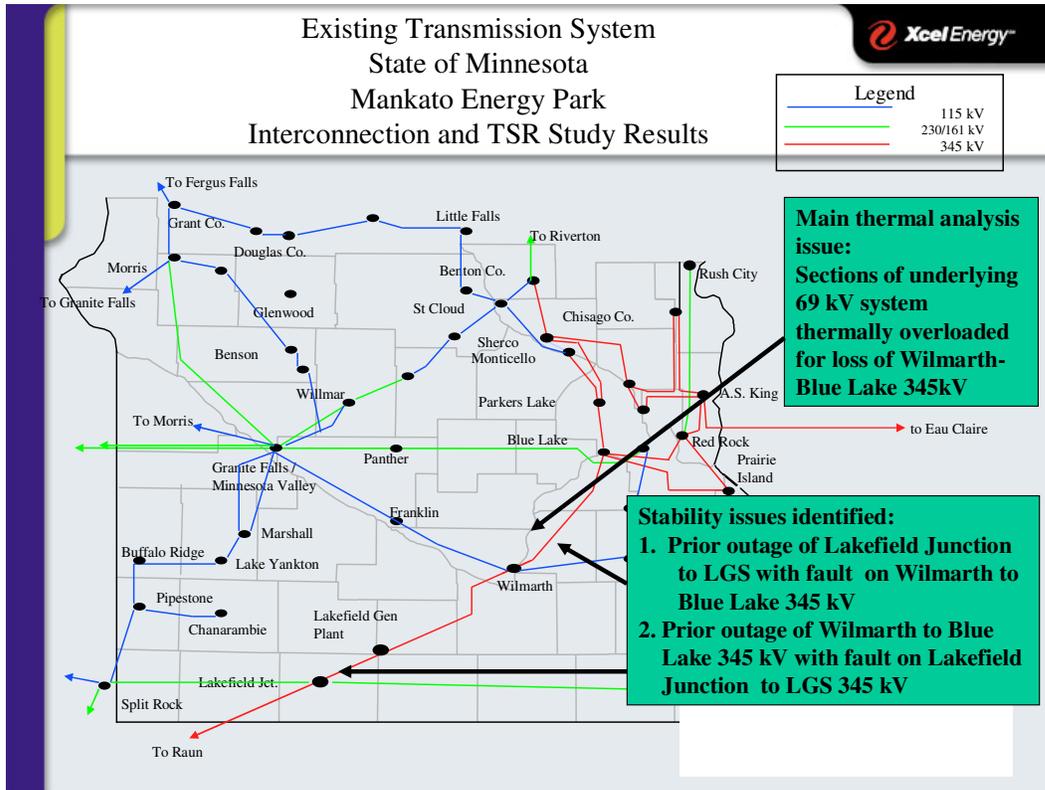


Figure B.4 - Floodplain and NWI Map
 Wilmarth - Mankato Energy Center Interconnection
 Mankato, Blue Earth County, Minnesota



EXISTING TRANSMISSION SYSTEM



STATE OF MINNESOTA

ENVIRONMENTAL QUALITY BOARD

In the Matter of Xcel Energy's Application for a High Voltage Transmission Line to connect the Mankato Energy Center plant in Mankato, Minnesota to the Xcel Wilmarth substation, to the transmission grid, and associated facilities in Blue Earth County.

ENVIRONMENTAL ASSESSMENT SCOPING DECISION EQB Docket No. 04-86-TR-XCEL

The above-entitled matter came before the Chair of the Minnesota Environmental Quality Board (MEQB) for a decision on the scope of the Environmental Assessment (EA) to be prepared on the three proposed, (2 lines at 115 kilovolts and 1 line at 345 kilovolt), high voltage transmission lines (HVTL) to connect the Mankato Energy Center Generating plant to the existing Xcel Wilmarth substation and the transmission grid.

The EQB held a public meeting on September 28, 2004, to discuss the project with the public and to solicit input into the scope of the EA to be prepared. The public was given until October 8, 2004 to submit written comments regarding the scope of the EA.

Having reviewed the comments submitted and consulted with EQB staff, I hereby make the following Scoping Order.

MATTERS TO BE ADDRESSED

The EA on the Xcel Wilmarth HVTL will address the following matters:

1.0 INTRODUCTION

- 1.1 Description
- 1.2 Purpose and Need
- 1.3 Sources of Information

2.0 REGULATORY FRAMEWORK

- 2.1 Certificate of Need Requirement
- 2.2 Route Permit Requirement
- 2.3 Environmental Assessment
- 2.4 Public Hearing
- 2.5 Applicable Codes
- 2.6 Issues Outside EQB Authority

3.0 PROPOSED PROJECT

- 3.1 Transmission Structure Design
- 3.2 Substation Design
- 3.3 Project Cost Estimate
- 3.4 MISO Interconnection Study

- 4.0 POTENTIAL IMPACTS OF THE PROJECT
 - 4.1 Air Quality
 - 4.2 Biological Resources
 - 4.2.1 Flora
 - 4.2.2 Fauna
 - 4.2.3 Rare & Unique Natural resources
 - 4.3 Aesthetic Impacts
 - 4.4 Water Quality Impacts
 - 5.4.1 Water Resources
 - 5.4.2 Surface Water
 - 5.4.3 Groundwater
 - 5.4.4 Wetlands
 - 5.4.5 Mitigative Measures
 - 4.5 Electric and Magnetic Fields
 - 5.5.1 Interagency White Paper on EMF
 - 5.5.2 Radio and TV Interference
 - 4.6 Land Use
 - 4.7 Noise Impacts
 - 4.8 Transportation Impacts
- 5.0 REGULATORY PERMITS AND APPROVALS REQUIRED
 - 5.1 Agency Contacts Needed
 - 5.2 List of Permits Required
- 6.0 LIST OF ACRONYMS AND ABBREVIATIONS
- 7.0 OTHER ISSUES RAISED BY MEMBERS OF THE PUBLIC

ISSUES OUTSIDE THE SCOPE OF THE EA

The EQB will not, as part of this environmental review, consider whether a different size or different type of transmission line should be built. Nor will the EQB consider the no-build option regarding the HVTL. Nor will the EQB consider any alternative sites for the proposed plant.

IDENTIFICATION OF PERMITS

The EA will include a list of permits that will be required for the applicant to construct this project.

SCHEDULE

The EA will be completed by November 10, 2004.

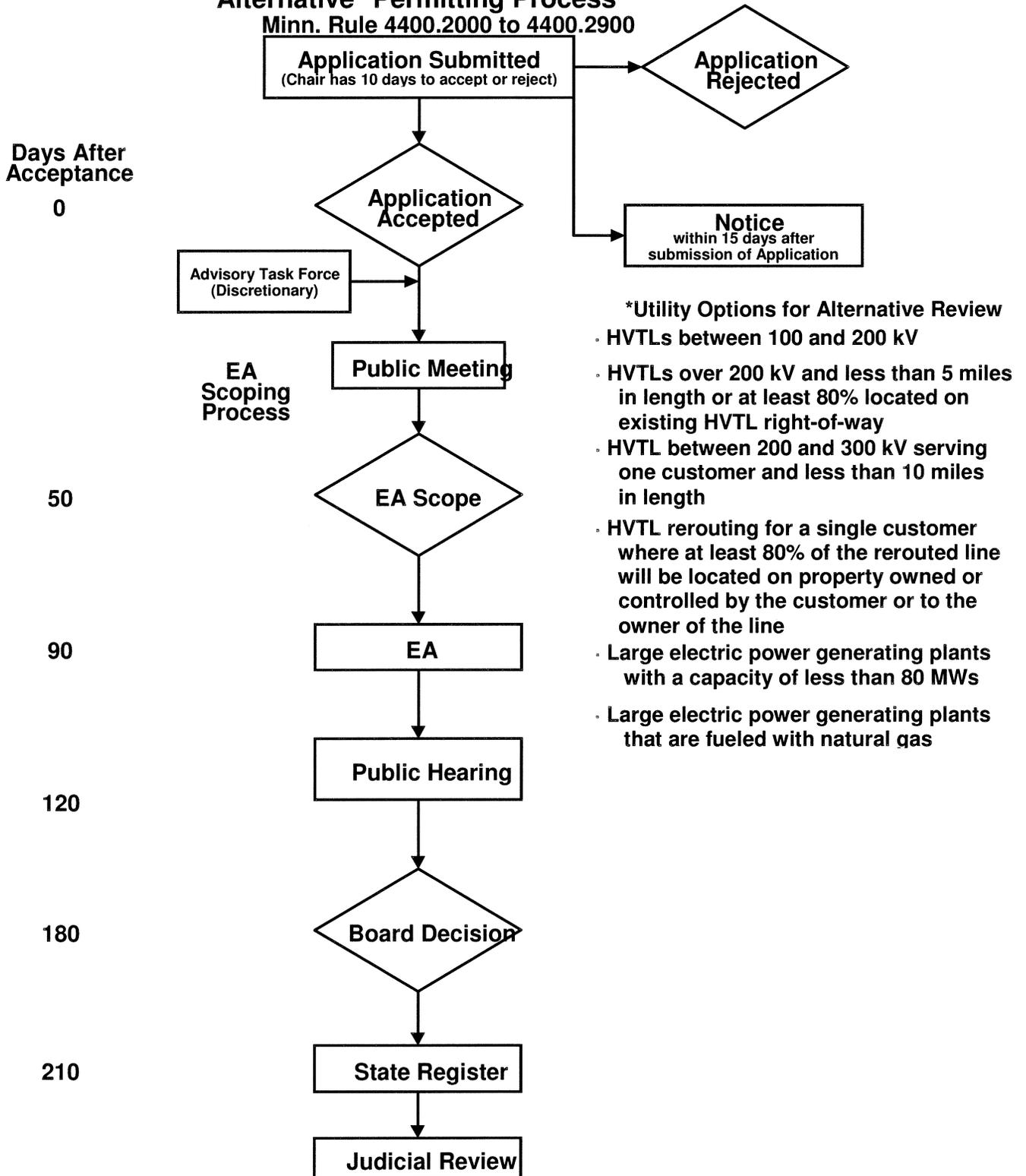
Signed this 11 day of October, 2004

STATE OF MINNESOTA
ENVIRONMENTAL QUALITY BOARD



Robert A. Schroeder, *Chair*

**HVTL Route and Power Plant Site
Alternative* Permitting Process
Minn. Rule 4400.2000 to 4400.2900**





Minnesota Department of Natural Resources

RECEIVED

JUL - 6 2004

Natural Heritage and Nongame Research Program, Box 25
500 Lafayette Road

St. Paul, Minnesota 55155-40__

HDR Engineering, Inc.

Phone: (651) 296-7863 Fax: (651) 296-1811 E-mail: sarah.hoffmann@dnr.state.mn.us

July 1, 2004

Michelle Bissonnette
HDR Engineering
6190 Golden Hills Drive
Minneapolis, MN 55416-1518

Re: Request for Natural Heritage information for vicinity of proposed Mankato Energy Center 115 kV and 345 kV Transmission Lines, T109N R26W Section 31, Blue Earth County
NHNRP Contact #: ERDB 20040929

Dear Ms. Bissonnette,

The Minnesota Natural Heritage database has been reviewed to determine if any rare plant or animal species or other significant natural features are known to occur within an approximate one-mile radius of the area indicated on the map enclosed with your information request. Based on this review, there are 6 known occurrences of rare species or natural communities in the area searched (for details, see enclosed database printout and explanation of selected fields). However, based on the nature and location of the proposed project I do not believe it will affect any known occurrences of rare features.

The Natural Heritage database is maintained by the Natural Heritage and Nongame Research Program, a unit within the Division of Ecological Services, Department of Natural Resources. It is continually updated as new information becomes available, and is the most complete source of data on Minnesota's rare or otherwise significant species, natural communities, and other natural features. Its purpose is to foster better understanding and protection of these features.

Because our information is not based on a comprehensive inventory, there may be rare or otherwise significant natural features in the state that are not represented in the database. A county-by-county survey of rare natural features is now underway, and has been completed for Blue Earth County. Our information about natural communities is, therefore, quite thorough for that county. However, because survey work for rare plants and animals is less exhaustive, and because there has not been an on-site survey of all areas of the county, ecologically significant features for which we have no records may exist on the project area.

The enclosed results of the database search are provided in two formats: index and full record. To control the release of locational information which might result in the damage or destruction of a rare element, both printout formats are copyrighted.

The index provides rare feature locations only to the nearest section, and may be reprinted, unaltered, in an Environmental Assessment Worksheet, municipal natural resource plan, or report compiled by your company for the project listed above. If you wish to reproduce the index for any other purpose, please contact me to request written permission. Copyright notice for the index should include the following disclaimer:

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The full-record printout includes more detailed locational information, and is for your personal use

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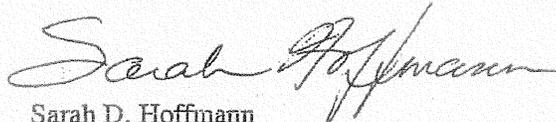


only. **If you wish to reprint the full-record printouts for any purpose, please contact me to request written permission.**

Please be aware that review by the Natural Heritage and Nongame Research Program focuses only on *rare natural features*. It does not constitute review or approval by the Department of Natural Resources as a whole. If you require further information on the environmental review process for other wildlife-related issues, you may contact your Regional Environmental Assessment Ecologist, Shannon Fisher, at (507) 359-6073.

An invoice for the work completed will be mailed to you under separate cover within two weeks of the date of this letter. You are being billed for map and database search and staff scientist review. Thank you for consulting us on this matter, and for your interest in preserving Minnesota's rare natural resources.

Sincerely,



Sarah D. Hoffmann
Endangered Species Environmental Review Coordinator

encl: Database search results
Rare Feature Database Print-Outs: An Explanation of Fields

MANKATO ENERGY CENTER 115 KV AND 345 KV TRANSMISSION LINES
 T109N R26W SECTION 31, BLUE EARTH COUNTY
 MNDNR, Natural Heritage and Nongame Research Program

13:54 Tuesday, June 15, 2004
 Copyright 2004 State of Minnesota DNR

MANAGED AREA

Minnesota Natural Heritage Database
 Element Occurrence Records

TWP	RNG	PRIMARY SECTION	FED STATUS	MN STATUS	S RANK	ELEMENT and OCCURRENCE NUMBER
T108N	R26W	06		SPC		COLUBER CONSTRICTOR (RACER) #504
T109N	R26W	31			S1	MESIC PRAIRIE (SOUTHEAST) #38
T109N	R27W	25			S3	FLOODPLAIN FOREST SILVER MAPLE SUBTYPE #64
T109N	R27W	36	LT	SPC		HALIAEETUS LEUCOCEPHALUS (BALD EAGLE) #1380
T109N	R27W	36				MUSSEL SAMPLING SITE #121
T109N	R27W	36		THR		POLYODON SPATHULA (PADDLEFISH) #6

RECORDS PRINTED = 6



Minnesota Department of Natural Resources

Natural Heritage and Nongame Research Program, Box 25

500 Lafayette Road

St. Paul, Minnesota 55155-40__

Phone: (651) 296-7863 Fax: (651) 296-1811 E-mail: sarah.hoffmann@dnr.state.mn.us

September 11, 2003

RECEIVED BY

Dale Claridge
Wenck Associates, Inc.
P.O. Box 249
Maple Plain, MN 55359

SEP 16 2003

WENCK ASSOCIATES, INC.

Re: Request for Natural Heritage information for vicinity of proposed Calpine Mankato Natural Gas Plant,
T109N R26W Section 31, Blue Earth County
NHNRP Contact #: ERDB 20040172

Dear Mr. Claridge

The Minnesota Natural Heritage database has been reviewed to determine if any rare plant or animal species or other significant natural features are known to occur within an approximate one-mile radius of the area indicated on the map enclosed with your information request. Based on this review, there are 9 known occurrences of rare species or natural communities in the area searched (for details, see enclosed database printout and explanation of selected fields). However, based on the nature and location of the proposed project I do not believe it will affect any known occurrences of rare features.

The Natural Heritage database is maintained by the Natural Heritage and Nongame Research Program, a unit within the Division of Ecological Services, Department of Natural Resources. It is continually updated as new information becomes available, and is the most complete source of data on Minnesota's rare or otherwise significant species, natural communities, and other natural features. Its purpose is to foster better understanding and protection of these features.

Because our information is not based on a comprehensive inventory, there may be rare or otherwise significant natural features in the state that are not represented in the database. A county-by-county survey of rare natural features is now underway, and has been completed for Blue Earth County. Our information about natural communities is, therefore, quite thorough for that county. However, because survey work for rare plants and animals is less exhaustive, and because there has not been an on-site survey of all areas of the county, ecologically significant features for which we have no records may exist on the project area.

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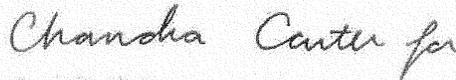
Printed on Recycled Paper Containing a
Minimum of 10% Post-Consumer Waste

The full-record printout includes more detailed locational information, and is for your personal use only. **If you wish to reprint the full-record printouts for any purpose, please contact me to request written permission.**

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An invoice for the work completed is enclosed. You are being billed for map and database search and staff scientist review. Please forward this invoice to your Accounts Payable Department. Thank you for consulting us on this matter, and for your interest in preserving Minnesota's rare natural resources.

Sincerely,



Sarah D. Hoffmann
Endangered Species Environmental Review Coordinator

encl: Database search results
Rare Feature Database Print-Outs: An Explanation of Fields
Invoice

Minnesota Natural Heritage Database
 Element Occurrence Records

CALPINE MANKATO NATURAL GAS PLANT
 T109N R26W SECTION 31, BLUE EARTH COUNTY
 MADNR, Natural Heritage and Nongame Research Program

14:40 Monday, SEPTEMBER 08, 2003
 Copyright 2003 State of Minnesota DNR

MANAGED AREA

TWP	RNG	PRIMARY SECTION	FED STATUS	MN STATUS	S RANK	ELEMENT and OCCURRENCE NUMBER
T108N	R26W	06		SPC		COLUBER CONSTRICTOR (RACER) #50
T108N	R27W	01		NON		ELAPHE VULPINA (FOX SNAKE) #165
T109N	R26W	31		S1		MESIC PRAIRIE (SOUTHEAST) #38
T109N	R27W	25		S3		FLOODPLAIN FOREST SILVER MAPLE SUBTYPE #64
T109N	R27W	36		NON		ELAPHE VULPINA (FOX SNAKE) #164
T109N	R27W	36	LT	SPC		HALIAEETUS LEUCOCEPHALUS (BALD EAGLE) #1380
T109N	R27W	36		THR		MUSSEL SAMPLING SITE #121
T109N	R27W	36		NON		POLYODON SPATHULA (PADDLEFISH) #6
T109N	R27W	36		NON		SCAPHIRYNCHUS PLUMORINCHUS (SHOVELNOSE STURGEON) #12

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MINNESOTA HISTORICAL SOCIETY
STATE HISTORIC PRESERVATION OFFICE

September 9, 2003

Mr. Dale Claridge
Wenck Associates
PO Box 249
Maple Plain, MN 55359-0249

RECEIVED BY

SEP 10 2003

WENCK ASSOCIATES, INC.

RE: Calpine Mankato Energy Center
T109 R26 S31 SW, Lime Twp., Blue Earth County
SHPO Number: 2003-3616

Dear Mr. Claridge:

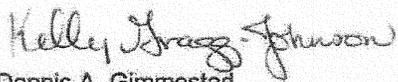
Thank you for consulting with our office during the preparation of an Environmental Assessment Worksheet for the above referenced project.

Based on our review of the project information, we conclude that there are no properties listed on the National or State Registers of Historic Places, and no known or suspected archaeological properties in the area that will be affected by this project.

Please note that this comment letter does not address the requirements of Section 106 of the National Historic Preservation Act of 1966 and 36CFR800, Procedures of the Advisory Council on Historic Preservation for the protection of historic properties. If this project is considered for federal assistance, or requires a federal permit or license, it should be submitted to our office with reference to the assisting federal agency.

Please contact us at (651) 296-5462 if you have any questions regarding our comments on this project.

Sincerely,


for Dennis A. Gimmestad
Government Programs and Compliance Officer



MINNESOTA HISTORICAL SOCIETY
STATE HISTORIC PRESERVATION OFFICE



October 6, 2004

Mr. George Johnson
EQB
300 Centennial Building
658 Cedar Street
St. Paul, MN 55155

RE: Xcel Energy – construction of 3 transmission lines between the existing Wilmarth substation and the proposed Mankato Energy Center
T109 R26 S31, Blue Earth County
SHPO Number: 2004-3206

Dear Mr. Johnson:

Thank you for the opportunity to review and comment on the above project. It has been reviewed pursuant to the responsibilities given the Minnesota Historical Society by the Minnesota Historic Sites Act and the Minnesota Field Archaeology Act.

Based on our review of the project information, we conclude that there are no properties listed on the National or State Registers of Historic Places, and no known or suspected archaeological properties in the area that will be affected by this project.

Please note that this comment letter does not address the requirements of Section 106 of the National Historic Preservation Act of 1966 and 36CFR800, Procedures of the Advisory Council on Historic Preservation for the protection of historic properties. If this project is considered for federal assistance, or requires a federal permit or license, it should be submitted to our office with reference to the assisting federal agency.

Please contact Dennis Gimmestad at (651) 296-5462 if you have any questions regarding our review of this project.

Sincerely,

Britta L. Bloomberg
Deputy State Historic Preservation Officer