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May 27, 2004

VIA MESSENGER

Raymond R. Krause
Administrative Law Judge
100 Washington Square, Suite 1700
Minneapolis, MN 55401

**Re: In the Matter of Application to the Minnesota Public Utilities Commission
for a Certificate of Need -Blue Lake Generating Plant Expansion Project;
MEQB Docket No. 04-75-PPS-XCEL
OAH Docket No.: 2-2500-15828-2**

Dear Judge Krause:

On behalf of the applicant, Northern States Power Company d/b/a Xcel Energy ("Xcel Energy"), we respectfully submit the enclosed proposed Report and Recommendation for your consideration in preparing your report to the Minnesota Environmental Quality Board ("MEQB"). To facilitate your review, I have also included a diskette containing the file in Word format.

Please note that the proposal was provided to the MEQB Staff for review and that all of Staff's comments have been incorporated.

Please contact me if you have any questions.

Very truly yours,

Michael C. Krikava

MCK/lma
Enclosures
cc: Service List

**STATE OF MINNESOTA
OFFICE OF ADMINISTRATIVE HEARINGS
FOR THE ENVIRONMENTAL QUALITY BOARD**

In the Matter of the Application to the
Minnesota Environmental Quality Board
for a Generating Plant Site Permit and a
Transmission Line Route Permit

**REPORT AND
RECOMMENDATION**

The above-entitled matter was heard before Administrative Law Judge Raymond R. Krause on May 17, 2004 at the County Boardroom, Scott County Government Center, Services Building, Shakopee, Minnesota.

Appearances: Alan R. Mitchell and William Storm appeared on behalf of the staff of the Minnesota Environmental Quality Board ("MEQB"); Julia Anderson, Office of the Minnesota Attorney General, appeared on behalf of the Department of Commerce ("Department"); Michael C. Krikava and Lisa M. Agrimonti, Briggs & Morgan P.A., appeared on behalf of Northern States Power Company d/b/a Xcel Energy ("Xcel Energy" or "Company"); David L. Jacobson, 121 Seventh Place East, Suite 350, St. Paul, Minnesota 55101, appeared on behalf of the staff of the Minnesota Public Utilities Commission ("Commission").

Public hearings were held at 2 p.m. and 7 p.m. on Monday May 17, 2004.

NOTICE

This project qualifies for alternative review under the Power Plant Siting Act, Minn. Stat. § 116.575. The MEQB was not required to hold a contested case hearing on this project pursuant to chapter 14, and it did not do so. Under MEQB rules, the MEQB has the option to conduct a public hearing itself or to request that an Administrative Law Judge conduct the hearing and compile a record for the MEQB to consider in making its final decision. The MEQB also has the option to request that the Administrative Law Judge prepare a report and recommendation, which it did in this case. This report contains a summary of the evidence in the record and a recommendation based on that record. It is not a final decision. Pursuant to Minn. Stat. § 116C.575, Subd. 7, the MEQB will make the final determination of the matter within 60 days of the completion of the public hearing. Persons wishing to file comments concerning this report with the MEQB should contact Alan Mitchell for information about the procedures to be followed. Further notice is hereby given that the MEQB may, at its own discretion, accept or reject the Administrative Law Judge's recommendation.

STATEMENT OF ISSUE

Should the MEQB issue a Site Permit specifying the Blue Lake Plant site as the location for the addition of two natural gas-fired simple cycle combustion turbine generators and, if it

does, which route should be specified in a Route Permit to build a 230/115 kV double circuit transmission line connecting an existing 230 kV line to the Blue Lake Substation?

Based upon all the proceedings herein, the Administrative Law Judge makes the following:

SUMMARY OF EVIDENCE

A. Procedural History and the Parties

1. Xcel Energy is a public utility under the laws of the State of Minnesota. Xcel Energy and its parent public utility holding company are headquartered in Minneapolis, Minnesota. Xcel Energy has 1.5 million electricity customers in its upper Midwest service territory which includes parts of Minnesota, Wisconsin, Michigan, North Dakota and South Dakota. Xcel Energy owns and operates 22 electric generation facilities serving this area using a variety of technologies and fuels including coal, oil, natural gas, hydro, refuse derived fuel and nuclear.¹

2. On February 10, 2004, Xcel Energy filed an application with the MEQB. The application requests a site permit to construct and operate two 162-megawatt, simple cycle, natural gas fueled combustion turbine generators ("CTGs") at its existing Blue Lake Generating Plant ("Plant"). In addition, the application seeks a route permit to construct a short 230/115 kV double circuit transmission line to connect the existing Blue Lake substation to an existing 230 kV transmission line that passes the Plant site to the south. (The two new CTGs and the transmission line will be referred to collectively as "the Project". The application for a site permit and a route permit will be referred to collectively as "the Site Application").²

3. Xcel Energy's Site Application seeks review of its proposal using the procedures of Minnesota Statute Section 116C.575 and Minnesota Rules 4400.200 through 4400.2950, known as the Alternative Permitting Process. The Project is eligible to be considered under the Alternative Permitting Process because the proposed units will be fueled by natural gas (Minnesota Rule 4400.2000, Subp. 1, B) and the proposed transmission line is less than five miles long (Minnesota Rules 4400.2000, Subp. 1, D.)

4. On February 17, 2004, the MEQB accepted Xcel Energy's application for the Project and began the review process.³

5. On February 25, 2004, the MEQB mailed notice of the filing of the application and public meeting to those persons on the MEQB General Contact List, local officials and property owners and such notice satisfies the requirements of Minn. Rule 4400.1350, Subp. 2.⁴

¹ Certificate of Need Application, p. 2-1.

² Site Application, p. 1-1.

³ Direct Testimony of William Storm ("Storm Testimony"), p. 2.

6. The MEQB conducted a public information meeting in the City of Shakopee's public meeting room located in City Hall on March 11, 2004 at 2:00 p.m. and 7:00 p.m. Xcel Energy representatives and 10 other people attended. The public had an opportunity to ask questions during informal discussions with Company representatives. The comment period was held open until 5 p.m. April 2, 2004. The Shakopee City Administrator and the Shakopee Director of Natural Resources received written comments. The major areas of concern related to noise, air emissions and routing of the transmission line through MN/DOT parcel No. 75.⁵

7. On April 13, 2004, after consideration of the public comments, the Chair of the MEQB issued a scoping order. Notice of the scoping order was provided by the MEQB to the persons specified in Minn. Rules 4400.2750, Subp. 3.⁶

8. On February 17, 2004, the MEQB accepted the application of Xcel Energy for a site and route permit.⁷ The MEQB determined that because the turbines would be constructed on the existing Blue Lake Plant site and the route of the proposed 230/115 kV transmission line would parallel an existing 345/115 kV transmission line, it was unnecessary to appoint a citizen advisory task force to consider alternative sites or routes.⁸

9. On April 21, 2004, the MEQB Staff sent a Notice of Public Hearing as required by Minnesota Rule 4400.2800 to the persons specified in the rule. Additionally, the notice was published in the Shakopee Daily News on April 29, 2004. The notice announced that the MEQB would hold a public hearing in the Scott County Government Services Building in Shakopee on May 17, 2004.⁹

10. On April 30, 2004, copies of the prefiled direct testimony of James Alders, David Eves, Steven Hjermstad, Stephen LaCasse and Pamela J. Rasmussen, were filed with the Administrative Law Judge and served upon the MEQB. The testimony was also provided to all persons on the service list prepared by the Office of Administrative Hearings for the proceedings relating to In the Matter of Application to the Minnesota Public Utilities Commission for a Certificate of Need – Blue Lake Generating Plant Expansion Project, MPUC Docket No. 04-75-PPS-XCEL ("Certificate of Need Proceeding").

⁴ MEQB Exhibit 6, Affidavit of Mailing.

⁵ Notice of public meeting regarding expansion of the Blue Lake Generating Plant, Feb. 17, 2004; Storm Testimony, p. 2.

⁶ Storm Testimony, p. 2.

⁷ Letter from MEQB Chair Robert A. Schroeder to Xcel Energy accepting application, Feb. 17, 2004.

⁸ *Id.*

⁹ Storm Testimony, p. 3.

11. The MEQB Staff completed an environmental assessment ("EA"), as required by Minn. Stat. § 116C.575, Subd. 5. The MEQB issued its EA and gave notice of its availability on May 17, 2004.

12. Pursuant to published notice, a hearing was held on May 17, 2004, as required by Minn. Stat. § 116C.575, Subd. 6 and Minn. Rule 4400.2850. The hearing on the Site Application was held sequentially with the Certificate of Need Proceeding. Representatives of Xcel Energy and the MEQB attended and were available to respond to questions. Witnesses who submitted prefiled testimony were also available to answer questions. No member of the public posed any questions or offered any statement regarding the Site Application.

13. At the close of the hearings, the Administrative Law Judge established a May 27, 2004 deadline for submission of written comments on the EA.

B. General Description of the Plant and the Project

14. The Blue Lake Generation Plant, located at 1200 79th Street South, Shakopee, Minnesota, currently consists of four simple cycle oil-fired CTGs.

15. Xcel Energy proposes to install two new natural gas-fired CTGs adjacent to the existing CTGs within the existing plant area, between the existing turbine building and the fuel oil tanks, on an area that has been previously graded flat and covered with gravel.¹⁰

16. In addition to the CTGs, new Plant equipment will include:

- (a) Two generator step-up transformers;
- (b) A 1,000-foot direct interconnect transmission line from the transformers to the existing Blue Lake Substation;
- (c) A gas metering station;
- (d) An evaporate cooler; and
- (e) An exhaust stack with silencer.¹¹

17. As part of the Project, Xcel Energy also proposes to construct a 230/115 kV double circuit transmission line approximately 4,000 feet long to connect to an existing 230 kV transmission line that connects the McLeod and Black Dog substations.¹²

18. The Project will be interconnected to Xcel Energy's Blue Lake Substation located immediately east of the plant with a 115 kV transmission line. Minor modification of the

¹⁰ Site Application, p. 2-1.

¹¹ Site Application, p. 3-3; EA, p. 4.

¹² Site Application, p. 2-1; EA, p. 7.

substation will be required, including replacement and addition of various breakers, disconnects and conductors.¹³

19. In its Site Application, Xcel Energy proposes a route for the new 230/115 kV line to exit the Blue Lake Substation from the west, then wrap around the substation to the south and east. The route would then parallel an existing 345/115 kV line directly south to the existing 230 kV line.¹⁴ The transmission line would require approximately 45 feet of additional right of way.¹⁵

20. The preferred route of the new transmission line would follow along the western edge of property owned by the Minnesota Department of Transportation ("MnDOT") known as Parcel No. 75. The parcel is approximately 50 acres in size and located to the south of the Blue Lake facility. The Minnesota Department of Natural Resources ("DNR") has classified the vegetation on Parcel No. 75 as a dry oak savanna barrens subtype (one of three subtypes). Parcel No. 75 was previously part of the Blue Lake Plant property. Xcel Energy sold the property to MnDOT when Highway 169 was built and dissected the parcel. Xcel Energy still maintains easements for four transmission lines on two sets of structures that currently cross the site, including the existing 345/115 kV line.¹⁶

21. No expansion of the Plant footprint will be required for the Project.¹⁷

C. Alternative Transmission Line Route

22. Prior to the hearings, several members of the public, the DNR and the City of Shakopee expressed concerns regarding their desire to preserve the oak savanna on Parcel No. 75. To address these concerns, Xcel Energy evaluated the proposed route and three potential alternative routes for the transmission line. Alternative A is a route parallel to the existing 230 kV double circuit line running along the east edge of Parcel No. 75. Alternative B is an alignment that runs westward along the north side of Highway 169 and then crosses over the highway to connect to an existing line west of Dean's Lake. Alternative C crosses Highway 169 immediately south of the Blue Lake Substation and runs eastward along the south side of Highway 169, then turns south, parallel and just west of, County Road 18 to the existing line.¹⁸

¹³ Site Application, p. 3-5; EA, p. 7.

¹⁴ Site Application, Figure 2-1; EA, p. 9.

¹⁵ Site Application, p. 3-10; EA, p. 9.

¹⁶ Direct Testimony of Pamela J. Rasmussen ("Rasmussen Testimony"); Xcel Energy's Document on the 3 alternative HVTL routes and MnDOT Parcel 75, April 28, 2004.

¹⁷ Site Application, p. 2-1; EA, p. 3.

¹⁸ Rasmussen Testimony, pp. 7, 9.

D. Transmission Interconnection

23. The two CTGs will generate electricity at 18 kV. Two generator step up transformers will increase the voltage to 115 kV. Xcel Energy will construct a 115 kV transmission line approximately 1000 feet long to connect the transformers to the existing 115 kV bus in the Blue Lake Substation, east of the Plant. These associated facilities are part of the request for a site permit to construct the new turbines.¹⁹

E. Fuel Supply

24. The new units will be fueled by natural gas. An 11-mile pipeline with a diameter of 16 inches will be constructed to supply natural gas from the Northern Natural Gas Interstate Pipeline.²⁰

25. The routing of the proposed pipeline is not part of this proceeding. On March 16, 2004, Xcel Energy filed its Application to the MEQB for a Gas Pipeline Route Permit and Partial Exemption from Pipeline Route Selection Procedures. There is no need to make any findings concerning natural gas in this proceeding.

F. Water Supply

26. Simple cycle combustion turbine technology does not require water to operate. However, Xcel Energy proposes to include evaporative inlet air cooling to enhance operating efficiency of the units during the warmest days of the year, which will be about 20 percent of the time the units are operating.²¹

27. The Plant currently obtains water from two-on-site wells. No new source will be required.²²

28. The available groundwater may contain high levels of minerals and other undesirable constituents. Therefore, pH adjustment and filtration will be required before the water can be used in the evaporative coolers. Each unit will use about 60 gpm of treated makeup water during peak load operation. The two CTGs are estimated to be operational just over 1300 unit-hours per year combined. Assuming that the air cooling system will be used 20 percent of that time, the total annual evaporative cooler water requirement will be about 840 thousand gallons of treated water. A reverse osmosis water treatment system would require about 1 million gallons of raw water to produce 840 thousand gallons of treated water of adequate

¹⁹ Site Application, p. 3-3; EA, p. 7.

²⁰ Site Application, p. 3-3; EA, p. 6.

²¹ Site Application, p. 3-4; EA, p.5.

²² Site Application, p. 4-4.

quality for the evaporative coolers. Thus, the water requirement for the coolers is estimated to be 1 million gallons annually.²³

G. Generation and Treatment of Wastewater

29. Approximately 140,000 gallons of water with concentrated minerals would be discharged during the treatment process and half of the evaporate cooler feed water, 420,000 gallons annually, remains after the cooling process. The balance is lost by evaporation. These two wastewater sources, plus an estimated 50,000 gallons generated from water treatment filter backwashing results in a total annual wastewater volume of about 600,000 gallons which will be temporarily stored on site and then trucked to a regional wastewater treatment plant.²⁴

H. Environmental and Socioeconomic Impacts

Applicable Statutory Considerations

30. Minn. Stat. § 116C.57, Subd. 4, provides that the MEQB shall be guided by the following responsibilities, procedures, and considerations:

(a) Evaluation of research and investigations relating to the effects on land, water and air resources of large electric power generating plants and high voltage transmission lines and the effects of water and air discharges and electric and magnetic fields resulting from such facilities on public health and welfare, vegetation, animals, materials and aesthetic values, including baseline studies, predictive modeling, and evaluation of new or improved methods for minimizing adverse impacts of water and air discharges and other matters pertaining to the effects of power plants on the water and air environment;

(b) Environmental evaluation of sites and routes proposed for future development and expansion and their relationship to the land, water, air and human resources of the state;

(c) Evaluation of the effects of new electric power generation and transmission technologies and systems related to power plants designed to minimize adverse environmental effects;

(d) Evaluation of the potential for beneficial uses of waste energy from proposed large electric power generating plants;

(e) Analysis of the direct and indirect economic impact of proposed sites and routes including, but not limited to, productive agricultural land lost or impaired;

²³ Site Application, p. 3-4; EA, p. 5.

²⁴ Site Application, p. 3-4; EA, p. 5.

- (f) Evaluation of adverse direct and indirect environmental effects that cannot be avoided should the proposed site and route be accepted;
- (g) Evaluation of alternatives to the applicant's proposed site or route proposed pursuant to subdivisions 1...;
- (h) Evaluation of potential routes that would use or parallel existing railroad and highway rights-of-way;
- (i) Evaluation of governmental survey lines and other natural division lines of agricultural land so as to minimize interference with agricultural operations;
- (j) Evaluation of the future needs for additional high voltage transmission lines in the same general area as any proposed route, and the advisability of ordering the construction of structures capable of expansion in transmission capacity through multiple circuiting or design modifications;
- (k) Evaluation of irreversible and irretrievable commitments of resources should the proposed site or route be approved;
- (l) When appropriate, consideration of problems raised by other state and federal agencies and local entities;
- (m) If the board's rules are substantially similar to existing regulations of a federal agency to which the utility in the state is subject, the federal regulations must be applied by the board;
- (n) No site or route shall be designated which violates state agency rules.

The application and the Environmental Assessment contain adequate information to allow the MEQB to consider these factors.

Applicable Rule Considerations

31. Minn. Rule 4400.3150 requires that the MEQB be guided by specified siting and routing considerations. They are as follows:

- (a) Effects on human settlement, including, but not limited to, displacement, noise, aesthetics, cultural values, recreation, and public services;
- (b) Effects on public health and safety;
- (c) Effects on land-based economies, including, but not limited to, agriculture, forestry, tourism, and mining;
- (d) Effects on archaeological and historic resources

- (e) Effects on the natural environment, including effects on air and water quality resources and flora and fauna;
- (f) Defects on rare and unique natural resources;
- (g) Application of design options that maximize energy efficiencies, mitigate adverse environmental effects, and could accommodate expansion of transmission or generating capacity;
- (h) Use or paralleling of existing rights-of-way, survey lines, natural division lines, and agricultural field boundaries;
- (i) Use of existing large electric power generating plant sites;
- (j) Use of existing transportation, pipeline, and electrical transmission systems or rights-of-way;
- (k) Electrical system reliability;
- (l) Costs of constructing, operating and maintaining the facility which are dependent on design and route;
- (m) Adverse human and natural environmental effects which cannot be avoided; and
- (n) Irreversible and ir retrievable commitments of resources.

Each specific consideration will be assessed in the following Findings.

Effects on Human Settlement

Community Benefits to be Expected from the Proposed Plant

32. The local community will benefit from the generating units and transmission line construction. The Project will generate approximately \$8 million in payroll in the regional economy as a result of construction.²⁵

Displacement

33. The Project utilizes an existing plant site and transmission corridor. It will not require the displacement of any occupied residences or businesses.²⁶

Noise

²⁵ Site Application, p. 4-18.

²⁶ Site Application, p. 4-10; EA, pp. 40, 55-56.

34. The Plant is located in an industrial area. The nearest residences, in the Classics at Waybridge Subdivision, are approximately 800 feet south of the Plant's fenceline and approximately 1000 feet south of the CTGs. South and adjacent to the Plant, and between the Plant and the nearest residence, is Highway 169, a well-traveled four-lane freeway.²⁷

35. Noise will be generated by construction and operation of the Project. During construction, potential noise impacts will be mitigated by proper muffling equipment fitted to construction equipment and restricting activities conducted during nighttime hours.²⁸

36. Noise from the new CTGs is expected to be predominately low frequency noise. Noise from the Project operation will not significantly impact the acoustical environmental given the high background noise levels (particularly in low frequencies), from nearby Highway 169 and MN Highway 101, the distance of the CTGs from adjacent properties and the noise control technology that will be employed at the Plant.²⁹

37. Transmission conductors and transformers at substations produce noise under certain conditions. 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 crackling sound due to the small amount of electricity ionizing the moist air near the wires. During heavy rain the general background noise level is usually greater than the noise from a transmission line. Accordingly, 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 line will produce audible noise similar to household background levels. During dry weather, audible noise from transmission lines is an imperceptible, sporadic crackling sound.³⁰

38. Operation of the new generation units and the transmission line will result in no perceptible increase in noise levels in nearby residential areas.³¹

Aesthetics

39. The transmission line will utilize single steel poles 110-feet high placed approximately 600 feet apart and located adjacent to existing structures. The transmission line will parallel an existing transmission right-of-way. As with the existing lines, the new transmission lines will be visible from a few nearby residences, local roads and Highway 169.³²

²⁷ Site Application, p. 4-7.

²⁸ Site Application, p. 4-6; EA, p. 56.

²⁹ Site Application, p. 4-6; EA, p. 41.

³⁰ Site Application, p. 4-6; EA, p. 56.

³¹ Site Application, p. 4-5.

³² EA, p. 56.

40. The proposed generating addition site is already developed and the Project will not impact the scenic areas to the north of the Plant, along the Minnesota River National Wildlife Refuge because the Project will be within the Plant site and adjacent to existing transmission lines. The new stacks will be about 50-75 feet tall, similar to the height of existing stacks.³³

41. Accordingly, there will be no significant impact to area aesthetics as a result of the Project.

Cultural Values

42. No discernable land use change will occur and thus there will be no change in cultural value from the Project.³⁴

Recreation

43. The Project will not adversely impact recreation areas in the Project area.³⁵

Effects on Public Health and Safety

44. In addition to air and noise impacts, plant security, emergency preparedness and EMF are typical health and safety concerns for new generators and transmission lines.

45. The Plant has a six-foot high chain link fence around the Plant to prevent vandalism and to secure operations on site. The Company will also employ a security service to guard the equipment and the site during construction. This security will be supplemented by the Shakopee Police Department which has 35 sworn officers and two community officers. The Plant is also equipped with a complete fire protection system consisting of two wells on site, one for potable water and one for fire protection. An electric fire pump supplies water from the dedicated fire well to hydrants situated around the site. The fire equipment is designed in accordance with National Fire Protection Association requirements and the additions will meet the same requirements.³⁶

46. The issue of EMF was examined. The term EMF refers to electric and magnetic fields that are present around any electrical device. 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. Both magnetic and electric fields decrease in intensity with increasing distance from the source.³⁷

³³ Site Application, p. 4-10.

³⁴ Site Application, p. 4-10.

³⁵ Site Application, p. 4-12.

³⁶ Site Application, p. 4-12; EA, p. 40.

³⁷ Site Application, p. 4-16; EA, pp. 50.

47. There is at present insufficient evidence to demonstrate a cause and effect relationship between EMF exposure and any adverse health effects.³⁸

48. In previous routing proceedings, the MEQB has imposed a permit condition on high voltage transmission line permits limiting electric field exposure to 8 kV per meter at one meter above ground. This permit condition was designed to prevent serious hazard from shocks when touching large objects, such as semi tractor trailers or large farm equipment under extra high voltage transmission lines of 500 kV or greater. The existing line and proposed line would be below this limit and would create a maximum electric field of approximately 2.04 kV per meter centered beneath the existing line.³⁹

49. The MEQB has not established similar limits on magnetic field exposure and there are no federal or Minnesota health-based exposure standards for magnetic fields. According to Xcel Energy, the maximum calculated ground level magnetic field expected when the new line and the existing line are both conducting electricity is approximately 50 milligauss directly below the new line. The only two states that have established standards are Florida (a 150 milligauss limit) and New York state (a 200 milligauss limit). The maximum magnetic field expected from the new line proposed here is well within those limits.⁴⁰

Effects on Archeological and Historic Resources

50. The Plant additions will be made to a previously graded site and the transmission line is proposed adjacent to transmission rights of ways, therefore there will be no impacts to any buildings or historic resources. The Minnesota State Historic Preservation Office reviewed the records and concluded that the only reported archeological site in the area is approximately 900 feet north of the Project.⁴¹ Accordingly, the Project will not have negative impacts on archeological or historic resources.

Effects on Land-Based Economies, Including Agriculture, Forestry, Tourism and Mining

51. No agricultural land will be used for the Project. No prime farmland will be taken out of production. No forestry-related industry will be adversely impacted by the Project. No tourism areas will be adversely impacted.⁴²

Effects of the Project on the Natural Environment, Including Effects on Air and Water Quality Resources and Flora and Fauna

³⁸ EA, pp. 50-54.

³⁹ EA, p. 51.

⁴⁰ EA, p. 52-54.

⁴¹ Site Application, p. 4-18; EA, pp. 39, 50.

⁴² Site Application, p. 4-10, 4-12.

52. The Project is located on a broad flat terrace in the Minnesota River Valley that is approximately 800 feet above mean sea level. The surficial soils at the proposed turbine location consists of about 20 feet of alluvial sands over dolomite bedrock of the Prairie du Chien group. Similar conditions exist along the transmission route, except that bedrock depth is up to 80 feet or more. Area soil resources will not be significantly impact by the Project. Most of the area disturbed for construction of the generating units has already been graded and covered with gravel. Excavation for the transmission line will be limited to placement of foundations for structures.⁴³

53. The Project will employ dry low NOx technology to control nitrous oxides emissions. Combustion turbine dry-low NOx burners reduce peak flame temperature and the chemical reaction time available to form nitrous oxides (NOx). Emissions of nitrous oxides from the two new units combined will be kept at or below 39.5 tons annually.⁴⁴

54. An amended permit from the Minnesota Pollution Control Agency ("MPCA") will be required to accommodate the Project. On January 19, 2004, the Company submitted an application for the amendment requesting that emissions from the Plant after Project construction be limited to 39.5 tons per year (tpy) NOx, 99.5 tpy CO, 39 tpy SO2 and 14 tpy PM. This would effectively limit operation of the Project to just over 1,300 unit-hours per year.⁴⁵

55. When the proposed Project is completed, emissions from the Plant will not cause any ambient air quality standards to be exceeded. As a result, there will be no significant impact on air quality.

56. Another potential source of air emissions is fugitive dust from site preparation and construction activities. Fugitive emissions will be controlled to reduce their impact on area residents by watering or applying dust suppressants to exposed soil surfaces as necessary.⁴⁶

57. The Project will not significantly impact area water bodies. Surface water run off will follow existing drainage patterns to the drainageway paralleling Highway 169.⁴⁷

58. The preferred route would cross Parcel No. 75 which has been classified as a dry oak savanna barrens subtype (one of three subtypes). Deciduous savannas are plant communities found in the transition between prairie and deciduous forest-woodland zones in Minnesota. These plant communities are composed primarily of oak trees (sometimes with aspen trees, or both) with a ground layer of prairie grass and forb species. The oak and aspen trees are distributed either evenly or in scattered groves smaller than 1 to 2 acres with tree canopy cover

⁴³ Site Application, p. 4-21.

⁴⁴ Site Application, p. 3-6; EA, p. 37.

⁴⁵ Site Application, p. 4-2; EA, p. 37.

⁴⁶ EA, p. 38.

⁴⁷ Site Application, p. 4-23.

typically being less than 70 percent. Dry oak savannas have an undulating to rough topography with slopes of various degrees; the habitat is dry to dry-mesic; the sites are well drained to excessively drained; and have herbaceous ground layer vegetation in open areas similar to that of dry prairie – barrens subtype. Savanna and woodland plant communities historically were found in the eastern one-third of Scott County, and were intermixed within the hardwood forest matrix in the southern and central parts of the county.⁴⁸

59. The primary focus of an oak savanna is the savanna. A savanna consists of large grassy areas with few trees. In a dry oak savanna, the primary plants are ground layer species such as leadplant, little bluestem, big bluestem. In Minnesota 99.9% of the oak savanna communities has been lost to urban development, agriculture or successional degradation to oak forest. Parcel No. 75 is one of the few remaining oak savanna areas.⁴⁹

60. Xcel Energy witness Ms. Rasmussen testified that Parcel No. 75 has been impacted and ecologically isolated by urban developments on the east, west and south, and the Highway 169 transportation corridor to the north. The tree canopy is composed primarily of pin oaks with a few chokecherry and some stands of sumac. The oak canopy has closed in many areas so that coverage is nearly 100%, which limits growth of the savanna grass species. In other areas, red cedar, large numbers of aspen, and common buckthorn have overtaken the site, further increasing the shading of the ground layer. The site has been and continues to be impacted by invasive species, erosion due to ATV and vehicular traffic, and illegal dumping. Additionally, the site appears not to have been burnt in the last twenty years (or more) given the age of the fire intolerant trees on the site.⁵⁰

61. Ms. Rasmussen also testified that a relatively open landscape has been maintained by Xcel Energy clearing practices, which require the removal of trees that would interfere with the transmission lines. Most ground layer plants in oak savanna landscapes thrive in open conditions such as this. In areas where trees have overtaken the site, such as the remainder of the parcel, it appears the diversity of plant and animal species is lower and more indicative of an oak woods setting.⁵¹

62. To minimize impacts to Parcel No. 75, Xcel Energy committed to limit significant disturbance during construction to the structure foundations. In addition to the measures described in the Applications to minimize construction impacts, Xcel Energy stated its willingness to develop a construction and maintenance plan for the transmission line corridor on this site to enhance the oak savanna resource. The plan would include the following activities:

(a) Qualified biologists would assess the site in the spring and fall of this year to review the flora and fauna of the site. Should any endangered or threatened species be

⁴⁸ Rasmussen Testimony, pp. 4-5.

⁴⁹ Rasmussen Testimony, p. 5.

⁵⁰ Rasmussen Testimony, p. 6.

⁵¹ Rasmussen Testimony, p. 6.

identified, the areas would be mapped and efforts to minimize impacts would be incorporated into the design, construction and maintenance of the line, as well as the clearing of the right-of-way.

(b) Ms. Rasmussen would work with Xcel Energy construction, maintenance and vegetative management staff to develop a vegetation clearing plan that would selectively clear the site in order to retain some of the oak savanna community plants. All tree management decisions would still need to be within the constraints of maximum tree height requirements for the transmission lines. As many oak trees can sprout from cut stumps, short oak trees may be allowed to remain until they reach approximately 15 feet. This would allow for regeneration and management that would benefit the savanna community.

(c) Measures would be set up prior to construction at the site to minimize impact to the vegetation on the site. Sensitive plant areas would be marked prior to construction and the construction crews would be provided information and direction to minimize impacts. We would construct the line between October and May, when plants have gone to seed and prior to new growth.

(d) Once construction is complete, areas disturbed by construction would be graded and re-seeded with a mixture of native plants that are typically found in an oak savanna.

(e) The site would be posted with signs indicating the significance of the site and noting that any management on the site should not be done without reviewing the site construction and maintenance plan for the area.⁵²

63. The Department of Natural Resources ("DNR") was one agency that expressed concern about the location of the new transmission line through Parcel No. 75 and its potential impact on the oak savanna. The DNR stated its preference for the proposed route to minimize impacts to the oak savanna community.⁵³

64. The EA also noted that the proposed route has more open areas than the proposed route along the eastern edge of the parcel (Alternative A) and therefore, the direct impact of tall trees would be less. Construction of the new transmission line along the eastern edge would also open up that area to invasive species.⁵⁴

65. The ALJ concludes that the proposed route along the western edge of Parcel No. 75 is the best available location under the circumstances for the transmission line.

⁵² Rasmussen Testimony, pp. 7-8.

⁵³ DNR e-mail, May 10, 2004, from Hannah Dunevitz concerning parcel 75 (MEQB Exhibit 17).

⁵⁴ EA, p. 49.

66. With respect to fauna, the Project is not expected to impact the Minnesota National Wildlife Refuge located approximately one mile from the Project.⁵⁵

67. There are no wetlands located within the Plant site and nearby wetlands will not be impacted by the Project. Transmission structure locations will be finalized after wetland review work at which time wetland sites will be precisely delineated and applications for the wetland permits will be submitted, if necessary.⁵⁶

Effect on Rare and Unique Natural Resources

68. The Project will not adversely impact threatened or endangered species.⁵⁷ As noted, however, the Project will impact the oak savanna on Parcel No. 75.

Design Options that Maximize Energy Efficiencies, Mitigate Adverse Environmental Effects, and Could Accommodate Expansion of Transmission or Generating Capacity

69. The Blue Lake Generating Plant was designed to accommodate expansion. The proposed Project takes advantage of this expansion possibility. Additionally, the route minimizes resources by utilizing an existing transmission corridor. These design options mitigate adverse environmental effects and utilize expansion opportunities.⁵⁸

Use or Paralleling of Existing Rights-of-Way, Survey Lines, Natural Division Lines, and Agricultural Field Boundaries

70. The transmission line route alternatives (other than the preferred route) would follow existing property division lines.

Use of Existing Large Electric Generating Plant Sites

71. The two new CTGs will be located on the existing Blue Lake Generation Plant site.

Use of Existing Transportation, Pipeline, and Electric Transmission Systems Rights-of-Way

72. The preferred transmission line route would follow and overlap an existing 345/115 kV transmission line right-of-way.

⁵⁵ Site Application, pp. 4-27, 28

⁵⁶ Site Application, p. 4-31.

⁵⁷ Site Application, p. 4-34.

⁵⁸ Site Application, pp. 4-27, 28.

Electrical System Reliability

73. The two new generators will help Xcel Energy to continue to reliably deliver electricity to its customers in Minnesota and neighboring communities. All options under consideration for the new transmission line would reliably transmit electricity.

Costs of Constructing, Operating, and Maintaining the Facilities Which are Dependent on Design and Route

74. The Project costs for the CTGs are estimated at \$97,200,000 for the CTGs. The preferred transmission line will cost approximately \$1.5 million. Blue Lake Substation modifications and additions are estimated to cost \$4.5 million.⁵⁹

75. The route chosen for the 230 /115 kV transmission line would impact the costs of construction and maintenance. The routes vary significantly in length which will directly affect the cost to build the line. Transmission Alternative A (3,400 feet) will cost approximately \$1.3 million to construct. Alternative B (12,000 feet) would cost approximately \$4.5 million. Alternative C (6,300 feet) would cost approximately \$2.5 million.⁶⁰

Adverse Human and Natural Environmental Effects Which Cannot be Avoided and Mitigation Strategies

76. The Company's proposed mitigation strategies adequately mitigate the enumerated impacts from the Project.

Irreversible and Irretrievable Commitments of Resources

77. The Project will not require the irreversible or irretrievable commitment of resources.

Prohibited and Excluded Sites

78. Minn. Rule 4400.3450, Subps. 1 and 3 and Minn. Rule 4400.3350 identify sites where siting of new facilities is prohibited or excluded. The proposed site for the plant additions and the proposed routes for the transmission line are not located in a prohibited or excluded area.

Comparison of Transmission Routes

79. A summary of the transmission route alternatives and their impacts is summarized as follows:

⁵⁹ Site Application, p. 2-4.

⁶⁰ Rasmussen Testimony, Attachment 2.

	Proposed Route	Alternative A	Alternative B	Alternative C
Length (feet)	4,000	3,400	12,000	6,300
Approx. required additional ROW (acres) (excluding Xcel Energy property and U.S. Hwy 169 ROW)	2-3	2-3	10-20	4-6
Approx. property parcels crossed (excluding Xcel Energy properties and road ROW)	1	1	10	4
Approx. length through Parcel No. 75	1,200	1,500	0	200
Residences within 200 feet	0	>10	0	>10
Commercial buildings within 200 feet	0	0	4	1
Estimated construction cost (\$ million)	1.5	1.3	4.5	2.5

80. Alternative A and Alternative C have more significant impacts on residences than the proposed route. There are more than 10 homes within 200 feet of those two routes. Alternative B is located within 200 feet of four commercial buildings. Additionally, while Alternative A is slightly cheaper, it would have similar impacts to Xcel Energy's proposed route and it appears that more large trees would need to be cleared. In contrast, the proposed route has no homes within that distance. Alternative B is also less desirable because it is three times the length of the preferred route and crosses 10 parcels. In addition, the amount of property available for the transmission line between the businesses and HWY 169 is limited. These items will result in more significant right-of-way acquisition requirements and construction access to the sites will be difficult. Alternative B would also cost three times as much to construct as the proposed route.

81. Based on the above summary of alternatives, the preferred route is the most prudent alternative. The route would place the line parallel to the existing 345/115kV transmission line consistent with the State's nonproliferation policy for selecting transmission line routes. It would also have the fewest environmental impacts overall.

82. The site and route proposed by the Applicant for construction of two new CTGs and a new 230 kV transmission lines are acceptable sites under the provisions of Minn. Stat. §116C.575 and Minn. Rules Chap. 4400. The Applicant's proposed transmission route is preferable to the alternative transmission routes.

Based on the foregoing Findings of Fact, the Administrative Law Judge makes the following:

RECOMMENDATION

That the MEQB issue a site permit to Xcel Energy for construction of the proposed to 162 megawatt, natural gas fueled, combustion turbine generating units at the Blue Lake electric generating plant in Shakopee, Minnesota and for a new double circuit 230/115 kV high voltage transmission line approximately 4,000 feet long between the Plant and an existing 230 kV transmission line that passes the Plant site to the south and connects with the Blue Lake

Substation as proposed in the Site Application, and subject to such conditions as the MEQB determines are reasonable and appropriate.

Dated this _____ day of May, 2004.

Raymond R. Krause