

STATE OF MINNESOTA PUBLIC UTILITIES COMMISSION

<p align="center">In the Matter of the Application for a LEPGP Site Permit for the Elk River Peaking Station Project</p>	<p align="center">PROPOSED FINDINGS OF FACT, CONCLUSIONS OF LAW AND ORDER ISSUING A SITE PERMIT TO GREAT RIVER ENERGY FOR THE ELK RIVER PEAKING STATION MPUC DOCKET NO. ET/GS-07-715</p>
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The above-captioned matter came before the Minnesota Public Utilities Commission (Commission) on April 24, 2008, acting on an application by Great River Energy (GRE) for a Large Electric Power Generating Plant (LEPGP) Site Permit to construct a 175 megawatt (MW) natural gas power plant at the existing GRE Elk River Station in the city of Elk River, Sherburne County, Minnesota.

Administrative Law Judge Richard C. Luis conducted both an evidentiary hearing and a public hearing on this matter. The public hearings were held on December 19th and 20th, 2007, at the Rosemount City Hall and the Elk River City Hall, respectively. The evidentiary hearing was held on January 8, 2008, in the Large Hearing Room of the Minnesota Public Utilities Commission (Commission) in St. Paul, Minnesota.

Michael Bradley, Moss & Barnett, appeared for and on behalf of Applicant Great River Energy (GRE). Karen Hammel, Assistant Attorney General, appeared on behalf of the Department of Commerce (Department). Bill Storm, Planning Director for the Department, appeared for the purpose of presenting evidence concerning GRE's site permit application. Robert Cupit and David L. Jacobson, Analysts for the Commission, appeared on behalf of the staff of the Commission.

FINDINGS OF FACT

Procedural History

1. GRE is a Minnesota generation and transmission cooperative, which provides electric energy and related services to its 28 member cooperatives, which in turn supply electricity and related services to over 620,000 residential, commercial and industrial customers in Minnesota and Wisconsin. The population served in GRE members' areas is approximately 1.5 million people.¹

2. On May 18, 2007, GRE filed a Certificate of Need Application (CON) with the Commission. The PUC docket for the CON application is ET2/CN-07-678.

¹ Exhibit 1, Application for a Site Permit, section 1.2
(<https://www.edockets.state.mn.us/EFiling/ShowFile.do?DocNumber=4385377>).

3. On June 14, 2007, GRE applied for a site permit to be used for adding a simple-cycle combustion turbine plant to be built at the site of GRE's existing Elk River Station, located in the city of Elk River, Sherburne County, Minnesota. The nominal summer capacity of the Project would be 175 megawatts (MW). GRE has proposed the Project to assure generating capacity in 2009 and beyond to reliably meet its forecasted customer demand for electricity.² Because the proposed plant would be fueled by natural gas and fuel oil, the project does not qualify for the alternative review under Minn. Stat. § 216E.04.

4. The Department issued a Notice of Public Meeting on July 12, 2007, to provide information to the public regarding both the CON Application and the Site Permit Application, to afford the public an opportunity to ask questions and present comments, and to solicit input on the scope of the Environmental Impact Statement (EIS). The Department published a notice of the filing of the application, a description of the proposed project, directions for obtaining a copy of the application, and a notice of the public meeting to be conducted on July 12, 2007, in the *Star Tribune*,³ The public meetings were held as provided for in the Notice, on July 31, 2007, at the Elk River City Hall, 13065 Orono Parkway NW, Elk River, Minnesota, at 7:00 p.m.; and on August 1, 2007, at the Rosemount City Hall, 2875 - 145th Street West, Rosemount, Minnesota, at 7:00 p.m.⁴

5. The proposed facility is a large energy facility within the meaning of Minn. Stat. § 216B.2421, subd. 2(1).

6. On August 1, 2007, the Commission ordered that the CON be considered under the informal or expedited proceeding (Minn. Rules part 7829.1200). The only portion of the CON process referred to the Office of Administrative Hearings (OAH) was for the convening of a public hearing and collection of public comment. The Commission ordered that the remaining CON process be conducted using the Commission's notice and comment process.⁵

7. On the same date the Commission ordered that site permit application be referred to OAH for contested case proceedings. Both the applications were found to be complete as of August 1, 2007. Only GRE was named as a party to the proceeding at the time of referral.⁶

8. On June 29, 2007, the Department issued a Notice of Public Meeting for the informational/scoping meetings (Minn. Rules 7849. 5260). Two public information/scoping meetings were held, August 17, 2007 (Elk River) and August 18, 2007 (Rosemount). Approximately 12 persons, excluding Department/PUC staff and the applicant's representatives, attended the meetings. The purpose of the public meetings was to provide the public with

² Ex. 1, Application for a Site Permit, Introduction and section 1.1.

³ Ex. 5 (<https://www.edockets.state.mn.us/EFiling/ShowFile.do?DocNumber=4897672>).

⁴ Ex. 4 (<https://www.edockets.state.mn.us/EFiling/ShowFile.do?DocNumber=4730464>).

⁵ *ITMO the Application of Great River Energy for a Certificate of Need for the Elk River Peaking Station*, PUC Docket No. ET-2/CN-07-678 (Order Accepting Filing as Substantially Complete and Adopting Review Process issued August 1, 2007) (<https://www.edockets.state.mn.us/EFiling/ShowFile.do?DocNumber=4740060>).

⁶ *ITMO the Application of Great River Energy for a Certificate of Need for the Elk River Peaking Station*, PUC Docket No. ET-2/GS-07-715 (Order Accepting Application, Initiating Full Review, Referring to Office of Administrative Hearings and Notice of Hearing issued August 1, 2007) (<https://www.edockets.state.mn.us/EFiling/ShowFile.do?DocNumber=4740061>).

information about the project, afford the public an opportunity to ask questions and present comments, and to solicit input on the scope of the EIS (as well as the content of the ER).

During the initial public information/scoping meetings concerns raised regarding need included fuel type, load service area, simple cycle versus combined cycle operation, and cost of electricity. On the siting application concerns raised included air emissions, water usage, potential for future expansion, future plans for the alternative site (i.e., Rosemount), and potential noise impacts.

9. The Department released the Order on the Scope for the Environmental Impact Statement (as well as the Content of the Environmental Report) on August 30, 2007. Notice of the Scoping Decision was sent to those persons on the Project Contact List and to the Technical Representatives of the other State permitting agencies (Minn. Rules 7849.5300, subpart 2).

10. The Department EFP staff released the draft Environmental Impact Statement (DEIS) on November 21, 2007. Notice of Availability of the DEIS and Notice of Public Meeting on the DEIS was sent to those person on the Project Contact List and to the Technical Representatives, as well as placed in the EQB Monitor (Minn. Rules 7849.5300, subpart 7).

11. On November 26, 2007, the Department issued a Notice of Public Hearing in this matter. The purposes of the public hearings were to compile the record for the Commission to consider in making a final decision on the CON Application and the Site Permit Application, and to receive public comment on the Draft EIS.⁷ The Notice was published in the *Star Tribune* on November 29, 2007.⁸ The Notice was published in the *EQB Monitor* on December 3, 2007.⁹ The Notice was published in the *Elk River Star News* on December 5, 2007, and the *Rosemount Town Pages* on December 7, 2007.¹⁰ Residents near both the preferred and alternative sites and the potentially affected local units of government were notified by letter. GRE also posted the notice of the meeting dates and other information on the Project on its company website.¹¹

The public meetings on the DEIS were held as provided for in the Notice, on December 19, 2007, at Rosemount City Hall at 7:00 p.m; and December 20, 2007, at the Elk River City Hall, at 7:00 p.m. Each of these meetings was immediately followed by the public hearing. A total of approximately eight members of the public attended the two meetings. The public had until Monday, December 31, 2007, to submit written comments to the Department on the DEIS. The public had until Friday, February 8, 2008, to submit written comments to the Administrative Law Judge (ALJ) on GRE's application for a LEPGP site permit.

12. The final EIS was released on January 21, 2008. Notice of the Final EIS was published in the February 11, 2008, issue of the EQB Monitor.

⁷ Ex. 13 (<https://www.edockets.state.mn.us/EFiling/ShowFile.do?DocNumber=4846690>).

⁸ Ex. 15 (<https://www.edockets.state.mn.us/EFiling/ShowFile.do?DocNumber=4897708>).

⁹ Ex. 14 (<https://www.edockets.state.mn.us/EFiling/ShowFile.do?DocNumber=4897696>).

¹⁰ Ex. 15.

¹¹ *Id.*

Description of the Plant and Associated Facilities

13. GRE's preferred site for the Project is adjacent to the existing Elk River Station in the city of Elk River, Sherburne County.¹² GRE identified an alternative site for the project on its property in the city of Rosemount, Dakota County.¹³

14. The equipment required for the Project includes:

- a simple cycle combustion turbine (“CT”) using "F" class technology, such as a Siemens Model 5000F, with a nominal summer capacity of approximately 175 MW under Midwest Area Power Pool (“MAPP”) summertime peaking conditions while operating with natural gas, and a nominal winter capacity of approximately 211 MW operating with distillate fuel oil;
- a generator step-up transformer;
- less than 500 feet of transmission line from the transformers to the existing substation at the Elk River site, and in the alternative, less than 1,000 feet of transmission line from a new switchyard to the existing transmission line at the Rosemount site;
- a new lateral natural gas pipeline, town-border-station and meter;
- an evaporative cooler; and
- an exhaust stack with silencer.¹⁴

15. The Elk River site has two existing 230-kV outlets, seven existing 69-kV lines, and an existing 33 MW Refuse-Derived Fuel (RDF) combustion generation plant. GRE noted that upgrades to this site’s substation and one of its 69-kV transmission lines will be required for the project. The project does not require a change in operating voltage or making any significant realignment of the 69-kV line.¹⁵

16. Midwest Independent Transmission System Operator (“MISO”) studies indicate that upgrades to sections of the 69-kV line will be needed to accommodate the interconnection of the project. Using the Elk River site will require upgrading approximately 5.41 miles of 69-kV transmission line in Sherburne and Anoka counties. The transmission line rebuilds may involve changing to taller poles (from approximately 40-55 feet to 60-65 feet above ground) and upgrading wire size. The upgrade will also entail improvements to a 0.19 mile section of 69-kV line at the existing substation at County Road 78 (Hanson Boulevard) and Bunker Lake

¹² Ex. 1, Application for a Site Permit, sections 2.1, and 2.2.

¹³ Id. Section 2.3.

¹⁴ Ex. 1, Application for a Site Permit, section 3.1.1, and Figure 3-1; Ex. 11, Draft EIS, section 1.3 (<https://www.edockets.state.mn.us/EFiling/ShowFile.do?DocNumber=4897680>).

¹⁵ Ex. 1, Application for a Site Permit, section 3.1.2.

Boulevard. GRE proposed to finalize the details of such changes when the interconnection studies are complete and MISO makes its final interconnection recommendation.¹⁶

17. In the event that the alternative Rosemount site is used, GRE would construct a switchyard adjacent to the plant to convert the electricity voltage to 345 kV in order to utilize the existing 345-kV transmission line that crosses the site. No additional transmission system modifications would be necessary.¹⁷

18. The project will use natural gas as its primary fuel, with ultra-low sulfur distillate fuel oil as a back up fuel.¹⁸ At either site, natural gas will be delivered to the project via the Northern Natural Gas ("NNG") system. NNG will construct and own a new one-half mile, 12-inch lateral pipeline branching from its existing 16-inch pipeline located northeast of the Elk River site. A similar lateral will be needed if the Rosemount site is selected. GRE will own the short segment of the interconnection that extends from the town-border station to the combustion turbine. A town border station will be constructed at the site with a gas meter.¹⁹

19. At the Elk River site, NNG can supply the project with natural gas from April to November. In the remaining months, NNG does not have natural gas available, due to high local heating load requirements. For that reason, the back up fuel oil will be used during the winter. At the Rosemount site, NNG has indicated that natural gas supplies should be available year-round. At the Rosemount site, back up fuel would only be used if an interruption in service occurred or if fuel costs rose.²⁰

20. The back up fuel oil will be offloaded from tanker trucks to an onsite above-ground storage tank. At the Elk River site, an existing 846,000 gallon tank would be used. GRE would limit the amount of fuel oil stored in the tank to approximately 600,000 gallons to ensure that the volume of oil and oil products stored at the Elk River site remains below 1,000,000 gallons. The tank will be equipped with secondary containment structures according to State and Federal regulations. The Spill Prevention Control and Countermeasures plan for the Elk River campus will be updated to account for the new fuel storage.²¹

21. Water at the Elk River site will be supplied by Elk River Municipal Utilities ("ERMU"), which operates 7 wells with a combined capacity of approximately 6,800 gallons per minute ("gpm"). Water at the Rosemount site would be supplied by a newly constructed well. The Project requires demineralized water for cooling and pollution control technologies. The demineralization process takes place over a 24-hour period and the water is stored in an above-ground storage tank. Peak water usage reaches a rate of 600 gpm for this process.²²

¹⁶ Ex. 1, Application for a Site Permit, section 3.1.2; Ex. 11, Draft EIS, section 1.4.

¹⁷ *Id.*

¹⁸ Ex. 1, Application for a Site Permit, sections 3.1.3; Ex. 11, Draft EIS, section 1.5.

¹⁹ Ex. 1, Application for a Site Permit, sections 1.4.7, 3.1.3 and Figures 3-4 and 3-5; Ex. 11, Draft EIS, section 1.5 and Figures 1-9 and 1-10.

²⁰ Ex. 1, Application for a Site Permit, sections 3.1.3; Ex. 11, Draft EIS, section 1.5.

²¹ *Id.*

²² Ex. 1, Application for a Site Permit, sections 3.1.4 and 4. I .2.1; Ex. 11, Draft EIS, section 1.6.

22. At the Elk River site, an existing 846,000 gallon storage tank would be used to meet the Project's water storage requirements. The tank would need to be filled once or twice per year. Considering the flexibility GRE has in scheduling water usage, no significant impact on the ERMU water supply system is expected from the Project.²³

23. The greatest demand for water use from the operation of the Project arises from control of nitrogen oxides ("NOx") emissions when the CT is operating on fuel oil. The water used for NOx control will require treatment with a demineralizer water treatment system. Source water will be treated in a rented trailer-mounted demineralizer system and pumped to an onsite storage tank. Demineralized water demand by the CT when operating on fuel oil is approximately 100 to 120 gpm depending on the CT's operating load. Approximately 460,000 gallons of water would be used for NOx control if fuel oil were used for 76 hours in a year.²⁴

24. The second largest demand for water is the CT evaporative cooler. The evaporative cooler is used on hot days to cool and increase the density of air being used by the CT, thereby increasing the CT's power output and efficiency. When the evaporative cooler is in operation, approximately 60 to 85 gpm of water is required, depending on the ambient air temperature, the relative humidity, and the faculty operating power level. Approximately 1,000,000 gallons of water would be used if the evaporative coolers were operated for 300 hours in a year. Evaporative cooling water use could coincide with ERMU's peak summer demand. Evaporative cooling is not critical to the project's operation. In the event that ERMU could not operate a well due to maintenance or other reasons, GRE expressed willingness to coordinate with ERMU by not running the evaporative coolers during periods of peak water demand.²⁵

25. Untreated source water will also be used to supply fire suppression water. The maximum instantaneous use rate for fire suppression water is expected to be 1,500 gpm. Peak demand for drinking water, sanitary water, and other ancillary plant water uses is expected to be approximately 50 gpm.²⁶

26. The anticipated sources and types of wastewater discharges include the evaporative cooler blow down, compressor section wash water, demineralizer concentrate, sanitary waste, and storm water runoff from the site.²⁷

27. At the Elk River site, GRE plans to dispose of project process wastewater to the city waste water treatment plant ("WWTP"). The Elk River city WWTP has an average discharge of 1.1 million gallons per day ("MGD") and a maximum discharge of 1.2 MGD. The Project would contribute up to 13% of the flow to the WWTP at its maximum discharge, but less than 0.3% on average. Discharge to the WWTP will require a pre-treatment permit that will

²³ Ex. 1, Application for a Site Permit, sections 3.1.4 and 4.1.2.1 and Table 3-1; Ex. 11, Draft EIS, section 1.6 and Table 1-1.

²⁴ Ex. 1, Application for a Site Permit, section 3.1.4 and Table 3-1; Ex. 11, Draft EIS, section 1.6 and Table 1-1.

²⁵ *Id.*

²⁶ *Id.*

²⁷ Ex. 1, Application for a Site Permit, section 3.1.5 and Table 3-2; Ex. 11 Draft EIS, section 1.7 and Table 1-2.

include contaminant discharge limits.²⁸ The wastewater discharge will not significantly impact the city WWTP.

28. At the Rosemount site, the evaporative cooler waste stream would be discharged to a Metropolitan Council of Environmental Services ("MCES") sanitary sewer line that runs northwest of the site. A pretreatment permit will likely be required from MCES for the waste water discharge. Alternatively, a National Pollution Discharge Elimination System ("NPDES") permit would be obtained to allow discharge directly to the Mississippi River near the location of the Empire WWTP outfall. This permit could require additional onsite wastewater treatment. Under either approach, a pipeline would be required, either for the MCES discharge or to provide a direct discharge.²⁹

29. The main source of operations wastewater would be the evaporative cooler. When the evaporative cooler is in operation, approximately 30 to 60 gpm of blow down wastewater would be generated, depending on the ambient air temperature, the relative humidity, and the facility operating power level. The wastewater stream would be piped to an onsite lift station that will discharge to the sewer system.³⁰

30. Compressor section wash water will be generated periodically during cleaning of the turbine compressor. This cleaning is necessary to promote efficient, reliable operation of the CT. Compressor wash water will be discharged to an onsite storage tank. The wash water will be analyzed and proper disposal options will be determined based on the analytical results.³¹

31. Spill containment is provided around oil-containing equipment. During rain events, rainwater can collect in the spill containment areas. The containment basins are visually inspected during routine site checks. If there is water within the containment and there is no visible oil sheen, the water is discharged to the ground surface where it will infiltrate into the ground and possibly flow to the onsite storm water pond. If there is a visible sheen, the water is pumped to the plant's oil/water separators for treatment. The oil recovered in the separator is reclaimed and processed offsite.³²

32. Some storm water will also be discharged into the sewer system. The oil/water separator will discharge to the pumping station along with any evaporative cooler blow down and ultimately piped to the sewer system. Some wastewater is also generated from sanitary waste. This wastewater will be discharged to the sanitary sewer system.³³

33. The project will employ simple cycle combustion turbine technology using both natural gas and fuel oil as the fuel sources, which require air pollution control measures. The CT

²⁸ Ex. 1, Application for a Site Permit, section 3.1.5; Ex. 11, Draft EIS, section 1.7.

²⁹ Ex. 11, Draft EIS, section 1.7.

³⁰ *Id.*

³¹ *Id.*

³² *Id.*

³³ *Id.*

will be equipped with Best Available Control Technology ("BACT") for NO_x, particulate matter ("PM") and carbon monoxide ("CO") emissions.³⁴

34. The CT air pollution controls are inherent to its design. GRE will propose BACT as dry 10w-NO_x combustors when firing natural gas and water injection for NO_x control when firing fuel oil. The proposed BACT for PM and CO will be good combustion control.³⁵

35. BACT will ultimately be defined by the air emissions permitting process, which is administered by the Minnesota Pollution Control Agency ("MPCA"). Siting the Project at Elk River will require a major amendment to the existing air permit for the Elk River campus to incorporate Prevention of Significant Deterioration ("PSD") permit conditions. If the project were constructed at the Rosemount site, the CT would be the first emission unit for a new facility and would be allowed a higher threshold before triggering the PSD permitting process. The permitting approach for the Rosemount site would be to accept a synthetic minor emissions limit with respect to the PSD review process, which would limit emissions to less than 250 tons per year for any PSD pollutant. A formal BACT review would not be required.³⁶

Environmental and Socioeconomic Impacts Required to Be Considered By Law

36. Minn. Stat. § 216E.03, subd. 7(a), provides that the Commission shall be guided by the state's goals to conserve resources and minimize environmental impacts, minimize human settlement and other land use conflicts, and ensure the state's electric energy security through efficient, cost-effective power supply and electric transmission infrastructure. Subdivision 7(b) states that to facilitate the study, research, evaluation and designation of sites and routes, the Commission shall be guided by the following considerations:

- (1) 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;
- (2) 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;
- (3) Evaluation of the effects of new electric power generation and transmission technologies and systems related to power plants designed to minimize adverse environmental effects;

³⁴ Ex. 1, Application for a Site Permit, section 3.1.6; Ex. 11, Draft EIS, section 1.8.

³⁵ *Id.*

³⁶ *Id.*

- (4) Evaluation of the potential for beneficial uses of waste energy from proposed large electric power generating plants;
- (5) Analysis of the direct and indirect economic impact of proposed sites and routes including, but not limited to, productive agricultural land lost or impaired;
- (6) Evaluation of adverse direct and indirect environmental effects that cannot be avoided should the proposed site and route be accepted;
- (7) Evaluation of alternatives to the applicant's proposed site or route proposed pursuant to subdivisions 1 and 2;
- (8) Evaluation of potential routes that would use or parallel existing railroad and highway rights-of-way;
- (9) Evaluation of governmental survey lines and other natural division lines of agricultural land so as to minimize interference with agricultural operations;
- (10) 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 modification;
- (11) Evaluation of irreversible and irretrievable commitments of resources should the proposed site or route be approved; and
- (12) When appropriate, consideration of problems raised by other state and federal agencies and local entities.³⁷

37. Minn. Stat. § 216E.03, subd. 7(c) requires that the Commission apply existing regulations of a federal agency where: 1) the utility in this state is subject to that regulation, and 2) the Commission's rules are substantially similar to the federal regulations. Subdivision 7(d) prohibits designation of any site or route that violates state agency rules.

38. Minn. Rule 7849.5910 implements the above statutory considerations and requires that the Commission be guided by its findings with respect to the following factors:

- 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;

³⁷ Minn. Stat. § 216E.03, subd. 7(b).

- 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. effects 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 irretrievable commitments of resources.

39. The application and the Environmental Impact Statement contain adequate information to allow the Commission to consider these factors.

Effects on Human Settlement

40. The Project will not displace any residences or businesses. Work on the project will not displace any other existing or planned land use, including residential land uses. The proposed Elk River site is located within a parcel currently owned by GRE and used for power generation. The nearest residence is located approximately 1,640 feet north-northwest of the project location.³⁸ At the alternative Rosemount site, the unit would be located within a parcel currently owned by GRE which is being used for agricultural purposes. The nearest resident is located approximately 1,200 feet away.³⁹

41. Impacts to land used as a result of the Project are expected to be minimal.⁴⁰

42. Some noise would be generated during the construction and operation of the Project. Construction noise would be predominantly intermittent sources originating from diesel

³⁸ Ex. 1, Application for a Site Permit, section 4.1.4.2; Ex. 11, Draft EIS, section 4.6.

³⁹ Rosemount Public Meeting Transcript, p. 60.

⁴⁰ Ex. 11, Draft EIS, section 4.6.

engine-driven construction equipment. Potential noise impacts would be mitigated by proper muffing equipment fitted to construction equipment and restricting activities conducted during nighttime hours.⁴¹

43. Noise from the turbine operation is a result of air flow through the combustion air intake and from the exhaust gases discharging from the stack. The Project air inlet will be appropriately sized and fitted with diffusers to minimize velocity and, therefore, the noise of air moving into the inlets. The stack will be fitted with silencers to reduce the noise of exhaust gases leaving the plant.⁴²

44. Current ambient noise detectable at the Elk River site consists of intermittent traffic along the local roads, traffic from US Highways 10 and 169, and operation of the existing generating facility.⁴³

45. Current ambient noise detectable at the Rosemount site consists of intermittent traffic along the local roads, traffic from US Highway 52 and Minnesota Highway 55, operation of agricultural equipment, small aircraft, and birds and insects.⁴⁴

46. The project will not result in any violation of the Minnesota Noise Standards at residences located near the site.⁴⁵ No mitigative measures are necessary to address noise.⁴⁶

47. Area aesthetics will not be significantly changed by the Project if it is located at the Elk River site. The Elk River plant site is on the existing Great River Energy campus, and has been previously used for various purposes related to utility operation and maintenance. The plant site and immediate vicinity have an evident industrial/commercial aesthetic. The proposed plant maintains this aesthetic.⁴⁷

48. The Rosemount site is visually dominated by lands used for row-crop agriculture to the south and east. A landfill is to the north, with mixed native/non-native vegetation around the perimeter. A golf course is to the west. Industrial properties dominate further north and northeast, including an oil refinery. The peaking station will provide a strong visual impression given the current landscape. The proposed facility will change the view of the people living in or working around the farm houses nearest to the site or traveling along US Highway 52 and Minnesota Highway 55. These people will see a commercial/industrial looking building.⁴⁸

49. The project transmission line upgrades associated with the Elk River site will occur along an existing transmission line corridor. Upgrades to the project transmission lines may involve the use of poles that will be approximately 10-20 feet taller than the existing poles. However, taller poles would not appear significantly different than the existing transmission line

⁴¹ Ex. 1, Application for a Site Permit, section 4.1.3; Ex. 11, Draft EIS, section 4.2.

⁴² *Id.*

⁴³ *Id.*

⁴⁴ Ex. 11, Draft EIS, section 4.2.

⁴⁵ Ex. 1, Application for a Site Permit, section 4.1.3; Ex. 11, Draft EIS, section 4.2.

⁴⁶ Ex. 11, Draft EIS, section 4.2.

⁴⁷ Ex. 1, Application for a Site Permit, section 4.1.4.3; Ex. 11, Draft EIS, section 4.3.

⁴⁸ Ex. 11, Draft EIS, section 4.3.

configurations, and the current visual aesthetic would be maintained.⁴⁹ No mitigation is necessary regarding aesthetics.⁵⁰

50. Use of the Elk River site is compatible with the city of Elk River zoning. Use of the Rosemount site is compatible with the city of Rosemount zoning. The Elk River site is currently used for generation purposes.⁵¹ No mitigative measures are necessary regarding land uses.⁵²

51. No significant recreational resource exists on or immediately adjacent to the Project at either site. Regardless of the site chosen, area tourism and recreation will not be adversely impacted by the Project.⁵³

52. Infrastructure on the GRE Elk River campus includes water and sewer facilities. Public sewer and water are in the vicinity of the Rosemount site. Both sites would be served by local fire and police.⁵⁴ No mitigative measures are required to address issues regarding infrastructure.⁵⁵

53. Traffic near the proposed facilities will increase during construction. Local motorists may be temporarily inconvenienced by the increase in large construction vehicles on the roadways and possible delays in traffic. Traffic due to the commutes of construction workers could be expected to produce local impacts over a 30-minute period at the beginning and end of the day and each time a change in shift occurs.⁵⁶⁵⁰

54. Due to the likelihood that traffic levels will be only slightly increased during construction and no increase is expected during facility operation, no mitigation is necessary. The operation at the site will have no impact on traffic patterns or usage.⁵⁷

55. The local community will benefit from the project construction at either location. Construction of the generating facility, the transmission line upgrades, and the substation improvements (for the Elk River site) will require an estimated 100 highly-skilled, well-paid craft workers to be on site at any one time over the 12-month construction period. Day-to-day operation of Peaking Station will require two to three full-time employees after construction.⁵⁸

56. The project will contribute to the county's tax base. The state and county will also benefit from income and sales taxes paid as a result of the construction of the project. The operating staff associated with the Project will pay payroll taxes.⁵⁹

⁴⁹ Ex. 1, Application for a Site Permit, section 4.1.4.3; Ex. 11, Draft EIS, section 4.3.

⁵⁰ Ex. 11, Draft EIS, section 4.3.

⁵¹ Ex. 1, Application, sections 4.1.4 and 4.1.4.2; Ex. 11, Draft EIS, section 4.6.

⁵² Ex. 11, Draft EIS, section 4.6.

⁵³ Ex. 1, Application for a Site Permit, section 4.1.4.4; Ex. 1 I, Draft EIS, section 4.4.

⁵⁴ Ex. 1, Application for a Site Permit, section 4.1.5.2; Ex. 11, Draft EIS, section 4.13.

⁵⁵ Ex. 11, Draft EIS, section 4.13.

⁵⁶ Ex. 1, Application for a Site Permit, section 4.1.5.2; Ex. 11, Draft EIS, section 4.5.

⁵⁷ Ex. 11, Draft EIS, section 4.5.

⁵⁸ Ex. 1, Application for a Site Permit, section 4.1.5.4; Ex. 1 I, Draft EIS, section 4.1

⁵⁹ *Id.*

57. GRE estimates the total cumulative economic statewide benefits to be \$61 million.⁶⁰ This calculation is based on a 30-year operating period.⁶¹

Health and Safety

58. If the project plant is constructed on the existing Great River Energy campus in Elk River, existing framework for supporting public health and safety on the campus would be used.⁶²

59. Security at the Rosemount site would be provided through the use of security gates and surveillance cameras.⁶³ At either site, fire alarms and emergency fire suppression equipment will be located throughout the facility to provide early detection of fire and enable initial response to reduce the risk and spread of fire. Emergency first aid equipment including eyewash stations and first aid kits will also be installed throughout the facility. In either location, employees would have regular training in safety and first aid. Severe weather shelters will be designated and clearly identified.⁶⁴

60. Primary access to the Great River Energy campus is off of U.S. Highway 169, U.S. Highway 10 or Main Street. Access to the project plant location in Elk River will primarily be off Highway 169. The current annual average traffic count on Highway 169 near the plant site is 52,000 vehicles per day with a heavy commercial vehicle count of 3,700 per day. Traffic on Highway 169 will increase slightly, but the increase will not be perceptible considering the existing traffic volumes.⁶⁵

61. There are no mitigative measures necessary to address human health and safety at either location.⁶⁶

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

62. The project will be located on either the existing GRE plant site or on land owned by GRE and currently being used for agricultural purposes; and transmission will utilize existing transmission facilities in the existing transmission corridor. No timber management, tourism or mining activities will be displaced by the plant or by transmission line or substation upgrades.⁶⁷

63. There are no prime farmland units associated with the project at the Elk River site.⁶⁸ The Rosemount site contains 215 acres which would be considered prime farmland. The

⁶⁰ Ex. 11, Draft EIS, Table 4-3.

⁶¹ Ex. 11, Draft EIS, section 4.1.

⁶² Ex. 1, Application for a Site Permit, section 4.1.5.1; Ex. 11, Draft EIS, section 4.13.

⁶³ Ex. 11, Draft EIS, section 4.13.

⁶⁴ Ex. 1, Application for a Site Permit, section 4.1.5.2; Ex. 11, Draft EIS, section 4.13.

⁶⁵ *Id.*

⁶⁶ Ex. 11, Draft EIS, section 4.13.

⁶⁷ Ex. 11, Draft EIS, section 4.6.

⁶⁸ *Id.*

limitations on using prime farm land would not apply to the proposal because less than the maximum allowed land use would be required for the Project.⁶⁹

64. Impacts to land use as a result of the Project are expected to be minimal.⁷⁰

Effects on Archaeological and Historical Resources

65. No archaeological or historical resources would be affected by the project.⁷¹ No mitigation is necessary.⁷²

Effects on the Natural Environment

66. The project will not impact the geology at either site. Potential impacts of construction are increased impervious surfaces, soil compaction and exposure of the soils to wind and water erosion. Impacts to physiographic features will be controlled and minimal during and after construction activities; these impacts will be short term. No long-term impacts on the natural environment are anticipated from the project.⁷³

67. At the Elk River site, most of the native vegetation was initially removed through forestry and then for agricultural uses. In recent times, the Project plant site has been part of Great River Energy's campus, and as such the land uses have included ash storage and a utility pole yard. These uses and the associated regradings of the land surface have left a mixture of primarily non-native grasses and flora on the site, with a small stand of red pine.⁷⁴

68. The Rosemount site and its vicinity have been logged, ditched, tiled, and tilled. These activities have effectively removed all evidence of the pre-settlement vegetation. The native vegetation was almost entirely replaced with agricultural crops, dominated by corn and soybeans. The remaining nonagricultural areas were replaced by industrial development.⁷⁵

69. Any disturbance to vegetation due to the project transmission line upgrade will be minimal and limited to the areas immediately adjacent to pole placements.⁷⁶ No mitigation would be required at either site.⁷⁷

70. The Project is not expected to impact area wildlife adversely.⁷⁸ The project transmission line and substation upgrades and the switch installation are not expected to impact area wildlife adversely.⁷⁹ No mitigation for fauna is necessary.⁸⁰

⁶⁹ *Id.*

⁷⁰ *Id.*

⁷¹ Ex. 1, Application for a Site Permit, section 4.1.5.3; Ex. 11, Draft EIS, section 4.10.

⁷² Ex. 11, Draft EIS, section 4.10.

⁷³ Ex. 11, Draft EIS, section 4.7.

⁷⁴ Ex. 1, Application for a Site Permit, section 4.1.6.3; Ex. 11, Draft EIS, section 4.8.

⁷⁵ Ex. 11, Draft EIS, section 4.8.

⁷⁶ *Id.*

⁷⁷ *Id.*

⁷⁸ Ex. 1, Application for a Site Permit, section 4.1.6.4; Ex. 11, Draft EIS, section 4.8.

⁷⁹ *Id.*

⁸⁰ Ex. 11, Draft EIS, section 4.8.

Effect on Rare and Unique Natural Resources

71. The project will not adversely impact federal or state-listed threatened or endangered species. No plants or animals of concern were identified that would be adversely impacted by the project.⁸¹ No mitigation would be required at the Elk River location.⁸²

72. At the Rosemount site, consideration of maintaining or creating loggerhead shrike habitat within the facility/site buffer area should be given.⁸³ Protecting such habitat would be an appropriate condition for issuance of a Site Permit.

Design Options That Maximize Energy Efficiency, Mitigate Environmental Effects, and Accommodate Expansion

73. The proposed project will be designed to utilize one of the most efficient CTs in the region. Typical full load heat rates (higher heating value) are 10,395 British Thermal Units per kilowatt-hour (BtuWh), while utilizing natural gas during the summer months, and 9,751 BtuWh while utilizing ultra-low sulfur diesel fuel during the winter months. These heat rates equate to an efficiency of approximately 33% and 35%, respectively.⁸⁴

74. GRE anticipates the proposed project will have an annual capacity factor of approximately five to ten percent. The plant will have a short start-up sequence, which is characteristic for an "F-Class" machine. The short start-up sequence and rapid loading rate offer significant efficiencies for the peaking service intended for the Project.⁸⁵

75. The addition of the peaking CT and the upgrades to transmission lines and substations/switches will not result in significant adverse environmental impacts to either site or the site surroundings.⁸⁶ Both sites offer a viable option for the project with minimal effect on natural, cultural and socioeconomic resources, and neither site presents any significant adverse environmental impacts.⁸⁷

76. GRE noted the following as examples of the mitigation that are incorporated into the design choices made for the project:

- Noise from the turbine operation is a result of air flow through the combustion air intake and from the exhaust gases discharging from the stack. The project air inlet will be appropriately sized and fitted with diffusers to minimize velocity and (therefore) the noise of air moving into the inlets. The stack will be fitted with silencers to reduce the noise of exhaust gases leaving the plant.⁸⁸

⁸¹ Ex. 1, Application for a Site Permit, section 4.1.6.6; Ex. 11, Draft EIS, section 4.9.

⁸² Ex. 11, Draft EIS, section 4.9.

⁸³ *Id.*

⁸⁴ Ex. 1, section 3.3; Ex. 11, Draft EIS, section 1.10.

⁸⁵ *Id.*

⁸⁶ Ex. 1, Application for a Site Permit, section 4.1; Ex. 11, Draft EIS, chapter 4.

⁸⁷ Ex. 1, Application for a Site Permit, section 4.3; Ex. 11, Draft EIS, chapter 4.

⁸⁸ Ex. 1, Application for a Site Permit, section 4.1.3; Ex. 11, Draft EIS, section 4.2.

- Water supply can be provided at either site without notable stresses on water availability, and storm water discharge is minor and controlled at the site.⁸⁹
- The CT's primary fuel will be natural gas, chosen for its low air emissions and ready availability from a nearby pipeline. Dry low nitrogen oxide (NO_x) combustion technology will be employed to minimize emissions when utilizing natural gas for fuel. Ultra-low sulfur diesel fuel will be used as a back-up fuel when natural gas is unavailable. Demineralized water injection will be employed to minimize NO_x emissions when utilizing diesel fuel.⁹⁰

77. The Elk River site could possibly accommodate an additional CT. The project is being designed to maximize future options for additional generating capacity on the site; however, GRE currently has no plans for expanding generation capacity at the Elk River site.⁹¹

While the project could be sited at the Rosemount site, GRE's preference is to use that location for a larger generating facility than this project.⁹²

78. While either site could be used, the Elk River site is preferable because the size of the proposed plant fits the Elk River site better than it does the Rosemount site. The Rosemount site is significantly larger and would be better used for a larger plant. GRE anticipates using the Rosemount site for a larger simple cycle, combined cycle or renewable fuel plant. The Elk River site is too small for that projected facility, which would be more appropriately sited on the Rosemount property.⁹³

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

79. Locating the project at Elk River requires upgrading of existing 69-kV transmission facilities. The project at Rosemount would use a switchyard to convert the electricity voltage to 345 kV so that it can be sent to the grid through existing transmission. No new rights-of-way are required for either site.⁹⁴

Use of Existing Large Electric Power Generating Plant Sites

80. The project will use an existing plant site in Elk River in Sherburne County.⁹⁵ The Rosemount site would result in the creation of a new generating plant site.⁹⁶

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

⁸⁹ Ex. 1, Application for a Site Permit, section 4.3.

⁹⁰ Ex. 1, Application for a Site Permit, section 3.1.1; Ex. 11, Draft EIS, section 1.3.

⁹¹ Ex. 1, Application for a Site Permit, section 2.5.

⁹² Ex. 21, Herda Direct, page 2 (<https://www.edockets.state.mn.us/Efiling/ShowFile.do?DocNumber=4883550>).

⁹³ *Id.*

⁹⁴ Ex. 1, Application for a Site Permit, section 3.1.2; Ex. 1 I, Draft EIS, section 1.4.

⁹⁵ Ex. 1, Application for a Site Permit, section 2.2; Ex. 11, Draft EIS, section 1.2.

⁹⁶ Ex. 1, Application for a Site Permit, section 2.3; Ex. 11, Draft EIS, section 1.2.

81. The project, if located at the Elk River site, includes upgrading existing 69-kV transmission facilities. The project, if located at Rosemount, would use existing 345-kV transmission facilities. No new utility rights-of-way are required at either location.⁹⁷

82. GRE will obtain natural gas for the project from an existing Northern Natural Gas Company ("NNG") pipeline. A new lateral will need to be built by NNG of approximately 0.5 miles in length that would be required at either site.⁹⁸

Electrical System Reliability

83. This project is necessary to ensure that GRE has adequate generating capacity in 2009 and beyond to meet reliably its forecasted customer demand for electricity.⁹⁹ This issue will be more directly evaluated and determined by the Commission in the companion Certificate of Need docket.¹⁰⁰ No site permit can be issued unless a Certificate of Need has also been issued.¹⁰¹

Costs of Constructing, Operating and Maintaining the Facility Which Are Dependent on Design and Route

84. Total construction costs for the addition of the project at the Elk River site are estimated to be about \$100 million. Total construction costs at the alternative Rosemount site were estimated to be of similar magnitude.¹⁰² Given the specific design of the proposed generating facility, the Elk River site offers a more efficient and economic utilization of existing infrastructure.¹⁰³

Adverse Human, Natural and Environmental Effects Which Cannot be Avoided as a Result of Construction and Operation of the Plant

85. No significant adverse human, natural or environmental effects have been identified at either location that arise from the project.¹⁰⁴

Irreversible and Irretrievable Commitments of Resources

86. No irreversible or irretrievable commitments of resources have been identified at either location as arising from this project.

Locations Which Must be Avoided Under the Minnesota Rules for Power Plant Siting

⁹⁷ Ex. 1, Application for a Site Permit, section 3. I .2; Ex. 11, Draft EIS, section 1.4.

⁹⁸ Ex. 1, Application for a Site Permit, sections 3.1.3, 1.4.7; Ex. 11, Draft EIS, section 1.5. Ex. 1, Application for Site Permit, Figures 3-4 and 3-5, indicate the location of the new lateral.

⁹⁹ Ex. 1, Application for a Site Permit, section 1.1.

¹⁰⁰ *ITMO the Application of Great River Energy for a Certificate of Need for the Elk River Peaking Station*, PUC Docket No. ET-2/CN-07-678.

¹⁰¹ Minn. Stat. § 216B.243, subd. 2.

¹⁰² Ex. 1, Application for a Site Permit, section 2.4.

¹⁰³ Ex. 1, Application for a Site Permit, section 4.3.

¹⁰⁴ Ex. 1, Application for a Site Permit, section 4.3; Ex. 1 I, Draft EIS, chapter 4.

87. Minn. Rule 7849.5940, subp. 1, identifies areas that are prohibited from plant siting or excluded from that siting unless there is no feasible and prudent alternative. Neither site proposed for the project has any of the prohibited or excluded uses present.¹⁰⁵

Adequacy of the Environmental Impact Statement

88. Pursuant to Minn. Rule 7849.5340, subp. 2, the Commission cannot make a final determination on a site permit application until it finds that the EIS is adequate. The Department prepared the EIS based on the record and the public hearings held on July 31, August 1, December 19 and December 20, 2007. The DEIS was submitted into the record on December 19, 2007. The only party to comment on the Draft EIS was GRE, and the Department incorporated GRE's suggestions into the Final EIS. The FEIS was submitted into the record on January 22, 2008.

89. The Final EIS is adequate for the Commission to make its decision in this matter.

Administrative Law Judge's Report

90. The ALJ released his report and recommendation on March 18, 2008. The ALJ's report contains a summary of the evidence in the record and a recommendation based on that record. It is not a final decision. Department EFP staff has incorporated the ALJ's report into draft Findings of Fact, Conclusions of Law and Order.

88. The ALJ concluded that the Applicant's application meets the criteria set forth in Minn. Stat. § 216E.03, subd. 7, and Minn. Rule 7849.5910.

89. The ALJ concluded that the Final Environmental Impact Statement addressed the issues identified in the Scoping decision and is adequate and that the Elk River site has been shown to be superior to the Rosemount site.

90. The ALJ released his Summary of Testimony at the Public Hearing on March 20, 2008.

Based on these Findings of Fact, the Commission makes the following:

CONCLUSIONS

1. Any of the foregoing Findings more properly designated as Conclusions are hereby adopted as such.

2. The Minnesota Public Utilities Commission has jurisdiction over this matter, pursuant to Minn. Stat. §§ 216B.08 and 216E.02, subd. 2.

3. All relevant procedural requirements of law and rule have been fulfilled.

¹⁰⁵ Ex. 11, Draft EIS, section 4.6.

4. The Project could be lawfully sited at either the Elk River or the Rosemount sites.
5. The Elk River site has been shown to be superior to the Rosemount site.
6. The record does not demonstrate that the design, construction, or operation of the project will fail to comply with relevant policies, rules, and regulations of other state and federal agencies and local governments.
7. GRE's proposed sites are acceptable under the provisions of Minn. Stat. § 216E.03, subd. 7, and Minn. Rule 7849.5910.
8. The Final Environmental Impact Statement addressed the issues identified in the Scoping decision and is adequate.

Based on the Findings of Fact and Conclusions contained herein and the entire record of this proceeding, the Commission hereby makes the following:

ORDER

A LEPGP Site Permit is hereby issued to GRE to construct an approximately 175 MW, natural gas (w/ fuel oil backup) peaking power station and associated equipment.

The Site Permit shall be issued in the form attached hereto, with map showing the approved site.

Approved and adopted this _____ day of October, 2007.
BY ORDER OF THE COMMISSION

Burl W. Haar,
Executive Secretary

