WENCK
ASSOCIATES

Responsive partner.
Exceptional outcomes.

April 22, 2016

Daniel P. Wolf
Executive Secretary
Minnesota Public Utilities Commission
121 Seventh Place East, Suite 350
St. Paul, MN 55101-2147

RE: Revised Findings of Fact for the Proposed 345 MW Expansion of the Mankato Energy Center. Docket No. IP IP-6949/GS-15-620

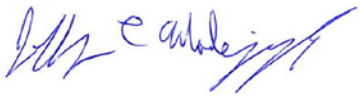
Dear Mr. Wolf:

As part of the Site Permit process for the Proposed 345 MW Expansion of the Mankato Energy Center, Calpine Corporation (Calpine) submitted the Findings of Fact document via the Public Utilities Commission eDockets website on April 18th, 2016. The footnote references were inadvertently left out of the Findings of Fact document. Calpine has revised and updated the Findings of Fact document to include the appropriate footnote references to document the findings within the project record.

Should you have questions, or need clarification of the information provided in the attached updated Findings of Fact document, please do not hesitate to call me at 763-479-4263.

Sincerely,

Wenck Associates, Inc.



Jeff Madejczyk
Principal

enc: Findings of Fact

IN THE MATTER OF THE APPLICATION FOR A SITE PERMIT FOR THE EXPANSION OF THE MANKATO ENERGY CENTER

DOCKET NO. IP-6949/GS-15-620

PREPARED FOR THE PUBLIC UTILITIES COMMISSION

STATEMENT OF ISSUE

Has the Applicant satisfied the factors set forth in Minnesota Statues Section 216E.04 and Minnesota Rules Chapter 7850 for a Site Permit for a 345 megawatt ("MW") expansion of the Mankato Energy Center (the "Expansion Project")[1] in Mankato, Blue Earth County, Minnesota?

SUMMARY OF CONCLUSIONS

Specific details regarding the proposed construction and operation of the Expansion Project were presented within the Site Permit Application[2] and additional subsequent submittals provided by the Applicant. The Expansion Project was further analyzed within an Environmental Assessment (EA)[3] prepared to evaluate the Expansion Project. Based on information submitted by the Applicant and evaluated within the EA potential impacts to human settlement, aesthetics, public health and safety, land based economics, archeological and historic properties, the natural environment and unique resources are expected to be minimal.[4] The Expansion Project would increase air emissions, including greenhouse gas emissions, would but would be within all applicable state and federal guidelines.[5] The EA concluded that relative to the siting factors listed under Minnesota Rules Chapter 7850.4100 potential impacts of the Expansion Project are minimal and would be mitigated by the project location, conditions listed within the site permit, and requirements of additional downstream permits.[6]

FINDINGS OF FACT

I. Applicant

1. Mankato Energy Center II, LLC (MEC II) is the Applicant requesting the Site Permit for the Expansion Project. The existing facility, including the associated land, is owned by Mankato Energy Center I, LLC (MEC I) and is operated by Calpine Operating Services Company, Inc. (COSCI).[7]

[1] See Exhibit 2 (Site Permit Application) at 1-1. See Relevant Document and Exhibit List (Mar. 17, 2016) (eDockets No. 20163-119205-01).

[2] Exhibit 2.

[3] Exhibit 12 (Environmental Assessment, (EA))

[4] *Id.* at 52.

[5] *Id.* at 53.

[6] *Id.* at 53.

[7] Exhibit 2 at 2-1.

2. All entities are wholly owned indirect subsidiaries of Calpine Corporation (Calpine).[8] [9]

3. Calpine owns and operates the largest and most modern fleet of clean, reliable and fuel-efficient gas-fired and geothermal power plants in North America, with a portfolio of 84 power plants located throughout the U.S. and Canada with a combined total of more than 27,000 MW of electric generating capacity.[10]

II. Description of the Proposed Project

4. MEC II proposes to expand the existing Mankato Energy Center, which is a 375 Megawatt (MW) dual fuel combined-cycle generating facility[11] located in the City of Mankato in Blue Earth County, Minnesota (Existing Facility).

5. The expansion involves the planned completion of the Existing Facility, through the addition of one natural gas-fired combustion turbine generator (CTG), an additional heat recovery steam generator (HRSG)[12], and related ancillary equipment (the Expansion Project).

6. The Expansion Project would result in an additional 345 MW[13] of integrated combined-cycle and peaking capacity, as measured under winter conditions.

7. The Expansion Project will receive natural gas from a local area pipeline[14], non-bulk chemicals by truck, and electricity for backup power supply from Xcel Energy. The Expansion Project will continue to receive service water from the Mankato municipal water supply system, and cooling water from the Mankato Waste Water Treatment Plant (WWTP).[15]

8. The Combined Facility is anticipated to be complete and operational by June 1, 2019.

9. The current construction costs for the Expansion Project are estimated to be between $220 and $300 million.[16] This range will continue to fluctuate until the project's commercial operation date has been determined and definitive documentation has been executed.

10. The Expansion Project is anticipated to have a useful life of at least 30 years.[17] Annual operating costs during the life of the Expansion Project are expected to be

---

[8] *Id.*

[9] MEC I is the permit holder for the Existing Facility. MEC II will be the permit holder for the proposed Expansion Project.

[10] Exhibit 2 at 2-1.

[11] *Id.*

[12] *Id.*

[13] *Id.*

[14] Exhibit 12 at 16.

[15] *Id.*

[16] *Id.* at 19.

[17] Exhibit 2 at 2-11.

below those of a new combined cycle plant because of the operating synergies with the Existing Facility.

11. Annual project operating costs are expected to be between $3.5 and $5 million[18]. This range will continue to fluctuate until the project's commercial operation date has been determined and definitive documentation has been executed. Operating costs include labor, materials, management, and all applicable taxes paid to the appropriate jurisdictions.

12. Minn. Stat. § 216B.243 generally requires a Certificate of Need (CON) to construct a generation facility with a total capacity of 50 MW or more; a CON is not required if the facility is selected in a bidding process established by the Commission (Minnesota Statute § 216B.2422, Subd. 5(b)).[19] On February 5, 2015, the Commission issued its Order Approving Power Purchase Agreement with Calpine, Approving Power Purchase Agreement with Geronimo, and Approving Price Terms with Xcel, selecting the Expansion Project and approving the terms of the PPA between Northern States Power Company and MEC II. The PPA was subsequently executed by the Parties and submitted as a compliance filing on May 6, 2015. Accordingly, the Expansion Project is exempt from the CON process.[20]

13. The Existing Facility is located in Blue Earth County within the municipal limits of the City of Mankato, with the address 1 Fazio Lane.[21] The Existing Facility is located east of U.S. Highway 169, north of U.S. Highway 14, and west of County Road 5 (3rd Avenue).

14. The Existing Facility site is approximately 25 acres in size and within an area zoned Class 3A – Commercial/Industrial/Public Use.[22]

15. The Expansion Project will be located, constructed, and operated within the Existing Facility site.[23]

III. Procedural Background

16. On September 16, 2004, the Mankato Energy Center received a Site Permit to construct a primarily natural gas fired combined cycle electric generating facility in Blue Earth County, Minnesota.[24] The facility was permitted to consist of two combined-cycle power trains, one steam generator and other ancillary equipment. Each combined cycle power train includes one combustion turbine generator and one heat recovery steam generator.

17. In 2006, the Mankato Energy Center commenced operations with only one combined cycle power train.

---

[18] *Id.*

[19] *Id.* at 1-1.

[20] Exhibit 12 at 5.

[21] Exhibit 2 at 2-3.

[22] *Id.* at 4-1.

[23] *Id.* at 2-3.

[24] *Id.* at 2-1.

18. On February 5, 2015, the Minnesota Public Utilities Commission ("Commission") issued an Order in Docket No. E002/CN-12-1240 approving a draft power purchase agreement ("PPA") between MEC II and Northern States Power Company, dba, Xcel Energy ("NSP") pursuant to which NSP would purchase energy and capacity from a planned expansion of the Mankato Energy Center.[25]

19. On May 6, 2015, the PPA was subsequently executed by MEC II and NSP and submitted as part of a compliance filing with the Commission.[26]

20. On June 29, 2015, notification of the Applicant's intent to submit the Site Permit Application under the alternative site permitting process was provided to the Commission.[27]

21. On August 8, 2015 the Application for a Site Permit was submitted to the Commission by the Applicant.[28]

22. On August 10, 2015 the Commission issued the docket for the public comment period regarding the Site Permit Application completeness.[29]

23. On August 24, 2015 the Commission received comments on the Site Permit Application completeness from the Department of Commerce, Energy Environmental Review and Analysis ("DOC EERA"). The DOC EERA recommended that the Commission accept the application for the Project as complete. Additionally, DOC EERA staff recommended that the Commission take no action on an advisory task force.[30]

24. On October 5, 2015 the Applicant submitted an Affidavit of Publication[31] from Blue Earth County showing that the meeting notice for the October Public Information and Scoping Meeting had been adequately published in the newspaper titled "The Free Press and the Land".

25. On October 6, 2015 the Commission issued a Public Information and Scoping Meeting notice.[32]

26. On October 13, 2015 a Public Information and Scoping meeting was held at the County Inn & Suites in Mankato, Minnesota. Commission and DOC EERA staff were present to answer questions and gather comments from the public regarding the Expansion Project. The Applicant was also present at the meeting. Three members of

[25] Exhibit 2 at X. (Site Permit Application, Project Summary).

[26] *Id.*

[27] Exhibit 1.

[28] Exhibit 2.

[29] Exhibit 3.

[30] Exhibit 4.

[31] Exhibit 7.

[32] Exhibit 6.

the public attended the meeting but had only informal comments. There were no formal comments presented by the public at the meeting.[33]

27. On October 14, 2015 the Commission issued an order finding the Site Permit Application complete, requesting a summary report and granting a variance to extend the time period of Minn. R. 7850.3700, subp. 3, to extend the 10-day time limit for the Department of Commerce to issue its scoping decision.[34]

28. On October 27, 2015 Department of Transportation ("MnDOT") submitted comments to the DOC EERA regarding the project design and requesting notification if design changes occur that would impact the state highway trunk system in the area. In the current configuration the project design would not impact state highways. MnDOT also requested that the Applicant coordinate with MnDOT when planning hauling routes for oversized loads.[35]

29. On October 29, 2015 the DOC EERA published a summary of comments on the scope of the Environmental Assessment (EA) for the Expansion Project. Comments were received from the Minnesota State Historic Preservation Office ("SHPO"), noting that no archaeological or historic resources would be impacted by the project; comments were also received from MnDOT, as described above. In addition, comments were also received from one citizen expressing support for the Expansion Project and its location.[36]

30. On November 4, 2015 the DOC EERA issued an environmental assessment scoping decision for the Expansion Project. The decision outlined items to be discussed in the EA document. Under Minn. Stat. § 216E.04, Subd. 3, applicants requesting review of a site permit application under the alternative review process are not required to propose a second site for the project. No alternative sites were evaluated in the EA.[37]

31. On November 5, 2015 the DOC EERA issued a notice of environmental assessment scoping decision regarding the Site Permit Application. The notice stated that the environmental assessment would be prepared by the DOC EERA staff.[38]

32. On January 27, 2016 the DOC EERA published their Requests to Applicant for Additional Project Information and Applicant Responses.[39]

33. On February 8, 2016 the Commission issued a notice of the Remaining Process Schedule for the Site Permit Application. Additionally, the Commission issued a

[33] Exhibit 8.

[34] Exhibit 5 at 3.

[35] MnDOT Comment Letter (Oct. 27, 2015) (eDockets No. 201510-115129-01).

[36] Exhibit 8.

[37] Exhibit 9.

[38] Exhibit 10.

[39] Exhibit 11.

Notice of Public Hearing for the Site Permit Application and provided the generic template for large electric power generating plant site permits.[40]

34. On February 9, 2016 the Commission submitted a request for state agency participation in Record Development and Public hearings regarding the Expansion Project.[41]

35. On February 16, 2016 the Applicant submitted an Affidavit of Publication from Blue Earth County showing that the February public hearing notice had been adequately published in the newspaper titled "The Free Press and the Land".[42]

36. On February 18, 2016 the DOC EERA issued a Notice of Availability for the EA, stating that the DOC EERA had issued the EA for the Expansion Project, making it available for public review and comment. The EA document was provided with this Notice.[43]

37. On March 2, 2016 the DOC EERA published the Environmental Quality Board's notice of availability for the EA.[44]

38. On March 7th, 2016 a Public Hearing was held at the County Inn and Suites in Mankato, Minnesota and was held before Administrative Law Judge James LaFave. Staff from the Commission and the DOC EERA were present as well as the Applicant. Information related to the Site Permit process, the EA and the Expansion Project were briefly provided by Mr. Ray Kirsch of the DOC EERA, Mrs. Tricia DeBleeckere of the Commission and by Mr. John Flumerfelt on behalf of the Applicant. There were three members of the public that provided verbal comments and questions at the hearing. Responses to the verbal questions and comments from the public were provided during the hearing from a combination of the Applicant as well as the Commission and DOC EERA staff[45].

39. On March 17, 2016 the Office of Administrative Hearings published the March 7 public hearing sign in sheets and transcripts.[46]

40. On March 18, 2016 the Applicant submitted a comment letter on the Environmental Assessment prepared for the Project. The comments provided clarification on project content.[47]

---

[40] Notice for Remaining Process Schedule (Feb. 8, 2016) (eDockets No. 20162-118074-01); Notice of Public Hearing for Site Permit Application (Feb. 8, 2016) (eDockets No. 20162-118060-01); Site Permit Template (Feb. 8, 2016) (eDockets No. 20162-118074-02).

[41] Request for State Agency Participation (Feb. 9, 2016) (eDockets No. 20162-118097-01).

[42] Affidavit of Publication (Feb. 16, 2016) (eDockets No. 20162-118323-01).

[43] Exhibit 13.

[44] Exhibit 15.

[45] Summary of Public Testimony (April 13, 2016) (eDockets No. 20164-120013-01).

[46] March 7 Public Hearing Sign-in Sheets (Mar. 17, 2016) (eDockets No. 20163-119205-02); March 7 Public Hearing Transcript (Mar. 17, 2016) (eDockets No. 20163-119204-01).

[47] Calpine Comments (Mar. 18, 2016) (eDockets No. 20163-119274-01).

41. On March 21, 2016 the Commission issued a summary of the comments received regarding the EA. The summary stated that there were no public or agency comments received regarding the EA or the Site Permit.[48]

42. On March 31, 2016 the Minnesota Pollution Control Agency ("MPCA") presented a letter to the Commission regarding comments on the Environmental Assessment prepared for the Project. The MPCA indicated that they had no comments on the EA or the Expansion Project at that time.[49]

IV. Environmental Assessment

43. For projects seeking permitting under the alternative permitting process, the DOC EERA prepares an EA for the Commission containing information on the human and environmental impacts of the proposed project. The EA is the only State environmental review document required to be prepared for the Project pursuant to Minn. R. 7850.3700.[50]

44. The scoping process is the first step in developing an EA. The DO EERA is required to "provide the public with an opportunity to participate in the development of the scope of the environmental assessment by holding a public meeting and by soliciting public comments" pursuant to Minn. R. 7850.3700, subp. 2A.[51]

45. The Commission published a notice of a Public Information and Scoping Meeting for the preparation of the EA for the Site Permit Application for the Expansion Project on September 18th, 2015.[52] The Public Information and Scoping Meeting was held on October 13, 2015. There were no oral comments submitted during the public meeting. There was one written comment letter provided by the public related to the scoping of the EA. The letter expressed support of the Expansion Project, stating the Existing Facility was sited in a good location within an industrial area and the facility is a good clean source of reliable energy.[53]

46. There were two agency comment letters related to the Scoping of the EA submitted to the DOC EERA. One letter was submitted by the State Historic Preservation Office (SHPO)[54] and the other letter was submitted by the Minnesota Department of Transportation (MnDOT).[55] The letter from SHPO stated that there are no historic properties listed on the State or Federal Register that would be impacted by the Expansion Project and that there are no known archeological properties in the area that would be impacted. The letter from MnDOT stated that the Applicant will need to coordinate with MnDOT as necessary for transportation and delivery of large, oversized loads and equipment during the construction of the Expansion Project to

[48] Summary of Comments (Mar. 21, 2016) (eDockets No. 20163-119292-01).

[49] MPCA Comments (Mar. 31, 2016) (eDocket No. 20163-119582-01).

[50] See Minnesota Rules 7850.7300.

[51] See Minnesota Rules 7850.3700, subp. 2A.

[52] Exhibit 6.

[53] Notice of Public Hearing (February 8, 2016) (eDockets Number 20162-118060-01).

[54] Exhibit 8.

[55] MnDOT Comment Letter (October 27, 2015) (eDockets Number 201510-115129-01).

ensure impacts to roadways and transportation construction projects do not occur. The MnDOT letter further stated that in the event that the construction of the Expansion Project impacts MnDOT right-of-way, the Applicant should notify MnDOT and coordinate with them in the planning of such activities that could impact road right-of-way.

47. The Commission published a notice of a Public Hearing and the opportunity for comment on the EA for the Expansion Project on February 8th, 2016.[56] The DOC EERA staff published the EA and made it available for review and comment on February 18th, 2016.[57, 58] The Public Hearing was held before Administrative Law Judge James LaFave on March 7th, 2016.[59] At the hearing there were verbal comments submitted by three members of the public.

48. Mr. Drew Campbell, a commissioner for Blue Earth County, asked several questions related to the need for the Expansion Project and how it would fit into the existing mandates in Minnesota for renewable energy.[60] Comments and questions from Mr. Campbell were addressed by a combination of the Applicant, DOC EERA staff and Commission staff. Mr. Campbell also asked about the increased water need for the Expansion Project.[61] This question was answered by DOC EERA staff who indicated that the water would continue to come from the Mankato Wastewater Treatment Plant and that this item is addressed within the EA. Mr. Campbell also asked if there would be prevailing wages paid to workers for the construction of the Expansion Project.[62] The Applicant indicated that typically this would be the case but that they would follow up to confirm. The Applicant later confirmed that they intend to build the Expansion Project using union labor.

49. Mr. Cameron Rather asked questions related to the pipeline and gas usage for the Existing Facility and the Expansion Project, wanting to know if sufficient gas supply is available and who is responsible for providing the natural gas to operate the facility.[63] These questions were addressed by Mr. John Flumerfelt from the Applicant who explained the infrastructure needed to deliver the natural gas required for the Expansion Project is already in place and that Xcel Energy is responsible for ensuring there is sufficient gas quantity available and Xcel is further responsible for delivering the natural gas to the lateral pipeline that serves the facility.

50. Mr. Randy Westman asked a question related to the timing for start of construction for the Expansion Project.[64] This question was answered by Mrs. Heidi Whidden from the Applicant who stated that the current schedule is for construction of the Expansion Project to begin in the fourth quarter of 2016.

---

[56] Notice of Public Hearing (February 8, 2016) (eDockets Number 20162-118060-01).

[57] Exhibit 12.

[58] Exhibit 13.

[59] Summary of Public Testimony (April 13, 2016) (eDockets Number 20164-120013-01).

[60] *Id.* at 4.

[61] *Id.*

[62] *Id.*

[63] *Id.* at 5.

[64] *Id.*

51. There were no letters submitted by the public commenting on the EA. There was one letter submitted by a state agency, the Minnesota Pollution Control Agency (MPCA).[65, 66] The MPCA letter stated that they had no comments on the EA for the Expansion Project.

52. The Applicant submitted a comment letter on the EA for the Expansion Project. The letter from the Applicant stated agreement with the analysis and conclusions in the EA and provided clarifying information related to the topics of impervious surface, wetlands, and construction practices related to stormwater control. The Applicant stated that construction of the project will not be limited to daytime hours and instead should be allowed to proceed 24 hours while meeting the Minnesota noise standards.[67]

V. Factors for Site Permit

53. Minnesota Statutes Chapter 216E (2015) requires a site permit for the proposed Project.[68]

54. Minn. Stat. § 216E.09[69] provides that site permits issued by the Commission "shall supersede and preempt all zoning, building, or land use rules, regulations, or ordinances promulgated by regional, county, local and special purpose government."

55. The Power Plant Siting Act ("PPSA"), Minnesota Statutes Chapter 216E, requires that "it to be the policy of the state to locate large electric power facilities in an orderly manner compatible with environmental preservation and the efficient use of resources. In accordance with this policy the commission shall choose locations that minimize adverse human and environmental impact while insuring continuing electric power system reliability and integrity and insuring that electric energy needs are met and fulfilled in an orderly and timely fashion."[70] (216E.02, Subd. 1)

56. Under the Minn. Stat. § 216E.03, Subd. 7[71], the Commission must be guided by the following responsibilities, procedures, and 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;

---

[65] *Id.*

[66] MPCA Comments (March 31, 2016) (eDockets Number 20163-119582-01).

[67] Calpine Comments (March 18, 2016) (eDockets Number 20163-119274-01) at 2.

[68] *See* Minn. Stat. § 216(E).

[69] *Id*. § 216(E).09.

[70] *Id*. § 216(E).02, Subd. 1.

[71] *Id*. § 216(E).03, Subd. 7.

(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;

(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 subdivision 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 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;

(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.

57. In addition, the Commission is governed by Minnesota Rules 7850.4100[72], which mandates consideration of the following factors when determining whether to issue a site permit for a large electric power generating plant:

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;

[72] *See* Minnesota Rules, part 7850.4100.

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.

VI. Application of Siting Factors

A. Environmental Setting

58. The Combined Facility, which is the Existing Facility plus the Expansion Project, is located within an industrial area in the City of Mankato. Adjacent properties consist of numerous industrial and manufacturing facilities including Xcel Energy's Wilmarth Generating Plant and electrical substation, a waste processing company, auto salvage yards, scrap metal operations, a construction company, a U.S. Postal Service mail processing facility, and a household hazardous waste collection site. There are numerous railroad tracks and spur lines in the area as well as overhead electrical transmission lines.[73] Previously there was a single residential dwelling located approximately 2,000 feet north of the fence line of the Existing Facility, however this property is now vacant. The nearest residential areas of Mankato lie more than one-half mile to the south on the other side of U.S. Highway 14.[74]

59. The Minnesota River is located approximately 1,800 feet west of the Existing Facility. The river and adjacent wooded river bottoms provide wildlife habitat as well as recreational opportunities in the form of boating, fishing, and hunting. There are also trails, parks, and other recreational facilities in the general area.[75] A large drainage ditch is located along the east side of the site, which flows in a north/northwesterly direction to the Minnesota River. The Minnesota River valley extends approximately one mile to the east of the site at which point steep bluffs rising 150 feet dominate the landscape. Outlying rural areas to the north and east of the site in Lime Township consist predominately of agricultural and conservation lands.

B. Required Permits and Approvals

The table below lists the permits identified as needed for the Expansion Project.[76]

[73] Exhibit 2 at 4-1.

[74] *Id.*

[75] *Id.*

[76] Exhibit 2 at 11-1.

Table 1: List of Expansion Project Permits

Unit of Government*	Type of Approval	Regulated Activity	Status
Federal			
FAA	Notice of Proposed Stack Construction	Stack height greater than 200 feet above ground level	To be provided, if needed. Stack anticipated to be less than 200 feet.
U.S. EPA	Acid Rain Permit	Title IV Acid Rain Certificate of Representation for the discharge of sulfur oxides	To be obtained
	Risk Management Plan/Process Safety Management (RMP/PSM)	Risk management plan is required for facilities possessing more than threshold quantities of regulated chemicals (e.g., anhydrous ammonia)	To be updated
	Conditionally Exempt Small Quantity Generator	Hazardous waste generation	The facility has an existing Hazardous Waste Generation license and will amend as necessary.
Federal Energy Regulatory Commission (FERC)	Exempt Wholesale Generator Self-Certification;	Provide documentation to FERC that entity is operating a power generating facility and selling electric energy at wholesale;	To be obtained
	Market-based Rate Authorization	Authorization to sell electric power at Market Based rates; granted to Exempt Wholesale Generators.	To be obtained
U.S. Fish and Wildlife Service	EPA Consultation with U.S. Fish and Wildlife Service for Threatened and Endangered Species	Demonstrate that project development does not have the potential to disturb a listed species and/or provide mitigation for impacts	Consultation pending – submitted to U.S. EPA on June-15-2015
State of Minnesota			
MISO	Approval as a Network Resource for Xcel	Generator interconnection and transmission access	To be amended
PUC	Power Plant Siting Permit	Review of potential human and environmental impacts associated with the siting of a large electric power generating plant. Qualifies for alternative review process for facilities fueled by natural gas	Pending – Permit application submitted Aug-5-2015 (this document)
SHPO	Cultural Resources Review	Review of agency records for the presence of archeological, historical, or architectural resources at or near the site that may be affected by the project	Completed - Received comment letter dated Apr-2-2015

Unit of Government*	Type of Approval	Regulated Activity	Status
MDNR	Minnesota Natural Heritage Database Review	Review of the Minnesota Natural Heritage Information System database for the presence of any rare plant communities or animal species, unique resources, or other significant natural features at or near the site that may be affected by the project	Completed - Received comment letter dated May-19-2015
MPCA	NPDES/SDS General Stormwater Discharge Permit (MN R100001) for Construction Activities	Stormwater discharges associated with construction activities disturbing one or more acres of land	To be submitted
	NPDES/SDS General Stormwater Discharge Permit (MNR0534NJ) for Industrial Activities	Stormwater discharges associated with industrial activities at the Facility. Coverage under the permit requires preparation of a Stormwater Pollution Prevention Plan	Will be revised as necessary
	Air Emission Facility Permit (Combined Construction and Title V Operating)	Air emissions - permitting requirements associated with federal PSD new source review and NSPS requirements, and other applicable state/federal requirements	Amendment Pending – Permit application Submitted Nov-3-2015
	Hazardous Waste Generator License	Hazardous waste generation	The facility has an existing EPA notice of Hazardous Waste Generation and will amend as necessary.
	Spill Prevention, Control and Countermeasure Plan	Aboveground storage of greater than 1,320 gallons of fuel oil; no changes as a result of Expansion Project	Update as needed
	Storage Tank Registration and Permitting	Anyone wishing to operate a new or existing regulated storage tank must register that tank with MPCA. Regulated storage tanks are those that are not otherwise exempt and that contain a regulated substance	To be obtained if needed for new tanks
	Facility Response Plan	Applicable for facilities that have oil storage greater than or equal to 42,000 gallons that transfers oil over water to/from vessels or has total oil storage greater than or equal to 1 million gallons and meets selected conditions	The facility has an existing plan that meets FRP requirements. To be amended as needed
MnDOT	Special Hauling Permit (Oversize/ Overweight)	For delivery of oversize and/or super loads of construction equipment and others to the property	To be obtained if needed

Unit of Government*	Type of Approval	Regulated Activity	Status
	Highway Occupancy Permits	MnDOT regulates and/or gives approval for the use and occupancy of highway right of way by utility facilities or private lines	To be obtained if needed
Local			
City of Mankato	Conditional Use Permit	Electric generating facility within areas zoned M-2, Heavy Industrial District	To be amended
	Building Permit	Site grading, development, construction, and occupancy approval	To be obtained
	Connections to municipal sewer and water as well as gray water from Waste Water Treatment Plant	Obtain approvals from City	To be amended
	Wetland No-Loss Application	Submit to City	Submitted as part of original construction, will update if needed.
Other			
Utilities	Utility Connection Permits and Approvals	Connections of Expansion Project related equipment to necessary utilities (e.g., water, wastewater, gas pipelines, transmission lines, telecommunications)	To be obtained as needed

C. Displacement

60. The project site is appropriately zoned for industrial use. The Expansion Project will take place within the fence line of the Existing Facility. The Expansion Project will secure additional lands for temporary construction laydown space, which will be leased from a nearby property owner and may be located on either vacant industrial lands or agricultural lands.[77] There will be no physical displacement of adjacent land owners or residents as a result of the Expansion Project nor will the project alter the use of adjacent properties.[78]

D. Noise

61. The City of Mankato does not have a noise ordinance but relies on the State's noise level restrictions for local control of noise problems.[79]

62. Noise will be generated during construction of the Expansion Project as well as during normal operation of the Combined Facility.[80] The largest potential noise impacts are generated during the construction and commissioning of the Expansion Project.

[77] Exhibit 2 at 4-1.

[78] Exhibit 12 at 29.

[79] Exhibit 2 at 4-2.

[80] Exhibit 12 at 28.

63. The major components of the Expansion Project that will contribute to noise generated during the operation of the Combined Facility include the cooling tower cells, the CTGs, electrical transformers and HRSGs.[81] MEC II will utilize noise mitigation and control methods and equipment in the final design of the Expansion Project as necessary to mitigate noise to ensure MPCA standards are not exceeded during operation.

64. The Expansion Project is designed to ensure that the Combined Facility operates within the State of Minnesota Noise Standards (Minnesota Rules 7030.0040)[82]. Operation of the Combined Facility will increase noise levels in the project area. Even if noise levels are within state standards, persons near the plant – e.g., persons in or near the industrial near in which the Combined Facility is located – would likely notice an increase in noise level. Operational noise impacts will be mitigated, to a great extent, by the location of the Combined Facility (away from persons and residential receptors) and by the fact that impacts will be incremental.[83]

E. Aesthetics

65. The Combined Facility will blend into the industrial area on the north edge of Mankato. The Existing Facility site is already established and the Expansion Project will occur within the Existing Facility's footprint.[84] All roads at the Existing Facility are paved and efficiently and safely move traffic onto, around and off of the property.

66. The tallest structure at the Existing Facility is the CTG stack, which is just under 200 feet tall. All other structures at the Existing Facility are shorter than the CTG stacks, and range from 30 to 120 feet in height.[85] The building that will contain the new CTG and HRSG units will be similar in appearance and height compared to the existing buildings and will be located immediately north of the existing CTG building.

67. The stacks are most visible from the west end of Summit Avenue and possibly visible from the Minnesota River.[86] Due to the existing topography, finished grades at the landfill, a dense grove of mature trees located around the perimeter of the site, and the distance away from adjacent roadways, most of the other structures at the Combined Facility will not be visible to the general public.

68. Visible plumes may occur at various times given the proper conditions. The length and persistence of these visible plumes are influenced by prevailing weather conditions such as temperature, relative humidity, and wind speed. On most days of the year, however, visible steam or vapor plumes, if present, disperse and evaporate after traveling only a moderate distance aloft.[87]

---

[81] Exhibit 2 at 4-2.

[82] *Id.*

[83] Exhibit 12 at 29.

[84] Exhibit 2 at 4-4.

[85] Exhibit 12 at 26.

[86] Exhibit 2 at 4-4.

[87] Exhibit 12 at 38.

69. The Combined Facility must apply Best Available Control Technology (BACT) for visibility-related pollutants. Nitrogen oxides emissions are and will continue to be continuously monitored to ensure compliance with BACT-related emission limits. Accordingly, emissions from the Combined Facility are not expected to have a significant impact on local visibility.[88]

70. Lighting at the Combined Facility will be provided for security and plant operational purposes. Lighting will be expanded in the same manner for the newly installed equipment. No additional impacts from lighting are anticipated from the Expansion Project.

F. Socioeconomic Impacts

71. The Expansion Project will benefit the local and regional communities as well as the State of Minnesota. The Combined Facility will support efforts by Xcel Energy to enhance and diversify their power supply portfolio in meeting the utility's growing demand for electricity.[89] The Combined Facility will primarily utilize natural gas, a clean-burning fossil fuel, and highly efficient combustion technology to generate reliable electricity while minimizing environmental impacts. The Existing Facility is sited close to a major natural gas pipeline and high-voltage electric transmission system, minimizing impacts associated with infrastructure connections.

72. The construction of the Expansion Project and the operation of the Combined Facility will provide many benefits to the local community including economic benefits resulting from the construction and continued operation of the facility and through the purchase of local goods and services. Some of the economic benefits include the following:

a. Construction of the Expansion Project is estimated to exceed $200 million and will employ as many as 250 construction workers at peak construction periods.[90] These jobs (include welders, pipefitters, iron workers, millwrights, carpenters, electricians, and other trades) will benefit the local economy during the construction phase. Construction is estimated to take 24 to 27 months to complete.
b. Once in operation, the Combined Facility anticipates hiring two additional employees, for a total of approximately 19 full time employees and indirect jobs to the area in the form of local support services.[91]
c. The state of Minnesota and Blue Earth County will receive tax revenue from the construction of the project as well as continue to receive income taxes from permanent full-time employees operating the Combined Facility.[92]
d. MEC I and MEC II will remain an active member of the local community, participating in charitable events, community service organizations, and outreach programs.

G. Cultural Values

[88] Exhibit 2 at 4-5.

[89] *Id.*

[90] Exhibit 12 at 29.

[91] *Id.*

[92] Exhibit 2 at 4-6.

73. The Existing Facility is located within an area zoned for industrial use. The Existing Facility was permitted in 2004 and has been in operation since 2005. The Minnesota State Historic Preservation Office (SHPO) was contacted prior to construction of the Existing Facility about possible archeological, historical or architectural resources located on or near the site. A review of SHPO records was again completed in 2015 as part of this Site Permit Application.[93] Upon review of their records, SHPO concluded that there are no known or suspected resources present on or near the site that would be affected by construction of the Expansion Project or operation of the Combined Facility and should have no impact on cultural resources in the area.[94]

H. Recreation

74. There are no designated recreational facilities located on or immediately adjacent to the Existing Facility site.[95]

75. Although there are recreational facilities in the vicinity, construction and operation of the Combined Facility will not directly impact existing public land, trails, parks, or other areas used for recreation. Neither the Expansion Project nor the Combined Facility would result in impacts to recreation.[96]

I. Public Services

76. The existing public roadway network and site access road are adequate to serve the Combined Facility. At this point, access to the Combined Facility will be off of Fazio Lane from Summit Avenue. The most likely route for vehicles will access Summit Avenue via 3rd Avenue from US Highway 14. No public transportation improvements will be required for construction or operation.[97]

77. The Mankato Municipal Airport, located approximately 3.7 miles to the northeast in Lime Township, is the closest active airport to the site and the Combined Facility will not affect airport operations in any way.[98]

78. Water and sewer services are provided to the Existing Facility by the City of Mankato.[99] The City supplies both domestic water and service water and receives domestic wastewater discharges. The Combined Facility will continue to operate and utilize gray water for cooling water in the same manner as current conditions after the Expansion Project is constructed with the exception of the increased volume of water required at the Combined Facility.[100]

79. Service and domestic water is supplied to the Existing Facility by the City of Mankato through a lateral service line connection to the municipal water supply system. The

[93] *Id.* at 7-1.

[94] Exhibit 8.

[95] Exhibit 12 at 41.

[96] Exhibit 2 at 4-7.

[97] Exhibit 12 at 31.

[98] *Id.*

[99] *Id.*

[100] Exhibit 2 at 3-2.

City of Mankato municipal water supply system will continue to provide service water to the Combined Facility.[101]

80. The City of Mankato Wastewater Treatment Plant (WWTP) provides grey water to the Existing Facility. The Expansion Project will increase the use of grey water from the City of Mankato.[102] Blow down discharge back to the WWTP will also increase.

81. There are water storage facilities on site that serve the Existing Facility, such as serviced and demineralized water storage tanks and there are additions that are being explored as part of the Expansion Project. No additional improvements to water utilities are anticipated for the construction of the Expansion Project or operation of the Combined Facility.[103]

82. Local waste haulers are privately contracted with to properly collect and dispose of all liquid and solid wastes generated at the Existing Facility.[104] No additional municipal services would be required with the Expansion Project.

83. The City of Mankato provides fire and police protection and rescue services.[105] The Existing Facility is equipped with a security system and fire suppression system. The Combined Facility is not anticipated to affect the existing capabilities of the City's fire and police departments.[106]

J. Effects on Human Health

84. MEC I is currently subject to state and federal Prevention of Significant Deterioration (PSD) requirements because the facility qualifies as a major stationary source under the PSD rules, defined in 40 CFR 52.21(b)(1)(i)[107]. The Existing Facility potential emissions of particulate matter (PM), PM less than 10 microns (PM_{10}), PM less than 2.5 microns ($PM_{2.5}$), sulfur dioxide (SO_2), nitrogen oxides (NO_x), volatile organic compounds (VOC), and carbon monoxide (CO) are greater than the PSD major source threshold of 100 tons/yr. The Existing Facility potential greenhouse gas (GHG) emissions are greater than the PSD major source threshold of 100,000 tons/yr.[108]

85. The Expansion Project will install selective catalytic reduction (SCR) and dry low NO_x (DLN) burners to reduce NO_x emissions and a catalyst oxidation system to control CO and VOC emissions from the proposed combustion turbine and HRSG duct burner exhaust.[109] In order to provide additional cooling due to the increased steam flow to the steam turbine, four new cells will be added to the existing cooling tower. A new

---

[101] *Id.* at 3-3.

[102] Exhibit 12 at 31.

[103] Exhibit 2 at 4-8.

[104] *Id.*

[105] Exhibit 12 at 41.

[106] *Id.*

[107] *See* CFR Title 40, Chapter I, Subpart C, Part 52, Subpart A

[108] Exhibit 2 at 5-1.

[109] *Id.*

anhydrous ammonia tank will be installed to provide the reagent to the new HRSG SCR.[110] The Expansion Project is also proposing to install a new emergency generator.

86. The Expansion Project must obtain a PSD permit from the MPCA to authorize construction of the Expansion Project. This requires the application of Best Available Control Technology (BACT) to control emissions from the Combined Facility.[111] The Expansion Project will satisfy BACT requirements by applying the most effective of available options to control NO_x, CO, VOC, PM, organic, and GHG emissions from the Expansion Project's combustion turbine. The Expansion Project will utilize the following emissions control strategies[112]:

a. Firing primarily natural gas in the turbine to minimize NO_x, sulfur dioxide and particulate emissions.
b. DLN combustors are used while firing natural gas to minimize the formation of oxides of nitrogen in the combustion turbine.
c. SCR to reduce oxides of nitrogen emissions in the combustion turbine exhaust gas.
d. Catalytic oxidation to reduce CO, VOC, and organic air pollutant emissions from the combined cycle system exhaust gas.
e. High efficiency mist eliminators to reduce cooling tower drift to minimize particulate emissions.

87. An air permit application for the Expansion Project was submitted to the MPCA on November 3, 2015. Combustion-related emissions from the Expansion Project of PM, CO, NOx, VOC and GHG are of primary interest because these pollutants are emitted in quantities that exceed the threshold triggering PSD review.[113]

88. Compliance by the Combined Facility with emissions permit limits will be monitored by means of a Continuous Emission Monitoring Systems (CEMS) and demonstrated by periodic stack emissions tests or by monitoring fuel specifications. The Expansion Project will be installing CEMS to measure CO and NO_x emissions in the Expansion Project's exhaust.[114] Stack testing or fuel monitoring will be required for the other pollutants as specified by the MPCA in the Expansion Project's air permit. The Existing Facility is equipped with CEMS and has completed required testing.

89. The Existing Facility submitted an Air Emissions Risk Analysis (AERA) in accordance with MPCA technical guidance (*Facility Air Emissions Risk Analysis Guidance;* Version 1.0; September 2003) as part of November 3, 2015 air permit application. The results of the analysis demonstrated compliance with all applicable standards.[115]

90. No groundwater wells have been or will be installed on site to serve the Combined Facility. Cooling water is supplied from effluent taken from the City of Mankato

[110] *Id.*

[111] Exhibit 12 at 38.

[112] *Id.*

[113] Exhibit 2 at 5-2.

[114] *Id.* at 5-4.

[115] Exhibit 12 at 35.

municipal WWTP and piped through a dedicated line to the Existing Facility.[116] Service water for domestic uses such as drinking water, showers, toilets, sinks, and other incidental water needs is supplied by the municipal water supply system through a lateral service line. Additionally, the Existing Facility uses service water for fire protection and other operational uses. Service water also supplies demineralized water process equipment for boiler makeup. There is a demineralized water tank at the Existing Facility which stores water onsite so it can be utilized when needed for process makeup water. The tank allows operational flexibility to ensure that demineralized water is available when needed for operations while also allowing it to be filled at times without impacting the water supply for the City.[117]

91. The Cities of Mankato and North Mankato maintain separate municipal water supply systems. Both municipalities have indicated that the Existing Facility is outside of the boundaries of the wellhead protection area. Therefore there will be no potential impacts to existing groundwater resources or water supplies that could affect public health and safety as a result of construction of the Expansion Project and operation of the Combined Facility.[118]

92. Given the location of the Combined Facility in an industrial area on the edge of town and the capacity of existing highways and local roads serving the facility and surrounding area, vehicular traffic during construction and operation of the Combined Facility should not adversely affect existing traffic flows.[119]

93. The tallest building structure at the Existing Facility is currently the CTG stack, which is just less than 200 feet tall. The new CTG stack is anticipated to be the same height and therefore, no structures associated with the Expansion Project exceed the 200-foot threshold triggering FAA notification.[120]

94. The visible plumes from the stacks and from the cooling tower at the Existing Facility are not expected to impair visibility or safety on adjacent roadways. The plume rising from the HRSG stacks should dissipate well before reaching ground level.[121] The cooling tower is designed to incorporate "high efficiency drift eliminators to minimize fogging and icing potential from the plant. Summit Avenue and 3rd Avenue, the nearest adjacent roadways, are at least 800 feet away from the cooling tower. The Existing Facility has not received any complaints concerning plumes from the facility and additional plumage is anticipated to be minimal.[122]

K. Effects on Land Based Economics

i. Agriculture

---

[116] *Id.* at 46.

[117] Exhibit 2 at 5-7.

[118] *Id.*

[119] Exhibit 12 at 31.

[120] *Id.*

[121] Exhibit 12 at 38.

[122] *Id.* at 39.

95. The Expansion Project will be located within the fence line of the Existing Facility. Additional land outside the fence line of the Existing Facility will be secured to serve as temporary construction laydown space and parking areas. The estimated construction time frame for the Expansion Project is approximately 24 to 27 months, which means the temporary construction laydown space, if located on agricultural land, would be used for two growing seasons.[123] The amount of land needed for temporary construction space is less than 15 acres. This temporary use of agricultural lands for construction laydown space would only result in a very minor decrease in agricultural production for a limited time.[124] The Combined Facility would not result in permanent impacts to agricultural lands or crop production.

ii. Forestry

96. The Expansion Project will be located within the fence line of the Existing Facility which is a developed site and will not result in the loss of trees or clearing of forest lands. There will be no adverse effects to the forestry economy as a result of the Combined Facility.[125]

iii. Tourism

97. The Combined Facility site is located in an existing industrial area and is not located on or near local tourist attractions. Construction of the Expansion Project will take place within the fence line of the Existing Facility. There will be no adverse effects to the tourism economy from the Combined Facility.[126]

iv. Mining

98. There will be no adverse effects to the mining economy from the Expansion Project.[127] The Existing Facility site is a former limestone quarry that has been mined to completion and the Expansion Project will be located within the Existing Facility boundaries.

v. Archeological and Historic Resources

99. Information was requested from the State Historic Preservation Office (SHPO) about possible archeological, historical, or architectural resources located on or near the Expansion Project site. A response letter dated April 2, 2015 was received from SHPO indicating that no known or suspected archeological resources are present in the area that would be affected by the Expansion Project.[128] Based on these findings and due to the disturbed nature of the site from the previous construction activity for the Existing Facility, construction of the Expansion Project and operation of the

[123] Exhibit 2 at 6-1.

[124] Exhibit 12 at 41.

[125] *Id.*

[126] *Id.*

[127] *Id.*

[128] Exhibit 8.

Combined Facility will have no impact on archeological, historical, or architectural resources.[129]

L. Effects on the Natural Environment

vi. Air Quality

100. The construction of the Expansion Project and operation of the Combined Facility are not anticipated to result in changes to air quality that would impact plants, animals or soils.[130] The projected impacts from the Combined Facility will comply with the primary and secondary NAAQS and PSD increment standards.

vii. Land

101. The Existing Facility site is approximately 25 acres in size and is located within an area currently zoned as Class 3A – Commercial/Industrial/Public Utility.[131] The construction of the Expansion Project will take place within the fence line of the Existing Facility on property fully owned by MEC I.

102. The Existing Facility currently contains one CTG, one HRSG with natural gas-fired duct burners, one steam turbine generator with an associated heat rejection system, and various associated machinery and equipment required for operation of the power plant.[132] An outside storage area containing sanitary and storm sewer pipe and miscellaneous construction material is located on the east side of the site. The Expansion Project will add one natural gas-fired CTG, an additional HRSG, and related ancillary equipment (*e.g.,* four additional cooling tower cells and one emergency generator).[133]

103. The Existing Facility site has been previously disturbed during facility construction and prior to that, by activities associated with past gravel and limestone mining activities and the demolition landfill.[134] The disturbance for the construction of the Expansion Project will take place entirely within the boundaries of the Existing Facility site. The construction of the Expansion Project or operation of the Combined Facility will not result in significant changes in land cover or land use at the facility.[135]

104. MEC II is considering securing land to use as temporary construction laydown space or parking areas. The execution of the options to utilize these parcels would ultimately be decided by the contractor selected for the Expansion Project. Utilization of these adjacent properties as temporary construction space would not alter their use classification. The existing wooded areas located along the east and south sides

---

[129] Exhibit 12 at 42.

[130] *Id.*

[131] Exhibit 2 at 8-1.

[132] *Id.*

[133] *Id.*

[134] *Id.*

[135] *Id.*

of the site will remain in place with only minimal potential disturbance by the Expansion Project. These wooded areas will continue to serve as a buffer and visual barrier between the site and adjacent properties.[136]

105. MEC I conducted a Phase I Environmental Site Assessment (ESA) and a limited Phase II investigation as part of the original construction to determine the potential for environmental liabilities associated with the site and adjacent properties. The Phase II study included a subsurface investigation that involved soil and groundwater sampling at five locations. Based on the results presented in the Phase II report, it was determined that no environmental hazards were evident at the site due to past land use that would require further action.[137] The Expansion Project will be constructed within the areas originally investigated by the Phase I and Phase II ESA reports and no further ESA investigations are needed to support this construction.

106. Based on LiDAR data of the Existing Facility, ground elevation at the site is relatively constant with a base elevation of 800 feet mean sea level (MSL). The main area that differs from the base elevation is the existing stormwater pond in the northeast corner of the site with a bottom elevation of 784 feet MSL. The site previously had more variation in elevation prior to construction of the Existing Facility, which included significant earth moving as part of the cut and fill balance to bring the site to a level grade. Now that the site is flat and level, significant earth moving activities will not be needed for the construction the Expansion Project.[138]

1. Subsurface Investigations

107. Soil borings were collected as part of the initial construction effort. The information from the soil borings was used to aid in the design of the building and equipment foundations of the Existing Facility and also identified the depth to ground water which was approximately 20 feet below surface. There were recent soil borings conducted in 2015 to investigate and confirm the soil conditions at the site. The soil boring information will be used to aide in the design of the new features of the Expansion Project and to determine construction conditions and methods.[139]

viii. Water Resources

1. Floodplains

108. A review of the Federal Emergency Management Agency (FEMA) mapping done for Blue Earth County and the City of Mankato indicate that the Combined Facility is not located with a regulated 100-year floodplain area. The Expansion Project will be constructed at existing grade and will not result in undue risk of flooding or impacts to the 100-year floodplain.[140]

2. Shoreland Protection Areas

---

[136] *Id.*

[137] Exhibit 2 at 8-2.

[138] *Id.*

[139] *Id.*

[140] Exhibit 12 at 46.

109. The Existing Facility meets the Blue Earth County Shoreland Ordinance setback requirements for the stream east of the fence line. The Expansion Project occurs within the fence line boundary, and will not encroach on the setbacks for the creek shoreland zone.[141] There are no anticipated impacts to shoreland protection areas.

3. Wetlands

110. There are no wetlands where the Expansion Project will be constructed, as a result there are no anticipated impacts to wetlands.[142]

4. Groundwater

111. The Expansion Project does not require groundwater wells to be installed on site to serve the Combined Facility; therefore, no adverse impacts to groundwater resources are anticipated.[143] Both the cities of Mankato and North Mankato have indicated that the Combined Facility is outside of the boundaries of the wellhead protection area for each city.[144] Proper management of chemicals at the Combined Facility will ensure no potential impacts to existing groundwater resources or water supplies that could affect public health and safety as a result. There are no anticipated impacts to groundwater supply or quality.

5. Stormwater Runoff and Management

112. The Expansion Project will be constructed entirely within the fence line of the Existing Facility and as a result all disturbances associated with the construction will be on the current site. A little less than four acres of the Existing Facility site is expected to be disturbed for construction of the Expansion Project. After completion of construction, all stormwater runoff from the Combined Facility will be directed to the existing stormwater pond.[145] The Expansion Project will not result in an increase in impervious surface within the Existing Facility boundaries.

113. The stormwater pond was originally designed and constructed to treat runoff from the entire Combined Facility and will provide settling capacity and discharge rate control prior to discharging into the nearby drainage ditch.[146] The stormwater pond and outlet have been designed to meet the City of Mankato's requirements for water retention areas for new development projects that create new impervious surfaces of one acre or greater. Due to the nature of the existing permeable soils and underlying bedrock material, the stormwater pond functions similar to an infiltration basin, retaining water for short periods of time and thus providing additional stormwater treatment and further reducing runoff volumes and peak discharge rates.[147]

---

[141] Exhibit 2 at 8-3.

[142] Exhibit 12 at 48.

[143] *Id.* at 46.

[144] Exhibit 2 at 8-3.

[145] *Id.* at 8-4.

[146] *Id.*

[147] *Id.*

114. The Combined Facility will continue to be properly maintained and good site housekeeping practices will be utilized to keep all road surfaces clean, reducing solids loading in stormwater runoff.[148] Landscaped areas and natural vegetation buffer strips along the perimeter of the Combined Facility, which have low runoff potential, provide further treatment of stormwater runoff by filtering out nutrients and suspended solids and promoting infiltration into underlying permeable soils. The eastern one-third of the Existing Facility site (approximately eight acres) that contains the stormwater pond and wooded areas will not be disturbed by the construction of the Expansion Project.

115. Stormwater runoff that comes into contact with the outdoor steam generator step-up transformer pad, combustion turbine pads and other process areas where there is potential for pollutant contamination by oils and other chemicals from pumps and motors, will be confined within curbed areas and drain to two area sump pump systems. The collected stormwater is then to be routed to the oil/water separator and recycled into the cooling tower make-up water system.[149] All materials removed from the structure are properly managed and disposed of offsite in accordance with applicable local, state, and federal requirements.

116. The proposed best management practices (BMPs) described above that will be implemented at the Combined Facility have proven to be effective methods of treating stormwater runoff and are management techniques typically recommended by the MPCA, watershed management organizations, and other water management and planning agencies. As a result, stormwater runoff from the Combined Facility will not adversely affect the flow rates or water quality in downstream receiving waters.[150]

6. Storm Water Pollution Prevention Plan

117. The existing industrial Stormwater Pollution Prevention Plan (SWPPP) will be updated for the Combined Facility in compliance with coverage under Minnesota NPDES General Stormwater Discharge Permit MN R050000 for industrial activities.[151]

7. Erosion and Sediment Control

118. Since construction of the Expansion Project will disturb more than one acre of land (a little less than four acres of the site will be disturbed), a permit application for coverage under Minnesota NPDES General Stormwater Discharge Permit (MN R100001) for construction activities is required and will be submitted to the MPCA prior to construction.[152] The permit application will certify that temporary and permanent erosion and sediment control plans have been prepared and implemented to prevent soil particles from being transported offsite. The existing stormwater pond is designed in accordance with the criteria set forth in the General Permit for

[148] *Id.* at 8-5.

[149] Exhibit 12 at 45.

[150] Exhibit 2 at 8-5.

[151] *Id.*

[152] Exhibit 12 at 43.

sedimentation/infiltration basins. The pond will be available to serve as a temporary sediment basin during construction.[153]

119. MEC II will ensure that adequate measures are taken to minimize soil erosion and sedimentation on the site. Temporary erosion and sediment control measures will be maintained during construction and will remain in place until the Expansion Project has been completed. The site will be stabilized and vegetation will be reestablished as needed, which is expected to be limited based on the very small amount of vegetated areas that may be disturbed. In addition to the stormwater pond, control measures such as silt fence, staked hay bales, sediment filters and traps, erosion control matting, mulching, and crushed rock pads will also be used where applicable, specifically between the construction areas and the wooded eastern one-third of the site that will not be disturbed by construction.[154] The total disturbed areas from construction will be minimal; however, as needed, all disturbed areas of the site will be seeded and mulched as soon as practical where applicable.

8. Wastewater Discharges

The Combined Facility will continue to operate in the same manner as existing conditions and will not add or change wastewater flow pathways or discharge points.[155] The Expansion Project will increase the use of grey water from the City of Mankato. The Expansion Project will also increase the discharge of cooling water blowdown back to the City of Mankato. No changes in this process are anticipated as a result of the project. Accordingly, the handling of process wastewater at the MEC is not anticipated to impact surface waters.[156]

ix. Biological Resources

1. Vegetation

120. The Expansion Project will include the construction of additional power generating equipment and buildings within the fence line of the Existing Facility. There will be no significant clearing of vegetated areas.[157] The materials for the construction of the Expansion Project will be transported to the site on existing roads and construction activity will occur on land that is currently disturbed. No additional property is required for operation of the Combined Facility. There are no anticipated impacts to vegetation.[158]

2. Wildlife and Wildlife Habitat

121. The Existing Facility is a developed industrial property that does not provide habitat for wildlife and is located adjacent to other industrial properties.[159] There is wildlife

[153] Exhibit 2 at 8-5.

[154] *Id.* at 8-6.

[155] *Id.*

[156] Exhibit 12 at 45.

[157] Exhibit 2 at 8-7.

[158] Exhibit 12 at 48.

[159] *Id.*

habitat in the vicinity of the Expansion Project but this habitat will not be impacted. There are no anticipated impacts to wildlife or wildlife habitat.

3. Sensitive Species and Habitats

122. There are some sensitive species and habitats in the vicinity of the Expansion Project, mainly associated with the areas along and within the Minnesota River. The Minnesota River and adjacent habitats will not be impacts or disturbed by the Expansion Project. There are no anticipated impacts to sensitive species and habitats.[160]

x. Rare and Unique Natural Resources

123. A review of the state databases was completed during the evaluation of the Expansion Project. The database review determined there are some rare and unique natural resources in the vicinity of the Expansion Project but that these resources would not be impacted by its construction or the operation of the Combined Facility.[161] There are no anticipated impacts to rare and unique natural resources.

124. The U.S. Fish and Wildlife Service listed the Northern Long-eared Bat (*Myotis septentrionalis)* as threatened under the Endangered Species Act and implemented an interim 4(d) rule effective May 4, 2015, which generally prohibits purposeful taking of northern long-eared bats throughout the species' range. There will only be very limited clearing of trees (less than one acre) during the construction of the Expansion Project. Therefore no impacts to the northern long-eared bat are anticipated.[162]

M. Applicability of Design Options

125. The Expansion Project will take place within the existing MEC site and involves the planned completion of the facility through the addition of a new additional power train.[163] The additional power train will allow MEC to operate in a 2 x 1 configuration with two combined cycle turbines providing steam to one steam turbine.[164] The Existing Facility was designed and constructed to accommodate the Expansion Project.[165]

126. The EA concluded the application of design options is a siting factor that is well met as part of the Expansion Project.[166]

N. Use of Paralleling or Existing Rights-of-way

[160] Exhibit 2 at 8-8.

[161] *Id.* at 9-3.

[162] Exhibit 12 at 49.

[163] Exhibit 2 at 2-1.

[164] *Id.* at 2-2.

[165] *Id.* at 2-1.

[166] Exhibit 12 at 53.

127. The Expansion Project will be constructed within the existing MEC site. The Applicant will secure temporary construction and laydown space from local property owners.[167] No additional right-of-way will be needed for the construction or operation of the Expansion Project.

128. The EA concluded that the use of existing infrastructure rights-of-way is a siting factor that is not relevant to the Expansion Project.[168]

O. Use of Existing Large Power Generating Plant Sites

129. The Expansion Project will be constructed within the existing MEC site which is a permitted large electric power generating plant.[169]

130. The EA concluded the use of existing large electric power generating plant sites is a siting factor that is well met as part of the Expansion Project.[170]

P. Electrical System Reliability

131. The Power Plant Siting Act requires the Commission locate electric power generating plants that ensures electrical power reliability.[171]

132. The EA concluded the electrical system reliability is a siting factor that is well met as part of the Expansion Project.[172]

Q. Adverse Human and Environmental Effects Which Cannot be Avoided

133. The EA concluded that the human and environmental impacts from the Expansion Project which cannot be avoided include: the use of natural gas; air emissions; greenhouse gas emissions; aesthetics; and temporary construction impacts.[173]

134. The EA concluded that though these impacts cannot be avoided they would be minimal and within state guidelines.[174]

R. Irreversible and Irretrievable Commitment of Resources

135. The EA concluded that the commitment of resources for the Expansion Project that are irreversible includes land for the MEC site.[175]

---

[167] Exhibit 2 at 2-3.

[168] Exhibit 12 at 51.

[169] Exhibit 2 at 2-1.

[170] Exhibit 12 at 53.

[171] *See* Minnesota Stat. § 216E.

[172] Exhibit 12 at 53.

[173] *Id.*

[174] *Id.*

[175] *Id.* at 54.

136. The EA concluded that the commitment of resources for the Expansion Project that are irretrievable includes the commitments of steel, carbon and concrete to construct and operate the facility.[176]

VII. Notice

137. Minnesota statues and rules require the Applicant to provide appropriate notice to the Commission, public and local governments before and during the Site permit Application process.[177]

138. The Applicant provided notice to the Commission, public and local governments in satisfaction of Minnesota rules and requirements.[178]

139. Minnesota statues and rules require the Commission and DOC EERA to provide notice to the public throughout the Site Permit Process.[179]

140. The Commission and DOC EERA provided notice in satisfaction of Minnesota rules and requirements.[180]

VIII. Completeness of EA

141. The Commission is required to determine the completeness of the EA. An EA is complete if it and the record address the issues and alternatives identified in the Scoping Decision.[181]

142. The evidence compiled on the record including the items addressed during the public hearing and comment period demonstrates that the EA prepared by the DOC EERA is adequately evaluated and addressed the items identified in the Scoping Decision.[182]

IX. Site Permit Conditions

143. The EA prepared to evaluate the Expansion Project included a Generic Site Permit Template as an attachment.[183] The permit conditions outlined within the Generic Site Permit Template are applicable to the proposed Expansion Project with the following exceptions and or clarifications:

    a. Permit Condition 4.2.4 of the Generic Site Permit Template states that in order to ensure compliance with Minnesota Noise Statues project construction and routine maintenance will be limited to daytime hours.[184] The Applicant filed a comment

[176] *Id.*

[177] *See* Minnesota Rules 7850.2800, subp. 2.

[178] Exhibit 1; Exhibit 7.

[179] *See* Minnesota Rules 7850.2100.

[180] Exhibit 3; Exhibit 6; Exhibit 10; Exhibit 13; Exhibit 15; Exhibits 17-18.

[181] *See* Minnesota Rules 7850.3900, subp. 2.

[182] Exhibit 9; Exhibit 12.

[183] Exhibit 12 at Appendix B.

[184] *Id.* at 3.

letter as part of the EA and has indicated that in order to meet the project's commercial operation date and operational commitments, continuous 24 hour activity is required at the project site to complete construction, system commissioning and operation activities.[185] As such, a recommendation for a special permit condition related to construction and maintenance noise is appropriate to allow the Applicant to conduct construction and maintenance activities 24 hours a day, provided the activities comply with applicable Minnesota Noise standards. The Applicant suggests the following language:

> *Construction and routine maintenance activities shall be conducted in a manner to ensure nighttime noise level standards, as defined in Minn R 7030.0020, will not be exceeded. This condition supersedes General Condition 4.2.4.*

b. Permit Condition 4.2.6 of the Generic Site Permit Template states all areas disturbed during construction of the facilities shall be returned to pre-construction conditions.[186] The Applicant clarifies all areas disturbed outside the project area and not stabilized as part of the project will be returned to pre-construction conditions.
c. Permit Condition 8.1 of the Generic Site Permit Template states the Applicant will notify the Commission of any significant changes at least five days before implementing the changes.[187] The Applicant defines significant changes as any change that would affect the conclusions of the Environmental Assessment or requirements of the Site Permit.
d. Permit Condition 8.3 of the Generic Site Permit Template states the Applicant will notify the Commission at least 10 days prior to the date on which the facility will be placed into service and the date on which construction was complete.[188] The Applicant clarifies they will notify the Commission that (1) the facility is "placed into service" when the Expansion Project is declared commercially available and (2) "construction is complete" when the Engineering, Procurement and Construction Contractor turns over care, custody and control of the Expansion Project to the Applicant (note: additional punch list items may exist after transfer of care, custody and control).

X. Conclusions

144. The Commission has jurisdiction over the Application pursuant to Minn. Stat. § 216E.04.

145. The Project is exempt from Certificate of Need requirements.

146. MEC II has complied with the procedural requirements of Minn. Stat. § 216E and Minn. R. 7850.

147. The Commission has complied with all procedural requirements required by Minn. Stat. § 216E and Minn. R. 7850.

[185] Calpine Comments (Mar. 18, 2016) (eDockets No. 20164-120013-01).

[186] Exhibit 12 at Appendix B at 3.

[187] *Id.* at 10.

[188] *Id.* at 11.

148. The DOC-EERA has complied with all procedural requirements and conducted an appropriate environmental analysis of the Project for purposes of this proceeding.

149. The EA satisfies Minn. R. 7850.3700. Specifically, the EA and the record address the issues and alternatives identified in the Scoping Decision to a reasonable extent considering the availability of information, including the items required by Minn. R. 7850.3700, subp. 4, and was prepared in compliance with the procedures in Minn. R. 7850.3700.

150. Public hearings were conducted near the proposed site for the Project. Proper notice of the public hearings was provided, and members of the public were given the opportunity to speak at the hearings and also to submit written comments.

151. The information provided as part of the record demonstrates that the conditions presented within the Generic Site Permit Template included with the EA are applicable for the Expansion Project, with the exception of the recommended conditions outlined under Item IX of this Findings of Fact.

152. The Project satisfies the site permit criteria for a large electric power generation plant in Minn. Stat. § 216E.03, and meets all other legal requirements.