

STATE OF MINNESOTA
OFFICE OF ADMINISTRATIVE HEARINGS
FOR THE PUBLIC UTILITIES COMMISSION

In the Matter of the Application of Blazing
Star Wind Farm, LLC for a Certificate of
Need for the 200 Megawatt Blazing Star
Wind Project in Lincoln County,
Minnesota

TABLE OF CONTENTS

In the Matter of the Application of Blazing
Star Wind Farm, LLC for a Site Permit for
the 200 Megawatt Blazing Star Wind
Project in Lincoln County, Minnesota

STATEMENT OF THE ISSUE..... 2
SUMMARY OF CONCLUSION AND RECOMMENDATION..... 2
FINDINGS OF FACT..... 2
 I. The Applicant..... 2
 II. Site Permit Application and Related Procedural Background 2
 III. Certificate of Need Application and Related Procedural Background 6
 IV. General Description of the Project..... 9
 V. Site Location and Characteristics 11
 VI. Wind Resource Considerations 11
 VII. Wind Rights and Easement/Lease Agreements 12
 VIII. Project Schedule..... 12
 IX. Permittee 12
 X. Summary of Public Comments 13
 A. Public Information and Environmental Scoping Meeting 13
 B. Public Hearing..... 14
 C. SpeakUp Comments 15
 D. Other Written Comments 16
 XI. Site Permit Criteria..... 18
 XII. Application of the Statutory Siting Criteria to the Proposed Project 20
 A. Human Settlement 20

B.	Zoning and Land Use.....	21
C.	Property Values.....	22
D.	Noise.....	23
E.	Shadow Flicker.....	23
F.	Aesthetic Impacts.....	25
G.	Local Economy.....	26
H.	Public Health.....	26
I.	Public Safety.....	27
J.	Public Service and Infrastructure.....	28
	i. Roads.....	28
	ii. Communication Systems.....	29
	iii. Underground Infrastructure.....	31
K.	Recreational Resources.....	31
L.	Effects on Agriculture and other Land Based Economies.....	32
	i. Agriculture.....	32
	ii. Mining.....	33
	iii. Tourism.....	34
M.	Archaeological and Historical Resources.....	34
N.	Aviation.....	35
O.	Wildlife.....	36
P.	Rare and Unique Natural Resources.....	40
Q.	Vegetation.....	42
R.	Soils, Geologic, and Groundwater Resources.....	43
S.	Surface Water and Wetlands.....	44
T.	Air and Water Emissions.....	46
U.	Solid and Hazardous Wastes.....	46
V.	Future Development and Expansion.....	47
W.	Maintenance.....	47
X.	Decommissioning, Turbine Abandonment and Restoration.....	48
Y.	Permit Conditions.....	49
	CONCLUSIONS OF LAW.....	54
	RECOMMENDATION.....	55
	NOTICE.....	55

STATE OF MINNESOTA
OFFICE OF ADMINISTRATIVE HEARINGS
FOR THE PUBLIC UTILITIES COMMISSION

In the Matter of the Application of Blazing
Star Wind Farm, LLC for a Certificate of
Need for the 200 Megawatt Blazing Star
Wind Project in Lincoln County,
Minnesota

**SUMMARY OF PUBLIC TESTIMONY,
FINDINGS OF FACT,
CONCLUSIONS OF LAW,
AND RECOMMENDATION**

In the Matter of the Application of Blazing
Star Wind Farm, LLC for a Site Permit for
the 200 Megawatt Blazing Star Wind
Project in Lincoln County, Minnesota

This matter was assigned to Administrative Law Judge Jessica A. Palmer-Denig to conduct a public hearing and provide a summary of public testimony on the Certificate of Need (MPUC Docket No. 16-215) and Site Permit (MPUC Docket No. 16-686) Applications of Blazing Star Wind Farm, LLC (Blazing Star or Applicant) for a 200 megawatt (MW) wind energy conversion system in Lincoln County, Minnesota (the Project). The Minnesota Public Utilities Commission (Commission or MPUC) also requested that the Administrative Law Judge prepare Findings of Fact, Conclusions of Law, and Recommendations on the merits of the Site Permit Application and provide recommendations, if any, on conditions and provisions for the proposed site permit.

A public hearing on the Site Permit and Certificate of Need Applications for the Project was held on April 3, 2017, in Hendricks, Minnesota. The factual record remained open until April 17, 2017, for the receipt of written public comments. Post-hearing submissions were filed by the Applicant and the Department of Commerce-Energy Environmental Review and Analysis Unit (DOC-EERA). The Office of Administrative Hearings' record closed upon the filing of the last post-hearing submission on May 2, 2017.

Christina K. Brusven, Fredrikson & Byron, P.A., 200 South Sixth Street, Suite 4000, Minneapolis, Minnesota 55402, and Patrick Smith, Senior Director of Environmental Planning, and Jordan Burmeister, Project Manager, Geronimo Energy, LLC (Geronimo), appeared on behalf of the Applicant.

Richard Davis, Environmental Review Manager, 445 Minnesota Street, Suite 1500, St. Paul, MN 55101, appeared on behalf of the DOC-EERA.

Scott Ek, Commission Staff, 121 Seventh Place East, Suite 350, St. Paul, MN 55101, appeared on behalf of the Commission staff.

STATEMENT OF THE ISSUE

Has Blazing Star satisfied the criteria established in Minn. Stat. ch. 216F (2016) and Minn. R. ch. 7854 (2015) for a site permit for its proposed wind energy conversion system of up to 200 MW in Lincoln County, Minnesota?

SUMMARY OF CONCLUSION AND RECOMMENDATION

The Administrative Law Judge concludes that Blazing Star has satisfied the applicable legal requirements and, accordingly, recommends that the Commission grant a site permit for the Project, subject to the conditions discussed below.

Based on the evidence in the hearing record, the Administrative Law Judge makes the following:

FINDINGS OF FACT

I. The Applicant

1. Blazing Star is a wholly-owned subsidiary of Geronimo. Geronimo is a utility-scale renewable energy developer headquartered in Minneapolis, Minnesota, with offices in southwest Minnesota, North Dakota, South Dakota, Illinois, and Michigan.¹

2. Geronimo has developed other wind farms in Minnesota, including two near the Project, Prairie Rose Wind Farm and the Odell Wind Farm.²

II. Site Permit Application and Related Procedural Background

3. On September 2, 2016, Blazing Star filed a Site Permit Application with the Commission for the Project.³

4. On September 9, 2016, the Commission issued a Notice of Comment Period on Site Permit Application Completeness.⁴ The Notice requested comments on whether the Site Permit Application was complete within the meaning of the Commission's rules.⁵

5. On September 23, 2016, DOC-EERA staff filed comments with the Commission recommending acceptance of the Site Permit Application as complete with the understanding that the permitting process would not progress to the preliminary

¹ Exhibit (Ex.) 6 at 1 (Site Permit Application (Application)).

² *Id.*

³ Ex. 6 (Application).

⁴ Ex. 303 (Notice of Comment Period on Site Permit Application Completeness).

⁵ *Id.*

determination stage of a Draft Site Permit under Minnesota Rule 7854.0800 until Blazing Star provided certain supplemental information regarding land use, land-based economies, and wetlands.⁶

6. On September 30, 2016, Blazing Star agreed to supply the additional information requested by DOC-EERA staff prior to the public informational meeting for the Project.⁷

7. On October 6, 2016, the Commission issued a Notice of Commission Meeting scheduling a meeting for October 18, 2016, to address: whether to accept the Site Permit Application as substantially complete; what procedural process to authorize for evaluation of the Site Permit Application; and whether to vary the time limits of Commission rules relating to application completeness and draft site permit issuance.⁸

8. On October 18, 2016, the Commission met to consider the items identified in the Notice of Commission Meeting.⁹ The Commission voted to: accept the Site Permit Application as substantially complete; direct Blazing Star to file the supplemental information identified by DOC-EERA staff; combine the Site Permit Application review process with the Certificate of Need Application review process to the extent practicable; request that an Administrative Law Judge from the Office of Administrative Hearings preside over a hearing; vary Minnesota Rule 7854.0600, subp. 1, and extend the 30-day time frame for a Commission decision on application completeness; and vary Minnesota Rule 7854.0800, subp. 1, to extend the 45-day time frame for a Commission decision on the issuance of a Draft Site Permit.¹⁰

9. On October 28, 2016, the Commission issued an Order Finding Application Complete, Varying Time Limits, and Establishing Procedural Framework for Combined Proceedings.¹¹

10. On November 7, 2016, Blazing Star sent affected landowners, local units of government, and persons listed on the service list a letter and attachments containing information about the Project, including the Site Permit Application and a copy of the Notice of Application Acceptance.¹²

11. On November 21, 2016, the Commission issued a Notice of Public Information and Environmental Report Scoping Meeting scheduling a meeting on December 6, 2016, in Hendricks, Minnesota, and announcing that written public comments on the Project would be accepted through December 27, 2016.¹³ The Notice

⁶ Ex. 200 (DOC-EERA Comments and Recommendations on Application Completeness).

⁷ Ex. 8 (Blazing Star Reply Comments).

⁸ NOTICE OF COMMISSION MEETING (Oct. 6, 2016) (eDocket No. 201610-125465-03).

⁹ MINUTES--OCTOBER 18, 2016 (Nov. 21, 2016) (eDocket No. 201611-126346-02).

¹⁰ *Id.*

¹¹ Ex. 305 (Order Finding Application Complete, Varying Time Limits, and Establishing Procedural Framework for Combined Proceedings).

¹² Affidavits of Mailing (Dec. 15, 2016) (eDocket No. 201612-127352-01).

¹³ Ex. 306 (Notice of Public Information and Environmental Report Scoping Meeting).

specifically requested public comments related to issues and facts to be considered in the development of the Environmental Report and Draft Site Permit.¹⁴

12. On December 2, 2016, Blazing Star filed the supplemental application information requested by the Commission, as well as a revised proposed layout for the Project.¹⁵ Blazing Star subsequently filed a corrected Exhibit C to this filing (the Shadow Flicker Report) with Attachments C-K.¹⁶

13. The Commission published the Notice of Public Information and Environmental Report Scoping Meeting in the Minnesota Environmental Quality Board (EQB) *Monitor*.¹⁷ The published Notice provided: (a) a description of the proposed Project; (b) a deadline for public comments on the Site Permit Application; (c) a description of the Commission's Site Permit review process; and (d) identification of the public advisor.¹⁸

14. A Notice of Public Information and Environmental Report Scoping Meeting was also published in the *Hendricks Pioneer* and the *Tyler Tribute*, two local newspapers in the vicinity of the Project area.¹⁹

15. On December 6, 2016, the Commission and DOC-EERA staff held a public meeting in Hendricks, Minnesota, to solicit comments on the scope of the Environmental Report and Draft Site Permit.²⁰ At the meeting, five members of the public asked questions about the Project.²¹ Following the public meeting and prior to the close of the public comment period, five individuals and five government agencies submitted written comments.²² The governmental agencies included the U.S. Army Corps of Engineers (USACE), the Lincoln County Highway Department, the Minnesota Pollution Control Agency (MPCA), the Minnesota Department of Transportation (MnDOT), and the Minnesota Department of Natural Resources (MnDNR).²³

16. On January 4, 2017, the Administrative Law Judge issued a Notice of Prehearing Conference setting the prehearing conference for January 10, 2017.²⁴

17. On January 11, 2017, the Administrative Law Judge issued a Scheduling Order setting the date for a joint public hearing on the Certificate of Need and Site Permit Applications for March 15, 2017, and scheduling other procedural deadlines.²⁵

¹⁴ *Id.*

¹⁵ Ex. 9 (Blazing Star Supplemental Completeness Comments).

¹⁶ Ex. 11 (Corrected Exhibit C).

¹⁷ Ex. 307 (EQB *Monitor* Notice of Public Information and Environmental Scoping Meeting).

¹⁸ *Id.*

¹⁹ Ex. 308 (Public Information and Scoping Meeting Newspaper Notices).

²⁰ Ex. 203 (DOC-EERA Public Information and Scoping Meeting Notes).

²¹ *Id.*

²² Ex. 202 (Public Comments--Draft Site Permit and Environmental Report Scope); Ex. 204 (Comment by Katrina Nelson).

²³ Ex. 201 (Comments by Governmental Agencies on Draft Site Permit and Environmental Report).

²⁴ NOTICE OF PREHEARING CONFERENCE (Jan. 4, 2017) (eDocket No. 20171-127842-01).

²⁵ SCHEDULING ORDER (Jan. 11, 2017) (eDocket No. 20171-127992-01).

18. On January 12, 2017, DOC-EERA staff filed the Environmental Report Scoping Decision (ERSD), which set forth the issues to be addressed in the Environmental Report and identified some issues outside the scope of the Environmental Report.²⁶

19. On January 17, 2017, DOC-EERA staff filed comments and recommendations addressing whether the Commission should issue a Draft Site Permit and attaching a Preliminary Draft Site Permit with Preliminary Turbine Locations Maps.²⁷

20. On January 27, 2017, the Commission issued a Notice of Commission Meeting scheduling a meeting on February 9, 2017, to consider whether to issue a preliminary Draft Site Permit for the Project.²⁸

21. On February 9, 2017, the Commission voted to issue the Preliminary Draft Site Permit with modifications.²⁹

22. On February 27, 2017, the Commission issued a Notice of Public Hearing and Draft Site Permit Availability.³⁰ The Notice provided: (a) the location and date of the public hearing; (b) a description of the proposed Project; (c) a deadline for public comments on the Site Permit Application and Draft Site Permit; (d) a description of the Commission's review process; and (e) identification of the public advisor.³¹ The Notice explained that the hearing would address both the Site Permit and Certificate of Need Applications.³² Topics for public comment included: (1) should the Commission issue a Certificate of Need and Site Permit for the Project; (2) is the proposed Project needed; (3) what are the human and environmental impacts of the Project; and (4) any other topics.³³ The Notice was published in the *Hendricks Pioneer* and *Tyler Tribute* newspapers on March 1, 2017.³⁴

23. Also on February 27, 2017, the Commission filed an Order Issuing Draft Site Permit.³⁵

24. On March 10, 2017, Blazing Star submitted direct testimony from Patrick Smith and Jordan Burmeister.³⁶

25. On March 13, 2017, the Commission canceled the public hearing set for March 15, 2017, and rescheduled it to April 3, 2017.³⁷ Notice of the rescheduled public

²⁶ Ex. 205 (Environmental Report Scoping Decision).

²⁷ Ex. 206 (DOC-EERA Comments and Recommendations, Preliminary Draft Site Permit).

²⁸ NOTICE OF COMMISSION MEETING (Jan. 27, 2017) (eDocket No. 20171-128539-02).

²⁹ Ex. 310 (Order Issuing Draft Site Permit).

³⁰ Ex. 312 (Notice of Public Hearing and Draft Site Permit Availability).

³¹ *Id.*

³² *Id.*

³³ *Id.*

³⁴ Ex. 314 (Affidavits of Publication).

³⁵ Ex. 310 (Order Issuing Draft Site Permit); *see also* Ex. 311 (Draft Site Permit).

³⁶ Ex. 13 (Smith Direct); Ex. 14 (Burmeister Direct).

³⁷ Ex. 315 (Notice of Public Hearing Cancellation); Ex. 316 (Notice of Rescheduled Public Hearing).

hearing was published in the *Hendricks Pioneer* and the *Tyler Tribute* newspapers on March 22, 2017.³⁸

26. On April 3, 2017, the Administrative Law Judge presided over a joint public hearing on the Site Permit Application and the Certificate of Need Application in Hendricks, Minnesota. Approximately 60 members of the public attended the public hearing. Commission staff, DOC-EERA staff, and representatives from Blazing Star attended the public hearing. Approximately 11 members of the public spoke at the hearing.

27. Several written comments were received before the close of the public comment period on April 17, 2017.

28. On May 1, 2017, Blazing Star submitted post-hearing comments and Proposed Findings of Fact, Conclusions of Law, and Recommendations.³⁹

29. On May 2, 2017, the DOC-EERA submitted comments and recommendations responding to post-hearing comments.⁴⁰ The DOC-EERA also agreed with Blazing Star's Proposed Findings of Fact, Conclusions of Law, and Recommendations, and proposed permit conditions.⁴¹

III. Certificate of Need Application and Related Procedural Background

30. On March 8, 2016, Blazing Star filed a Request for Exemption from Certain Certificate of Need Application Content Requirements with the Commission.⁴²

31. On March 14, 2016, the Commission issued a Notice of Comment Period on Request for Exemptions from Certain Certificate of Need Filing Requirements, which opened an initial written comment period until March 28, 2016, and a written reply comment period until April 4, 2016.⁴³

32. On March 16, 2016, the staff of the Department of Commerce-Division of Energy Resources (DOC-DER) filed comments recommending the Commission approve the data exemption requests by Blazing Star.⁴⁴

33. On March 30, 2016, Blazing Star filed comments concurring with the DOC-DER's recommendation.⁴⁵

³⁸ Ex. 318 (Affidavits of Publication).

³⁹ Blazing Star Post-Hearing Comments (May 1, 2017) (eDocket No. 20175-131479-04); Blazing Star Proposed Findings of Fact, Conclusions of Law, and Recommendations (May 1, 2017) (eDocket No. 20175-131479-06).

⁴⁰ DOC-EERA Comments and Recommendations (May 2, 2017) (eDocket No. 20175-131541-01).

⁴¹ *Id.*

⁴² Ex. 1 (Request for Exemption).

⁴³ Ex. 300 (Notice of Comment Period).

⁴⁴ Comment by DOC-DER (Mar. 16, 2016) (eDocket No. 20163-119190-01).

⁴⁵ Ex. 2 (Blazing Star Reply Comments).

34. On April 8, 2016, the Commission issued a notice scheduling a meeting to consider whether to grant Blazing Star's data exemption requests.⁴⁶

35. On April 21, 2016, the Commission convened and voted to approve Blazing Star's data exemption requests.⁴⁷

36. On April 28, 2016, the Commission issued an Order Approving Blazing Star's Data Exemption Requests.⁴⁸

37. On July 20, 2016, Blazing Star filed an Application for a Certificate of Need (Certificate of Need Application).⁴⁹ Blazing Star is seeking a Certificate of Need under Minn. Stat. § 216B.243 (2016), because the Project is a large energy facility as defined by Minn. Stat. § 216B.2421 (2016).⁵⁰

38. On July 25, 2016, the Commission issued a Notice of Comment Period on Application Completeness regarding the Certificate of Need, accepting written comments through August 8, 2016, and reply comments through August 15, 2016.⁵¹

39. On August 2, 2016, DOC-DER staff filed written comments recommending "the Commission find the application to be complete" and "evaluate the Petition using the Commission's comment process."⁵²

40. On August 15, 2016, Blazing Star filed reply comments concurring with the DOC-DER's recommendation and requesting "that the Commission find the Application complete and proceed with [its] informal comment and reply comment process."⁵³

41. On August 26, 2016, the Commission issued a notice scheduling a meeting to consider: (1) whether to accept the Certificate of Need Application as complete; (2) whether to direct that the Certificate of Need Application be evaluated using the informal review process or refer it to Office of Administrative Hearings for contested case proceedings; and (3) whether the Commission should vary the time limits of its rules related to application completeness.⁵⁴

42. On September 8, 2016, the Commission voted to: accept the Certificate of Need Application as substantially complete; use the informal review process; and extend the 30-day time frame for a decision on application completeness.⁵⁵

⁴⁶ NOTICE OF COMMISSION MEETING (Apr. 8, 2016) (eDocket No. 20164-119871-01).

⁴⁷ MINUTES--APRIL 21, 2016 (May 19, 2016) (eDocket No. 20165-121497-04).

⁴⁸ Ex. 301 (Order Granting Exemptions from Certain Certificate of Need Application Content Requirements).

⁴⁹ Ex. 3 (Certificate of Need Application).

⁵⁰ *Id.*

⁵¹ Ex. 302 (Notice of Comment Period).

⁵² Comment by DOC-DER (Aug. 2, 2016) (eDocket No. 20168-123864-01).

⁵³ Ex. 5 (Blazing Star Reply Comments).

⁵⁴ NOTICE OF COMMISSION MEETING (Aug. 26, 2016) (eDocket No. 20168-124415-04).

⁵⁵ MINUTES--SEPTEMBER 8, 2016 (Nov. 9, 2016) (eDocket No. 201611-126394-04).

43. On September 19, 2016, the Commission issued an Order Accepting Application as Substantially Complete and Directing Use of Informal Review Process.⁵⁶

44. On November 21, 2016, the Commission issued a Notice of Public Information and Environmental Report Scoping Meeting, scheduling a public meeting for December 6, 2016, in Hendricks, Minnesota, and opening a written comment period through December 27, 2016. The Commission directed that the written comments should address “potential issues for the environmental report and draft site permit”⁵⁷

45. On December 5, 2016, the Commission issued the Notice of Public Information and Environmental Report Scoping Meeting in the *EQB Monitor*.⁵⁸

46. On December 6, 2016, the Commission issued a Notice of Comment Period on the Merits of the Application, opening an initial written comment period until February 6, 2017, and a reply comment period until March 6, 2017.⁵⁹ The Commission directed that the comments should address the merits of the Project, particularly whether there were “any contested issues of fact with respect to the representations made” in the Application.⁶⁰

47. The Notice of Public Information and Environmental Report Scoping Meeting was published in the *Hendricks Pioneer* and the *Tyler Tribute*.⁶¹ The published notices provided: (a) a description of the proposed Project; (b) a deadline for public comments on the Applications; (c) a description of the Commission Site Permit review process; and (d) an identification of the public advisor.⁶²

48. On January 12, 2017, DOC-EERA staff filed the Environmental Report Scoping Decision, which set forth the matters to be addressed in the Environmental Report.⁶³

49. On February 3, 2017, DOC-DER staff filed comments recommending the Commission issue a Certificate of Need to Blazing Star for the Project.⁶⁴

50. On March 15, 2017, DOC-EERA staff issued the Environmental Report for the Project.⁶⁵ Notice of the availability of the Environmental Report was published in the *EQB Monitor* on March 27, 2017.⁶⁶

⁵⁶ Ex. 304 (Order Accepting Application as Substantially Complete).

⁵⁷ Ex. 306 (Notice of Public Information and Environmental Report Scoping Meeting).

⁵⁸ Ex. 307 (*EQB Monitor* Notice of Information Meeting).

⁵⁹ Ex. 309 (Notice of Comment Period).

⁶⁰ *Id.*

⁶¹ Ex. 308 (Affidavits of Publication and Notices).

⁶² *Id.*

⁶³ Ex. 205 (Environmental Report Scoping Decision).

⁶⁴ Comment by DOC-DER (Feb. 3, 2017) (eDocket No. 20172-128844-01).

⁶⁵ Ex. 207 (Environmental Report); Ex. 208 (Notice of Environmental Report Availability).

⁶⁶ Ex. 210 (*EQB Monitor* Notice of Environmental Report Availability).

51. On April 3, 2017, a joint public hearing on the Certificate of Need Application and the Site Permit Application was held in Hendricks, Minnesota.

IV. General Description of the Project

52. The Project consists of 57 to 100 wind turbines yielding a total nameplate capacity of up to 200 MW of power. The Project also includes associated facilities.⁶⁷

53. The model or models of wind turbines to be used for the Project have not been finalized. Blazing Star is assessing four models ranging in size from 2.0 MW to 3.5 MW, including the Gamesa G125, Acciona 3.0-132, GE 2.5-116, and Vestas V110.⁶⁸ The proposed layouts for the Project site are representative of the technology under evaluation, but do not encompass all of the wind turbines that will be available for delivery during the construction time frame of the Project, due in part to the rapidly evolving wind turbine industry and the lead time between the beginning of this permitting process and when construction will commence.⁶⁹ Blazing Star selected the turbine models under consideration because they span the spectrum of potential environmental impacts.⁷⁰

54. The wind turbines under consideration for the Project consist of a nacelle, hub, blades, tower, and foundation.⁷¹ The nacelle houses the generator, gear boxes, upper controls, generator cabling, hoist, generator cooling, and other miscellaneous equipment.⁷² An anemometer and weather vane located on the turbine nacelle continuously sense wind speed and wind direction.⁷³ The hub supports the blades and connecting rotor, yaw motors, mechanical braking system, and a power supply for emergency braking.⁷⁴ The hub also contains an emergency power supply to allow the mechanical brakes to work if electric power from the grid is lost.⁷⁵ Each turbine has three blades composed of carbon fibers, fiberglass, and internal supports to provide a lightweight but strong component.⁷⁶ The tip of each blade is equipped with a lightning receptor.⁷⁷ The tower houses electrical, control, and communication cables, and a control system is located at the base of the tower.⁷⁸ Electrical equipment at the base of each tower conditions the generated electricity to match electric grid requirements.⁷⁹

55. The turbine models under consideration for the Project have hub heights ranging from 80 to 95 meters and rotor diameters ranging from 110 to 132 meters.⁸⁰

⁶⁷ Ex. 6 at 1 (Application)

⁶⁸ *Id.* at 8, 9.

⁶⁹ *Id.* at 7.

⁷⁰ *Id.*

⁷¹ *Id.* at 8.

⁷² *Id.*

⁷³ *Id.*

⁷⁴ *Id.*

⁷⁵ *Id.*

⁷⁶ *Id.*

⁷⁷ *Id.*

⁷⁸ *Id.*

⁷⁹ *Id.*

⁸⁰ *Id.* at 9.

56. All proposed turbine models have Supervisory Control and Data Acquisition (SCADA) technology to control and monitor the Project.⁸¹ The SCADA communications system permits automatic, independent operation and remote supervision, allowing simultaneous control of the wind turbines.⁸²

57. In addition to the wind turbines, the Project will require the following associated facilities:

- a. gravel access roads and improvements to existing roads;
- b. underground and/or aboveground electrical collection and communication lines;
- c. an operations and maintenance (O&M) facility;
- d. a substation and interconnection facility;
- e. up to four permanent meteorological (MET) towers (height dependent on the final turbine hub height);
- f. Sonic Detection and Ranging (SoDAR) or Light Range Detection and Ranging (LiDAR) unit;
- g. above-ground electrical feeder line; and
- h. a temporary batch plant and staging/laydown area for construction.⁸³

58. The Project will include a wind access buffer of five rotor diameters (RDs) in the prevailing wind direction and three RDs in the non-prevailing wind direction; a noise setback meeting the noise standards in Minn. R. ch. 7030 (2015); and a minimum setback of 1,000 feet from residences and 250 feet from public roads and trails.⁸⁴

59. The total Project-installed capital costs are estimated to be approximately \$330 million, including wind turbines, associated electrical and communication systems, and access roads.⁸⁵ Ongoing operations, maintenance, and administrative costs are estimated to be approximately \$6.5-7.5 million per year, including royalties to landowners for wind lease and easement rights. The final overall cost of developing the Project will depend on site selection and construction timing.⁸⁶

⁸¹ *Id.* at 10.

⁸² *Id.*

⁸³ *Id.* at 3.

⁸⁴ *Id.* at 4-5.

⁸⁵ *Id.*

⁸⁶ *Id.* at 100.

V. Site Location and Characteristics

60. The Project will be located in the townships of Hansonville, Hendricks, and Marble in Lincoln County, an area in southwest Minnesota.⁸⁷

61. The Project area contains approximately 37,200 acres,⁸⁸ of which approximately 31,103, or 84 percent was leased as of March 8, 2017.⁸⁹ The Project's aboveground facilities will occupy less than one percent of the Project area.⁹⁰

62. The Project is located in a rural, agricultural area. Within the Project area, the population density is between 3.4-6.1 people per square mile, and there are currently 96 homes.⁹¹

VI. Wind Resource Considerations

63. Based on the National Renewable Energy Laboratory's Wind Integration National Dataset, predicted wind speeds near the Project area at 80 meters above ground level are 8.2 to 8.5 meters per second (m/s).⁹²

64. Blazing Star initiated a wind resource assessment campaign in 2015 and has three temporary MET towers monitoring weather data in the Project area.⁹³ The average annual wind speed is estimated to be 7.8 m/s.⁹⁴ The months of September through April are expected to generally have the highest wind speeds, while the months of June and July are expected to have the lowest wind speeds. On average, wind speeds are higher in the evening and nighttime hours, and lower in the morning and at midday.⁹⁵

65. The prevailing wind directions in the Project area are generally from the north and south.⁹⁶

66. Blazing Star estimates the Project will have a net capacity factor of between 45 to 50 percent, and an average annual output of between approximately 788,400 and 876,000 MW hours.⁹⁷ Annual energy production output will depend on final design, site specific features, and the equipment selected for the Project.⁹⁸

⁸⁷ *Id.* at 1.

⁸⁸ *Id.* at 3.

⁸⁹ Ex. 14 at 2 (Burmeister Direct).

⁹⁰ Ex. 6 at 3 (Application).

⁹¹ *Id.* at 14.

⁹² *Id.* at 87-88.

⁹³ *Id.* at 88.

⁹⁴ *Id.*

⁹⁵ *Id.* at 88-89.

⁹⁶ *Id.* at 5.

⁹⁷ *Id.*

⁹⁸ *Id.* at 102.

VII. Wind Rights and Easement/Lease Agreements

67. As of March 8, 2017, Blazing Star had secured leases for approximately 31,103 acres of the 37,200 acres (84 percent) of the Project area.⁹⁹ Blazing Star continues to negotiate with area landowners and anticipates adding more acreage to the Project area prior to construction.¹⁰⁰ Land rights secured from each landowner vary and may include, but are not limited to, the rights to construct wind turbines and Project facilities, including access roads, rights to wind and buffer easements, authorization to construct transmission feeder lines in public road right-of-way, and rights to additional land, if any, required to mitigate environmental impacts.¹⁰¹ All Project facilities will be sited on leased land and the current leasehold is sufficient to accommodate the proposed facilities, required buffers, and turbine placement flexibility needed to avoid natural resources, homes, and other sensitive features.¹⁰² Section 10.3 of the Draft Site Permit requires Blazing Star to submit a site plan containing specifications and locations for all wind turbines and other structures to be constructed for the Project at least 14 days prior to the pre-construction meeting.¹⁰³

68. The Project's layout will follow the wind energy conversion facility siting criteria outlined in the Commission's Order Establishing General Wind Permit Standards, MPUC Docket No. E,G999/M-07-1102, applicable local government ordinances, and Geronimo's best practices. In instances where setbacks differ for the same feature, the most stringent setback distance will be used.¹⁰⁴

VIII. Project Schedule

69. Blazing Star estimates that construction of the Project will take approximately 12 months to complete. Blazing Star anticipates commencing commercial operation of the Project by the fourth quarter of 2018. The commercial operation date depends on the completion of the interconnection process, permitting, and other development activities.¹⁰⁵

IX. Permittee

70. The Permittee for the Project is Blazing Star.

71. In the Site Permit Application, Blazing Star reserved the right to sell or assign the Project to another qualified entity before, during, or after construction, subject to Commission approval.¹⁰⁶ On December 2, 2017, Blazing Star notified the Commission that Xcel Energy has selected the Project to be included in a 750 MW wind portfolio it

⁹⁹ Ex. 14 at 2 (Burmeister Direct).

¹⁰⁰ *Id.*

¹⁰¹ Ex. 6 at 13 (Application)

¹⁰² *Id.*; Ex. 14 at 2 (Burmeister Direct).

¹⁰³ Ex. 311 at 19 (Draft Site Permit).

¹⁰⁴ Ex. 6 at 4 (Application).

¹⁰⁵ *Id.* at 101.

¹⁰⁶ *Id.* at 1.

intends to build, own and operate.¹⁰⁷ Approval of Xcel's plans by the Commission is not guaranteed, therefore Blazing Star continues to seek approval for the Certificate of Need and Site Permit for the Project.¹⁰⁸ If the Commission approves Xcel's acquisition of the Project, Blazing Star will seek the Commission's approval to transfer the application and permit to Xcel Energy.¹⁰⁹

X. Summary of Public Comments

A. Public Information and Environmental Scoping Meeting

72. A public information and environmental scoping meeting was held on December 6, 2016, at the Hendricks Public School in Hendricks, Minnesota.

73. Kevin George, the public advisor for the Commission, was the moderator for the meeting and presented information on the process.¹¹⁰ Patrick Smith with Geronimo presented information on the Project.¹¹¹ And Rich Davis, an environmental review manager with the DOC-EERA, explained the Department's role in the process.¹¹²

74. Five people asked questions and/or made comments on the record during the meeting.

75. Tom Pedersen asked what circumstances would stop the Project from moving forward.¹¹³

76. Katrina Nelson, a resident of Hendricks, asked if the power generated by the Project will be used locally.¹¹⁴

77. Joe Duis asked questions about the maps showing proposed turbine locations and the different models of turbines under consideration.¹¹⁵

78. Jason Overby, a representative from a local public water utility, asked questions about how Blazing Star intends to work with existing utilities in the area and mitigate any issues that arise.¹¹⁶

79. Chuck Nygaard, a resident of Hendricks, commented that Blazing Star had survey crews out digging in the local area and the company did a good job repairing the area after the survey work was completed.¹¹⁷

¹⁰⁷ Ex. 9 at 4 (Blazing Star Supplemental Completeness Comments).

¹⁰⁸ *Id.*

¹⁰⁹ *Id.* at 4-5.

¹¹⁰ Scoping Meeting Transcript (Tr.) at 3-11 (Dec. 6, 2016).

¹¹¹ *Id.* at 11-18.

¹¹² *Id.* at 18-30.

¹¹³ *Id.* at 31 (Pedersen).

¹¹⁴ *Id.* at 35 (Nelsen).

¹¹⁵ *Id.* at 40 (Duis).

¹¹⁶ *Id.* at 41 (Overby).

¹¹⁷ *Id.* at 46 (Nygaard).

B. Public Hearing

80. The Commission directed the Administrative Law Judge to preside over a public hearing in this matter.¹¹⁸

81. The public hearing took place on April 3, 2017, at the Hendricks Public School in Hendricks, Minnesota, starting at 6:00 p.m.

82. Christy Brusven, Patrick Smith, and Jordan Burmeister appeared at the public hearing on behalf of Blazing Star. Richard Davis appeared on behalf of the DOC-EERA. Scott Ek appeared on behalf of the Commission.

83. Several exhibits were offered and accepted into evidence as part of the public hearing.¹¹⁹

84. Forty-six people attended the public hearing.¹²⁰ All members of the public were afforded a full opportunity to make a statement on the record and/or ask questions.

85. Joe Navejos, a member of Local 563 Laborers Union, voiced his support for the project because it will put many of the union members to work and provide a needed economic boost to the area.¹²¹

86. Mike Rucker, a local resident and construction worker, also voiced his support for the Project because it will offer highly skilled union members a great work opportunity.¹²²

87. Jim Nichols, a local farmer, former state senator, and former Commissioner of the Minnesota Department of Agriculture, commented that he currently has a wind turbine on his property. He emphasized the lack of noise, bird fatalities, and shadow flicker from the wind turbine.¹²³ Mr. Nichols compared the relative energy generation produced by wind turbines and the amount of oil extracted from oil wells and suggested that approving a wind farm for the area is the equivalent of striking oil. He also noted that the wind farm will benefit future generations.¹²⁴

88. Todd Boyd, general counsel for Interstate Telecommunications Cooperative (ITC), objected to the Project.¹²⁵ Mr. Boyd explained that the wind turbines will create interference with the nearby telecommunication transmission lines and cause problems

¹¹⁸ ORDER FINDING APPLICATION COMPLETE, VARYING TIME LIMITS, AND ESTABLISHING PROCEDURAL FRAMEWORK FOR COMBINED PROCEEDINGS (Oct. 28, 2016) (eDocket No. 201610-126069-02).

¹¹⁹ Public Hearing Tr. at 12-13 (Apr. 3, 2017).

¹²⁰ Sign-in Sheets (Apr. 3, 2017) (eDocket No. 20174-130681-06).

¹²¹ Public Hearing Tr. at 16 (Apr. 3, 2017) (Navejos).

¹²² *Id.* at 16-17 (Rucker).

¹²³ *Id.* at 18-21 (Nichols).

¹²⁴ *Id.* at 22-27.

¹²⁵ *Id.* at 32 (Boyd).

for the landline phones belonging to local residents.¹²⁶ Mr. Boyd claimed the Buffalo Ridge wind project in the area required work costing more than \$1 million to mitigate similar inductive interference.¹²⁷ Mr. Boyd believes Geronimo is a company looking for a profit whereas ITC is a group looking to serve the needs of its members.¹²⁸

89. Will Thomssen, a local union business agent, voiced his support for the Project due to its creation of high-paying jobs for local skilled construction workers.¹²⁹

90. John Olson, a local landowner, the township supervisor for Hansonville Township, and a school board member for the Hendricks school district, voiced his support for the Project.¹³⁰ Mr. Olson noted his positive experience working with Geronimo and talked about the money the Project will bring to the local communities.¹³¹

91. Ron Weverka, a member of the Hendricks Township Board, believes the money generated by the Project will be helpful for local residents and the community.¹³²

92. Daniel Christianson, a landowner in Hansonville Township, voiced his support for the economic development the Project will bring to the area.¹³³

93. Chris Lindner, an operator with the local union and resident of Garfield Township, supports the Project because it will bring jobs to the area instead of union members having to travel to North Dakota looking for construction jobs.¹³⁴

94. Chuck Nygaard, a resident of Hendricks, believes that he hears more noise from the county highway near his home than the wind turbine operating 500 feet away from his home.¹³⁵

C. SpeakUp Comments

95. Two members of the public submitted written comments using the SpeakUp platform on the Commission's website.

96. Sandra Betchwars, a landowner in the area, opposes the Project.¹³⁶ She believes hunting and wildlife in the area will be negatively impacted, and questions whether the presence of the wind turbines will be "an eye sore."¹³⁷

¹²⁶ *Id.* at 30.

¹²⁷ *Id.*

¹²⁸ *Id.* at 32-33.

¹²⁹ *Id.* at 35 (Thomssen).

¹³⁰ *Id.* at 36-37 (J. Olson).

¹³¹ *Id.*

¹³² *Id.* at 38 (Weverka).

¹³³ *Id.* at 41-42 (Christianson).

¹³⁴ *Id.* at 43-44 (Lindner).

¹³⁵ *Id.* at 45-46 (Nygaard).

¹³⁶ Comment by Sandra Betchwars (Mar. 2, 2017) (SpeakUp) (eDocket No. 20174-130869-02).

¹³⁷ *Id.*

97. Dan Buseth, also a landowner in the area, voiced his support for the Project because it will produce clean energy for years to come.¹³⁸

D. Other Written Comments

98. Seven individuals, one company, one organization, and five government entities filed written comments by mail or electronically regarding the Project.

99. Mitchell Pederson, a resident of Hansonville Township, believes there are many people in the area who oppose the Project but are afraid to speak up because they do not want to cause conflict within the community.¹³⁹ Mr. Pederson is concerned about potential health issues associated with a wind farm, including “the flicker effect, noise, electromagnetic fields, and stray voltage from lines.”¹⁴⁰ Mr. Pederson is also concerned about whether the bald eagles living in the area will be injured or killed by the wind turbines.¹⁴¹ Mr. Pederson requests a “no build alternative for the entire proposed Blazing Star Wind Farm project.”¹⁴² He does not appreciate absentee landowners and people who do not live in the area deciding the future of local farms and families.¹⁴³

100. Larry and Bonita Grussing, residents of Hansonville Township, oppose the Project because they believe “it is absolutely shameful for an area that has had such a deep rooted heritage in farming for generations to be turned into a wind farm for distributing electricity to the big cities.”¹⁴⁴ The Grussings are concerned about the noise and visual aesthetics of the wind turbines as well as any potential interference the Project will cause for telecommunications in the area.¹⁴⁵

101. Robert Rosenthal, a landowner in Hendricks, submitted a letter in support of the Project because he believes all impacts have been properly considered.¹⁴⁶

102. Mark Pederson, the clerk for Hansonville Township, submitted an e-mail outlining the potential issues for the Project as: (1) lack of communication with local road authorities, (2) human health issues, (3) wildlife impacts, (4) wind power is not “green” energy, (5) the Project will not create local permanent jobs, and (6) whether wind towers lower property values.¹⁴⁷

103. Tom Pederson, a resident of Hansonville Township, requested a one-year moratorium on the plan for the Project because Geronimo has “intimated” area residents

¹³⁸ Comment by Dan Buseth (Apr. 7, 2017) (SpeakUp) (eDocket No. 20174-130869-02).

¹³⁹ Comment by Tom Pederson (Apr. 15, 2017) (eDocket No. 20174-130883-01).

¹⁴⁰ *Id.*

¹⁴¹ *Id.*

¹⁴² *Id.*

¹⁴³ *Id.*

¹⁴⁴ Comment by Larry and Bonita Grussing (Apr. 6, 2017) (eDocket No. 20174-130740-01).

¹⁴⁵ *Id.*

¹⁴⁶ Comment by Robert Rosenthal (Mar. 10, 2017) (eDocket No. 20173-130153-01).

¹⁴⁷ Comment by Mark Pederson (Dec. 27, 2016) (eDocket No. 20171-127758-01).

and is not “credible.”¹⁴⁸ Mr. Pederson also asked for more investigation into declining land values and the safety of a local bald eagle habitat area.¹⁴⁹

104. Katrina Nelson, a resident of Hendricks, is concerned about the health impacts of the Project on the local population, including electromagnetic fields (EMF) and flashing lights.¹⁵⁰

105. Todd Boyd, general counsel for ITC, submitted a letter opposing the Project because inductive interference will be created if transmission lines for a wind farm are installed nearby.¹⁵¹ Mr. Boyd attached multiple documents to his letter, including reports by several consulting companies examining the impact of the nearby Lake Benton wind farm on the company’s transmission lines in the area.¹⁵² Mr. Boyd claims Blazing Star has not contacted ITC as required by law to discuss designing the collector system for the Project.¹⁵³

106. The Mankato Building and Construction Trades Council filed a formal comment with the Commission in support of the Project.¹⁵⁴ The council believes the Project will benefit both its members, skilled construction workers in the area, and the public by generating renewable energy and creating high-quality construction and maintenance jobs.¹⁵⁵ The council also stated that “Geronimo Energy has enough experience building renewable energy projects and enough commitment to the creation of quality jobs and infrastructure to be confident that the project will deliver on its promises and potential.”¹⁵⁶

107. The MnDNR submitted several letters at different times during the process in this matter.¹⁵⁷ The MnDNR expressed concerns over the planned locations of three wind turbines, two near wetlands and one near the great blue heron rookery.¹⁵⁸ The MnDNR suggested the two wind turbines near the wetlands be located an additional 500 feet away and the wind turbine near the active heron rookery be located 1500 feet away.¹⁵⁹ The MnDNR also expressed concerns over the possibility of bat fatalities.¹⁶⁰ The MnDNR has been in contact with Geronimo to create a refined layout for the wind

¹⁴⁸ Comment by Tom Pederson (Dec. 27, 2016) (eDocket No. 20171-127758-01).

¹⁴⁹ *Id.*

¹⁵⁰ Comment by Katrina Nelson (Dec. 6, 2016) (eDocket No. 20171-127896-01).

¹⁵¹ Comment by Todd Boyd (Apr. 13, 2017) (eDocket Nos. 20174-130830-02, 20174-130830-04, 20174-130830-06, 20174-130830-08, 21074-130830-10, 20174-130830-12, 20174-130830-14).

¹⁵² *Id.*

¹⁵³ *Id.*

¹⁵⁴ Comment by Mankato Building and Construction Trades Council (Apr. 17, 2017) (eDocket No. 20174-130847-02).

¹⁵⁵ *Id.*

¹⁵⁶ *Id.*

¹⁵⁷ Comment by MnDNR (Dec. 27, 2016) (eDocket No. 20171-127760-02); Comment by MnDNR (Apr. 17, 2017) (eDocket No. 20174-130839-01); Comment by MnDNR (June 6, 2016) (eDocket No. 20171-127760-02).

¹⁵⁸ Comment by MnDNR (Apr. 17, 2017) (eDocket No. 20174-130839-01).

¹⁵⁹ *Id.*

¹⁶⁰ Comment by MnDNR (June 6, 2016) (eDocket No. 20171-127760-02).

turbines and anticipates that ongoing coordination with Geronimo will resolve concerns regarding the setback distances for the noted turbines.¹⁶¹

108. The MnDOT submitted a letter.¹⁶² The MnDOT believes construction of the Project will have an impact on local highways and may intersect with several scheduled construction projects in the area.¹⁶³ Therefore, the MnDOT asked to be included in the planning and coordinating for all of the construction work for the Project.¹⁶⁴ The MnDOT also provided information regarding the process and policies for acquiring any related permits.¹⁶⁵

109. The USACE submitted a letter.¹⁶⁶ The letter noted various circumstances where federal permits may be needed for the Project, including placement of aerial lines across navigable waters, underground utility lines through U.S. waters, placement of poles and wiring within the jurisdiction of the group, and temporary placement of fill into any body of water or wetland.¹⁶⁷ However, the USACE declined to make specific comments about the Project without detailed construction plans.¹⁶⁸

110. The Lincoln County Highway Department submitted a letter.¹⁶⁹ The letter requested development of an agreement between the department and Blazing Star once the project design has been finalized to manage the impact of the construction phase on local highways.¹⁷⁰

111. The MPCA submitted a letter stating that the agency reviewed the Site Permit Application and has no specific comments.¹⁷¹

XI. Site Permit Criteria

112. Wind energy projects are governed by Minn. Stat. ch. 216F and Minn. R. 7854. Minn. Stat. § 216F.01, subd. 2, defines a “large wind energy conversion system” (LWECS) as a combination of wind energy conversion systems with a combined nameplate capacity of five MW or more. Minn. Stat. § 216F.03 requires that a LWECS be sited in an orderly manner compatible with environmental preservation, sustainable development, and the efficient use of resources.

113. In addition, when deciding whether to issue a site permit for a LWECS, the Commission considers the factors set forth in Minn. Stat. § 216E.03, subd. 7 (2016),

¹⁶¹ Comment by MnDNR (Apr. 17, 2017) (eDocket No. 20174-130839-01).

¹⁶² Comment by MnDOT (Dec. 21, 2016) (eDocket No. 201612-127522-01).

¹⁶³ *Id.*

¹⁶⁴ *Id.*

¹⁶⁵ *Id.*

¹⁶⁶ Comment by U.S. Army Corps of Engineers (May 2, 2016) (eDocket No. 20171-127760-02).

¹⁶⁷ *Id.*

¹⁶⁸ *Id.*

¹⁶⁹ Comment by Lincoln Cnty. Highway Dep’t (Nov. 30, 2016) (eDocket No. 20171-127760-02).

¹⁷⁰ *Id.*

¹⁷¹ Comment by MPCA (Dec. 21, 2016) (eDocket No. 20171-127760-02).

which provides, in relevant part, that the Commission “shall be guided by, but not limited to, the following considerations:

- (1) evaluation and research and investigations relating to the effects on land, water, and air resources or large electric power generating plants and high-voltage transmission lines and the effects of water and air discharges and electric and magnetic field 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 ... 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 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 ... 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 ... be accepted;
 - (7) evaluation of alternatives to the applicant's proposed site . . . ;
- ***
- (9) evaluation of governmental survey lines and other natural division lines of agricultural land so as to minimize interference with agricultural operations;
- ***
- (11) evaluation of irreversible and irretrievable commitments of resources should the proposed site ... be approved; and

(12) when appropriate, consideration of problems raised by other state and federal agencies and local entities.”¹⁷²

114. The Commission must also consider whether the Applicant has complied with all applicable procedural requirements.¹⁷³

115. The Commission’s rules require the Applicant to provide information regarding any potential impacts of the proposed project, potential mitigation measures, and any adverse effects that cannot be avoided as part of the application process.¹⁷⁴ No separate environmental review is required for an LWECs project.¹⁷⁵

XII. Application of the Statutory Siting Criteria to the Proposed Project

A. Human Settlement

116. The Project is located in Lincoln County, a rural area in southwestern Minnesota.¹⁷⁶ Population densities within the Project area range from 3.4 people per square mile in Hansonville Township to 6.1 people per square mile in Hendricks Township.¹⁷⁷ The area has been experiencing declining population for several decades.¹⁷⁸

117. Section 4.2 of the Draft Site Permit requires a set-back distance for the wind turbines of at least 1,000 feet from all residences or the distance required to comply with the noise standards established by Minn. R. 4030.0040 (2015), whichever is greater.¹⁷⁹

118. Section 4.1 of the Draft Site Permit requires a set-back of 5 RDs from non-participating landowners’ property lines on the prevailing wind axis and 3 RDs on the non-prevailing wind axis.¹⁸⁰

119. There are 96 homes within the Project area.¹⁸¹ Construction of the Project will not displace any residents or change the demographics of the area.¹⁸²

120. Wind turbines already exist to the west, south, southwest, and northwest of the Project area.¹⁸³

¹⁷² Minn. Stat. § 216E.03, subd. 7.

¹⁷³ Minn. R. 7854.1000, subd. 3.

¹⁷⁴ Minn. R. 7854.0500, subp. 7.

¹⁷⁵ *Id.*

¹⁷⁶ Ex. 6 at 14 (Application).

¹⁷⁷ *Id.*

¹⁷⁸ Ex. 207 at 37 (Environmental Report).

¹⁷⁹ Ex. 311 at 3 (Draft Site Permit).

¹⁸⁰ *Id.* at 2.

¹⁸¹ Ex. 6 at 14 (Application).

¹⁸² *Id.*

¹⁸³ *Id.* at 93; Ex. 207 at 37 (Environmental Report).

B. Zoning and Land Use

121. The majority of the Project area is used for agriculture, with cultivated land comprising 78 percent of the Project area, and 16 percent used as pasture land.¹⁸⁴ Approximately 46 percent of the soil within the Project area is identified as prime farmland.¹⁸⁵

122. Lincoln County has adopted a comprehensive plan titled the 2009 Comprehensive Development Ordinance.¹⁸⁶ Portions of the Project area fall within the plan's Floodplain Management District, the Shoreland Management District, the Urban Expansion District, the Business and Industry District, and the Rural Preservation Management District.¹⁸⁷

123. The majority of the Project area falls within the Rural Preservation Management District. The Project overlaps with the Urban Expansion Management District near Hendricks, but no Project facilities are proposed to be located within the district. The Project also overlaps with the Business and Industry District, and Project facilities are proposed to be located within that district. Wind facilities are identified as an acceptable use in the Business and Industry District.¹⁸⁸

124. No Project facilities are planned within zoning districts not compatible with wind energy projects.¹⁸⁹

125. Blazing Star has identified conservation easements within and adjacent to the Project area.¹⁹⁰ Blazing Star will avoid conducting Project activities within conservation easements held by public agencies or private organizations to the extent practical.¹⁹¹ Easement owners must consent to any impacts that may affect their land interests.¹⁹² If impacts are unavoidable, Blazing Star will work with conservation easement holders to obtain consent for any impacts.¹⁹³

126. The Project is consistent with Lincoln County's comprehensive plan and will not alter the land use or zoning classification of any parcel within or adjacent to the Project area boundary.¹⁹⁴

¹⁸⁴ Ex. 6 at 49 (Application).

¹⁸⁵ *Id.*

¹⁸⁶ *Id.* at 15.

¹⁸⁷ *Id.*

¹⁸⁸ *Id.* at 15-16.

¹⁸⁹ Ex. 9 at 2 (Blazing Star Supplemental Completeness Comments).

¹⁹⁰ Ex. 6 at 16 (Application).

¹⁹¹ *Id.*

¹⁹² *Id.*

¹⁹³ *Id.* at 16-17.

¹⁹⁴ *Id.* at 15, 17.

C. Property Values

127. Large electric generation facilities have the potential to impact property values.¹⁹⁵ Because property values are influenced by a complex interaction between factors specific to each individual piece of real estate as well as local and national market conditions, the effect of one particular project on the value of one particular property is difficult to determine in advance.¹⁹⁶

128. Southern and southwestern Minnesota have experienced the greatest development of wind energy facilities in the state.¹⁹⁷ For example, there are 261 identified commercial-scale wind turbines in operation within ten miles of the Project area.¹⁹⁸ The prevalence of existing wind projects may make the addition of another large wind energy facility in the area less influential on property values than if the facility was placed in an area where wind energy facilities are less common in the landscape.¹⁹⁹

129. In 2009, the Department of Energy released a study examining the impact of wind farms on property values of nearby residences, and found “no evidence that prices of homes surrounding wind facilities are consistently, measurably, and significantly affected by either the view of wind facilities or the distance of the home to those facilities.”²⁰⁰

130. Six counties in southern Minnesota (Dodge, Jackson, Lincoln, Martin, Mower, and Murray) with LWECS responded to a Stearns County survey asking about impacts of wind farms on property values.²⁰¹ The survey showed that neither properties hosting turbines nor those adjacent to the properties have been negatively impacted by the presence of wind farms.²⁰²

131. Negative impacts to property value as a result of the Project are not anticipated.²⁰³ In unique situations, specific, individual property values may be negatively impacted.²⁰⁴ Such impacts can be mitigated by siting turbines away from such residences.²⁰⁵

¹⁹⁵ *Id.*

¹⁹⁶ Ex. 207 at 46 (Environmental Report).

¹⁹⁷ *Id.* at 47.

¹⁹⁸ Ex. 6 at 93 (Application)

¹⁹⁹ Ex. 207 at 47 (Environmental Report).

²⁰⁰ *Id.*

²⁰¹ *Id.*

²⁰² *Id.*

²⁰³ *Id.*

²⁰⁴ *Id.*

²⁰⁵ *Id.*

D. Noise

132. Wind turbines produce noise during operation.²⁰⁶ The level of noise varies with the speed of the turbine and the distance of the listener from the turbine.²⁰⁷ Sound is generated from the blade tips as they rotate at points near the hub or nacelle.²⁰⁸

133. The MPCA has adopted noise standards designed to ensure that public health is protected and minimize citizen exposure to inappropriate sounds.²⁰⁹ The MPCA's most stringent standard is a 50 decibel (dB) limit for nighttime noise levels.²¹⁰

134. Blazing Star conducted a preliminary noise assessment of the Project.²¹¹ The analysis accounted for all noise generating elements associated with the various proposed wind turbine types and layouts for the Project, with noise levels calculated at 138 noise-sensitive receptors within the Project area.²¹² The maximum calculated noise levels at all residential receptors for all turbine models fell below the MPCA 50 dB limit for nighttime noise level.²¹³

135. Unless other arrangements have been made with specific residents, Blazing Star will site the wind turbines a minimum of 1,000 feet from residences, plus any additional distance required to comply with the MPCA standard.²¹⁴ Section 4.2 of the Draft Site Permit requires adherence to this standard.²¹⁵

136. In addition, Section 7.4 of the Draft Site Permit requires Blazing Star to conduct a post-construction noise monitoring study and file the completed study with the Commission.²¹⁶

E. Shadow Flicker

137. Shadow flicker caused by wind turbines is defined as alternating changes in light intensity at a given stationary location or receptor, such as the window of a home.²¹⁷ For shadow flicker to occur, three conditions must be met: (1) the sun must be shining with no clouds to obscure it; (2) the rotor blades of the wind turbine must be spinning and located between the receptor and the sun; and (3) the receptor must be sufficiently close to the window turbine to be able to distinguish a shadow created by it.²¹⁸

²⁰⁶ *Id.*

²⁰⁷ *Id.*

²⁰⁸ Ex. 6 at 19 (Application).

²⁰⁹ Minn. R. 7030.0040 (2015).

²¹⁰ Ex. 6 at 19 (Application).

²¹¹ *Id.*

²¹² *Id.*

²¹³ *Id.* at 19-20; Ex. 9 at 4 (Blazing Star Supplemental Completeness Comments).

²¹⁴ Ex. 6 at 19 (Application).

²¹⁵ Ex. 311 at 3 (Draft Site Permit).

²¹⁶ *Id.* at 15-16.

²¹⁷ Ex. 6 at 23 (Application).

²¹⁸ *Id.*

138. Shadow flicker intensity and frequency at a given receptor are determined by a number of interacting factors, including: sun angle and sun path, turbine and receptor locations, cloud cover and degree of visibility, wind direction, wind speed, obstacles, contrast, and local topography.²¹⁹

139. Shadow flicker from wind turbines is not harmful to the health of photosensitive individuals,²²⁰ including those with epilepsy.²²¹ The frequency of shadow flicker is generally no greater than approximately 1.5 flashes per second.²²² The Epilepsy Foundation has determined that generally the frequency of flashing lights most likely to trigger seizures is between 5 and 30 flashes per second.²²³

140. Blazing Star modeled shadow flicker frequency calculations for the Project for 189 residences within the Project's vicinity.²²⁴ Blazing Star used both a worst case scenario model and a more realistic model for all wind turbine models under consideration.²²⁵ The conservative results of the study indicate that, of the four wind turbine model scenarios and 189 receptors modeled for each scenario, 14 measured more than 30 hours of shadow flicker per year at participating landowners' occupied residences, with none measuring over 30 hours or more per year of realistic shadow flicker at a non-participating landowner's occupied residence.²²⁶ The study did not consider the blocking effects of trees or buildings, and did not model the facades of buildings.²²⁷ Therefore, the number of hours of shadow flicker may be less than the results predicted by the study.²²⁸

141. Blazing Star will consider shadow flicker when siting wind turbines to minimize impacts to area residents.²²⁹ Mitigation measures will be considered and

²¹⁹ *Id.* at 23-24.

²²⁰ See *In the Matter of the Application of Lake Country Wind Energy, LLC for a 41 Megawatt Large Wind Energy Conversion System in Kandiyohi and Meeker Counties*, MPUC Docket No. IP-6846/WS-10-798, ORDER at 34, 35 (adopting proposed findings stating that “[s]hadow flicker can be a nuisance to people living near a wind energy project if the project is not properly designed to avoid impacts to residents,” and that “[e]vidence of health effects from shadow flicker is limited, suggesting that it is more of a nuisance issue.”).

²²¹ Ex. 6 at 26 (Application).

²²² *Id.*

²²³ *Id.*

²²⁴ Ex. 9, Ex. C at 7-8 (Blazing Star's Supplemental Completeness Comments); Ex. 11, Ex. C at 7-8 (Corrected Exhibit C).

²²⁵ Ex. 9, Ex. C at 7-8 (Blazing Star's Supplemental Completeness Comments); Ex. 11, Ex. C at 7-8 (Corrected Exhibit C).

²²⁶ Ex. 9, Ex. C at 7-8 (Blazing Star's Supplemental Completeness Comments); Ex. 11, Ex. C at 7-8 (Corrected Exhibit C).

²²⁷ Ex. 9, Ex. C at 7-8 (Blazing Star's Supplemental Completeness Comments); Ex. 11, Ex. C at 7-8 (Corrected Exhibit C).

²²⁸ Ex. 9, Ex. C at 7-8 (Blazing Star's Supplemental Completeness Comments); Ex. 11, Ex. C at 7-8 (Corrected Exhibit C).

²²⁹ Ex. 6 at 27 (Application).

implemented based on individual circumstances of residences experiencing shadow flicker.²³⁰ Mitigation measures may include providing indoor or exterior screening.²³¹

142. Section 7.2 of the Draft Site Permit requires Blazing Star to provide the Commission with data on shadow flicker for each residence potentially subject to turbine shadow flicker exposure from the Project.²³² The data will include the modeling results, assumptions made, and the anticipated level of exposure from turbine shadow flicker for each residence.²³³ Blazing Star will also be required to provide documentation on its efforts to avoid, minimize, and mitigate shadow flicker exposure.²³⁴

143. With the adoption of mitigating measures, the Project is not expected to result in significant impacts because of shadow flicker.

F. Aesthetic Impacts

144. The existing landscape in the Project area is generally flat, rural, open space with gently rolling plains.²³⁵ The area is agricultural with some windbreaks surrounding farmsteads.²³⁶ The Project area will retain its overall rural character.²³⁷

145. Construction of the Project would alter the existing landscape with the placement of up to 100 wind turbines.²³⁸ Other wind facilities already exist in the general area, with 261 identified commercial scale wind turbines operating within ten miles of the Project area, and 529 identified turbines within 20 miles of the Project area, the majority of turbines in Minnesota.²³⁹ Because of the existing wind energy development in the area, the Project should have a lesser impact than in areas with no existing wind development.

146. Aesthetic impacts may differ for viewers based on their distance from turbines, landscape features, and their own subjective perception of the turbines.²⁴⁰ There are Wildlife Management Areas (WMAs) and Waterfowl Production Areas (WPAs) within or directly adjacent to the Project area, as well as a county snowmobile trail.²⁴¹ Recreational users would likely see turbines from these areas, potentially diminishing qualities of perceived remoteness and scenic value.²⁴²

147. Mitigation of impacts to aesthetic and visual resources is best accomplished through micro-siting the wind turbines and maintaining designated setbacks from

²³⁰ *Id.*

²³¹ *Id.*

²³² Ex. 311 at 15 (Draft Site Permit).

²³³ *Id.*

²³⁴ *Id.*

²³⁵ Ex. 6 at 21-22 (Application).

²³⁶ *Id.*

²³⁷ *Id.* at 22.

²³⁸ *Id.*

²³⁹ *Id.* at 93.

²⁴⁰ Ex. 207 at 38 (Environmental Report).

²⁴¹ Ex. 6 at 22 (Application); Ex. 207 at 29, 39 (Environmental Report).

²⁴² Ex. 207 at 39 (Environmental Report).

participating and non-participating landowners.²⁴³ Aesthetic impacts on public lands can be mitigated by utilizing natural features of the topography and vegetation.²⁴⁴ Blazing Star will consider the Project's lighting protocols to minimize potential aesthetic impacts, and non-turbine facility lighting will be minimized by only lighting the facilities when necessary, using downward facing lights and other means.²⁴⁵

G. Local Economy

148. The Project will result in short- and long-term benefits to the local economy.²⁴⁶ Blazing Star intends to use local contractors and suppliers for portions of the construction, and total wages and salaries paid to contractors and workers in Lincoln County will contribute to the total personal income of the region.²⁴⁷ Blazing Star estimates that approximately 250 construction jobs will be created and 10 to 14 permanent positions will be needed for operation and maintenance of the Project.²⁴⁸

149. The Project will provide landowners and farmers with opportunities for higher agricultural profitability and a more diverse revenue stream.²⁴⁹ Landowners with wind turbines or other Project facilities on their land will receive a royalty or lease payment annually for the life of the Project.²⁵⁰

150. The Project will pay a Wind Energy Production Tax to local units of government of \$0.0012 per kilowatt hour (kWh) of electricity produced, resulting in an annual tax revenue of approximately \$900,000.²⁵¹

H. Public Health

151. EMF are electric and magnetic fields present around any electrical device.²⁵² Electric fields arise from voltage or electrical charges, and magnetic fields arise from the flow of electricity or current that travels along transmission lines, power collection (feeder) lines, substation transformers, house wiring, and electrical appliances.²⁵³ The intensity of the electric field is related to the voltage of the line and the intensity of the magnetic field is related to the current flow through the conductors.²⁵⁴

²⁴³ *Id.*

²⁴⁴ *Id.*

²⁴⁵ Ex. 6 at 22 (Application).

²⁴⁶ Ex. 207 at 48 (Environmental Report).

²⁴⁷ Ex. 6 at 53-54 (Application).

²⁴⁸ Ex. 3 at 5, 36 (Certificate of Need Application).

²⁴⁹ Ex. 6 at 54 (Application); Ex. 207 at 48 (Environmental Report).

²⁵⁰ Ex. 6 at 54 (Application); Ex. 207 at 48 (Environmental Report).

²⁵¹ Ex. 6 at 53 (Application).

²⁵² *Id.* at 44.

²⁵³ *Id.*

²⁵⁴ *Id.*

152. The question of whether exposure to EMF causes biological responses or health effects is the subject of research and debate.²⁵⁵ Based on the distance between turbines or collector lines and houses, the Project is not anticipated to have an impact on public health and safety due to EMF.²⁵⁶

153. Stray voltage is a natural phenomenon resulting from low levels of electrical current flowing between two points that are not directly connected.²⁵⁷ Stray voltage does not cause electrocution and is not related to ground current, EMF, or earth currents.²⁵⁸

154. Stray voltage is a particular concern for dairy farms because it can impact operations.²⁵⁹ Problems are usually related to the distribution and services lines directly serving the farm or the wiring on a farm affecting confined farm animals.²⁶⁰ The Project would not create stray voltage because it does not connect directly to residences or farms in the area.²⁶¹ Additionally, Blazing Star will site Project facilities to avoid conflicts with any dairy farms.²⁶²

155. No impacts to public health are anticipated to result from construction and operation of the Project.²⁶³

I. Public Safety

156. Section 5.2.25 of the Draft Site Permit requires Blazing Star to provide educational materials to landowners adjacent to the site and, upon request, to interested persons about restrictions or dangers associated with the Project.²⁶⁴ Blazing Star must also provide any necessary safety measures such as warning signs and gates to control traffic or restrict public access.²⁶⁵ In addition, Blazing Star must submit the location of all underground facilities to Gopher State One Call after construction of the Project is completed.²⁶⁶

157. Section 10.10 of the Draft Site Permit requires Blazing Star to coordinate with emergency responders to develop an Emergency Response Plan prior to

²⁵⁵ *Id.*; Ex. 207 at 49 (Environmental Report) (“Although EMF is often raised as a concern with electrical transmission projects, the Commission has consistently found that there is insufficient evidence to demonstrate a causal relationship between EMF exposure and human health effects.”).

²⁵⁶ Ex. 6 at 44 (Application).

²⁵⁷ *Id.*

²⁵⁸ *Id.*

²⁵⁹ *Id.* at 44-45.

²⁶⁰ *Id.*

²⁶¹ Ex. 207 at 51 (Environmental Report).

²⁶² Ex. 6 at 45 (Application).

²⁶³ *Id.*

²⁶⁴ Ex. 311 at 12 (Draft Site Permit).

²⁶⁵ *Id.*

²⁶⁶ *Id.*

construction, during construction, and during operation of the Project.²⁶⁷ Blazing Star will also be in contact with local first responders to offer information about the Project.²⁶⁸

158. Section 10.11 of the Draft Site Permit requires Blazing Star to notify the Commission within 24 hours of the discovery of an occurrence of an extraordinary event, which is defined to include fires, tower collapse, thrown blade, sabotage, collector or feeder line failure, and an injured worker or person.²⁶⁹ Within 30 days after such an event, Blazing Star must file a report describing the cause of the event and the steps taken to avoid future occurrences.²⁷⁰

159. No significant impacts to public safety are expected to result from construction and operation of the Project.²⁷¹

J. Public Service and Infrastructure

i. Roads

160. An established network of state, county, and township roads exist in the Project area.²⁷² Various county and township roads provide access to the Project area.²⁷³

161. During construction, temporary impacts are anticipated on some public roads within the Project area.²⁷⁴ Some roads may also be expanded along specific routes as necessary to facilitate the movement of equipment.²⁷⁵ Construction activities will increase the amount of traffic using local roadways, but such use is not anticipated to result in adverse traffic impacts.²⁷⁶ Blazing Star estimates that during peak construction there will be 375 large truck trips per day and up to 875 small vehicle trips per day.²⁷⁷ The functional capacity of a two-lane paved rural highway is in excess of 5,000 vehicles per day.²⁷⁸

162. During operation and maintenance phase of the Project, traffic in the Project area will not noticeably increase.²⁷⁹ According to Blazing Star, a small maintenance crew will make regular trips through the area in pickup trucks, and some traffic will result from occasional turbine and substation repair.²⁸⁰

²⁶⁷ Ex. 311 at 21 (Draft Site Permit).

²⁶⁸ Ex. 6 at 47 (Application).

²⁶⁹ Ex. 311 at 21 (Draft Site Permit).

²⁷⁰ *Id.*

²⁷¹ Ex. 6 at 47 (Application)

²⁷² *Id.* at 28.

²⁷³ *Id.*

²⁷⁴ *Id.* at 30.

²⁷⁵ *Id.*

²⁷⁶ *Id.*

²⁷⁷ *Id.*

²⁷⁸ *Id.*

²⁷⁹ *Id.* at 29; Ex. 207 at 53 (Environmental Report).

²⁸⁰ Ex. 6 at 30 (Application).

163. Blazing Star will develop a transportation plan and road restoration agreement in cooperation with Lincoln County and/or the applicable township and road authorities.²⁸¹ Impacted roadways will be restored per the road restoration agreement(s).²⁸²

164. Sections 5.2.12, 5.2.13, and 5.2.14 of the Draft Site Permit contain provisions related to the use of public roads, the construction of turbine access roads, and private roads.²⁸³ Blazing Star must make satisfactory arrangements with the appropriate road authorities.²⁸⁴ In addition, Blazing Star must construct the least number of turbine access roads necessary to safely and efficiently operate the Project and satisfy landowner requests; access roads will be constructed in accordance with all necessary township, county, or state road requirements and permits.²⁸⁵ Further, Blazing Star will promptly repair private roads or lanes damaged when moving equipment or when obtaining access to the site, unless otherwise negotiated with the affected landowner.²⁸⁶

ii. Communication Systems

165. Section 5.2.16 of the Draft Site Permit requires that the Project not interfere with microwave, television, radio, telecommunications, or navigation systems, and establishes that Blazing Star will be responsible for alleviating any disruption or interference of these services caused by the turbines or any associated facilities.²⁸⁷

166. Blazing Star will contact Gopher State One prior to construction to locate and avoid underground facilities.²⁸⁸ To the extent Project facilities cross or otherwise impact existing telephone lines or equipment, Blazing Star will enter into agreements with service providers to avoid interference with their facilities and take the steps necessary to correct any problems.²⁸⁹

167. As noted above, at the public hearing, the general counsel of ITC provided oral comments regarding the potential for the Project's collector and transmission lines to interfere with the cooperative's landlines.²⁹⁰ He also stated that ITC would provide supplemental written comments regarding the issue.²⁹¹ On April 17, 2017, ITC submitted additional written comments concerning the Project, including a number of technical documents and an e-mail recommending a 300-yard setback.²⁹²

²⁸¹ *Id.*

²⁸² *Id.*; Ex. 207 at 53 (Environmental Report)

²⁸³ Ex. 311 at 9-10 (Draft Site Permit).

²⁸⁴ *Id.*

²⁸⁵ *Id.*

²⁸⁶ *Id.*

²⁸⁷ *Id.* at 10.

²⁸⁸ Ex. 6 at 32 (Application).

²⁸⁹ *Id.*

²⁹⁰ Public Hearing Tr. at 29-33 (Apr. 3, 2017) (Boyd).

²⁹¹ *Id.*

²⁹² Comment by Todd Boyd (Apr. 13, 2017) (eDocket Nos. 20174-130830-02, 20174-130830-04, 20174-130830-06, 20174-130830-08, 20174-130830-10, 20174-130830-12, 20174-130830-14).

168. Blazing Star consulted with its design engineering firm, Ulteig Engineers (Ulteig), after receiving ITC's comments.²⁹³ Blazing Star also submitted a memorandum issued by Ulteig analyzing ITC's comments.²⁹⁴ Since 2006, Ulteig has helped to design wind farms across the United States without any known issues of inductive interference.²⁹⁵

169. Blazing Star noted that there are numerous design differences between the Project and the 1990s era projects that allegedly caused interference with ITC's facilities.²⁹⁶ First, the collection system studied by ITC was a bare, aboveground 34.5 kV line located in parallel with buried ITC copper telephone lines.²⁹⁷ In contrast, Blazing Star's collection system will utilize direct buried, insulated, shielded, 34.5 kV cable that will meet the IEEE 519 standard.²⁹⁸ Second, the wind turbines studied by ITC were 1990s era turbines, whereas the Project will be constructed with modern turbine technology, which has greatly improved over the years to be more reliable and produce less harmonic content, which results in less interference.²⁹⁹ Third, Blazing Star will comply with all modern codes and standards and will conduct a power system harmonic study during the detailed design phase of the Project to verify the designed electrical system is in compliance with IEEE 519 standards.³⁰⁰ The study will analyze harmonics on the Project from the point of interconnection to the wind turbines.³⁰¹ Further, the design for the Project's collection system includes the mitigating elements identified in ITC's comments.³⁰² Additionally, there is no technical support in the record for the 300-yard setback proposed by ITC.³⁰³

170. DOC-EERA staff reviewed ITC's comments and Blazing Star's response. DOC-EERA staff does not believe ITC's request for a 300-yard setback of the wind facility collector lines from ITC's copper conductor lines is appropriate.³⁰⁴

171. The record here does not support ITC's assertion that the Project is likely to cause interference with its existing copper wire telephone system, regardless of the Project's proximity to ITC's facilities. Further, if the Project negatively impacts telecommunication services, Blazing Star will provide a specific mitigation plan and take the necessary steps to restore all of ITC's impacted services.³⁰⁵

²⁹³ Blazing Star Post-Hearing Comments at 3 (May 1, 2017) (eDocket No. 20175-131479-04).

²⁹⁴ *Id.*, Attached Ulteig Memorandum.

²⁹⁵ *Id.* at 3.

²⁹⁶ *Id.*

²⁹⁷ *Id.*

²⁹⁸ *Id.*

²⁹⁹ *Id.*

³⁰⁰ *Id.*

³⁰¹ *Id.*

³⁰² *Id.*

³⁰³ *Id.* at 4.

³⁰⁴ DOC-EERA Comments and Recommendations at 4 (May 2, 2017) (eDocket No. 20175-131541-01).

³⁰⁵ Ex. 6 at 31 (Application).

172. Because of their height, wind turbines have the potential to interfere with existing communications systems licensed to operate in the United States.³⁰⁶ Comsearch conducted a Licensed Microwave Study for the Project.³⁰⁷ The Project's turbines have been sited to avoid identified microwave beam paths and communication systems.³⁰⁸ Blazing Star will not operate the Project in a way to cause microwave, radio, or navigation interference contrary to Federal Communications Commission (FCC) regulations or other law.³⁰⁹

173. Construction of wind turbines has the potential to impact television reception as a result of an obstruction in the line of sight between residences relying on digital antennas for TV reception and the TV station antennas.³¹⁰ Television reception at homes relying on cable or satellite television service will not be impacted by construction or operation of the Project.³¹¹ If interference to a residence's or business's television service is reported, Blazing Star will work with the affected parties to determine the cause of interference and, when necessary, take steps to reestablish television reception and service.³¹²

iii. Underground Infrastructure

174. The Project will be constructed to avoid impacts to pipelines and other underground infrastructure, as well as overhead transmission lines.³¹³ Blazing Star will coordinate with Gopher State One Call and the pipeline companies before and during construction to fully understand existing infrastructure and safety concerns and to prevent possible structural concerns.³¹⁴

K. Recreational Resources

175. Recreational opportunities in Lincoln County include hiking, biking, boating, fishing, camping, swimming, horseback riding, cross-country skiing, snowmobiling, hunting, and nature viewing.³¹⁵

176. There are WMAs, Scientific and Natural Areas (SNAs), and WPAs within ten miles of the Project area.³¹⁶ There are five WMAs within the Project area.³¹⁷ In

³⁰⁶ *Id.*

³⁰⁷ *Id.*

³⁰⁸ *Id.*

³⁰⁹ *Id.*

³¹⁰ *Id.* at 33.

³¹¹ *Id.*

³¹² *Id.*

³¹³ *Id.* at 34.

³¹⁴ *Id.*

³¹⁵ *Id.* at 40.

³¹⁶ *Id.* at 40-43.

³¹⁷ *Id.*

addition, the MnDNR offers a Walk-In Access (WIA) Program for public hunting on private land.³¹⁸ There are six WIA parcels within the Project area.³¹⁹

177. Section 4.5 of the Draft Site Permit provides that wind turbines and associated facilities shall not be located in WMAs, WPAs, SNAs and county parks.³²⁰ The Project will avoid all WMAs, SNAs, United States Fish and Wildlife Service (USFWS) land, and public parks and trails.³²¹

178. In general, recreational impacts will be visual, affecting individuals using public land for recreation near the Project area.³²² Turbines will be set back from these public lands based on a minimum of the three RD by five RD setbacks from all non-leased properties per the Commission's siting guidelines.³²³ Blazing Star will work with landowners and the MnDNR to address safety issues associated with the WIA areas.³²⁴

L. Effects on Agriculture and other Land Based Economies

i. Agriculture

179. The majority of the Project area is used for agriculture.³²⁵ Within the Project area, cultivated land comprises approximately 28,853 acres (78 percent), and pasture land comprises approximately 6,076 acres (16 percent).³²⁶

180. Land will be taken out of agricultural production where wind turbines and access roads are located (approximately 0.5 to one acre per turbine).³²⁷ Less than one half of one percent of the Project area will be converted to non-agricultural use as a result of the Project.³²⁸ Landowners may continue to plant crops and graze livestock near the turbine pads.³²⁹ In some instances, agricultural practices may be impacted by requiring new maneuvering routes for agricultural equipment around the turbine structures.³³⁰

181. When siting turbines and facilities, Blazing Star will engage in discussions with property owners to identify features on their property, including drain tile, which should be avoided.³³¹ Impacts to drain tile due to Project construction and operation are not anticipated.³³² However, in the event that there is damage to drain tile as a result of

³¹⁸ *Id.*

³¹⁹ *Id.*

³²⁰ Ex. 311 at 3 (Draft Site Permit).

³²¹ Ex. 6 at 43 (Application).

³²² *Id.*

³²³ *Id.* at 43-44.

³²⁴ *Id.* at 44.

³²⁵ Ex. 6 at 49 (Application)

³²⁶ *Id.*

³²⁷ *Id.*

³²⁸ *Id.* at 50.

³²⁹ *Id.* at 49-50.

³³⁰ *Id.* at 50.

³³¹ *Id.* at 51.

³³² *Id.*

the Project, the tile will be repaired according to the agreement between Blazing Star and the landowner.³³³

182. Blazing Star will minimize impacts to Conservation Reserve Program (CRP) land and avoid all impacts to Reinvest in Minnesota (RIM) lands.³³⁴ If CRP land is impacted, Blazing Star will work with the landowner and the Natural Resources Conservation Service (NRCS) to remove the impacted portion of the enrolled parcel from the CRP program.³³⁵

183. Section 5.2.4 of the Draft Site Permit requires Blazing Star to implement measures to protect and segregate topsoil from subsoil on all lands unless otherwise negotiated with landowners.³³⁶ Section 5.2.19 of the Draft Site Permit requires Blazing Star to take into account, avoid, and promptly repair or replace all drainage tiles broken or damaged during all phases of the Project's life unless otherwise negotiated with affected landowners.³³⁷

184. Health impacts on livestock from turbine operations are uncertain. Information on health impacts to livestock is anecdotal and indicates that livestock are not impacted by turbine operations.³³⁸ Because of the type of transformers used at each turbine and the design of the collection system, normal operations will not create ground currents that could cause stray voltage and harm livestock.³³⁹ Section 5.2.17 of the Draft Site Permit requires Blazing Star to take precautions to protect livestock during all phases of the Project's life.³⁴⁰

185. The presence of the Project will not significantly impact the agricultural land use or general character of the area.³⁴¹ As demonstrated by other wind energy projects in the Midwest, agricultural practices will continue during construction and operations.³⁴²

ii. Mining

186. Sand and gravel resources exist near the Project area, and two active gravel pits are located within the Project area.³⁴³ Section 4.8 of the Draft Site Permit requires that wind turbines and associated facilities not be located within active sand and gravel operations unless otherwise negotiated with the landowner.³⁴⁴ No impacts to mining are expected from the Project.

³³³ *Id.*

³³⁴ *Id.*

³³⁵ *Id.*

³³⁶ Ex. 311 at 7 (Draft Site Permit).

³³⁷ *Id.* at 11

³³⁸ Ex. 207 at 61 (Environmental Report).

³³⁹ *Id.*

³⁴⁰ Ex. 311 at 11 (Draft Site Permit).

³⁴¹ Ex. 6 at 49, 51-52 (Application); Ex. 207 at 59 (Environmental Report).

³⁴² Ex. 6 at 49, 51-52 (Application); Ex. 207 at 59 (Environmental Report).

³⁴³ Ex. 6 at 52 (Application).

³⁴⁴ Ex. 311 at 4 (Draft Site Permit).

iii. Tourism

187. Tourism in Lincoln County focuses on promoting the area's parks, historical and cultural features, and recreation activities.³⁴⁵ Siting and setback requirements for the wind turbines will reduce any direct or indirect impacts of the Project on the landscape.³⁴⁶ The Project is not expected to have a significant effect on area tourism.

M. Archaeological and Historical Resources

188. Blazing Star contacted the Minnesota State Historic Preservation Office (SHPO), Office of the State Archaeologist (OSA), and the South Dakota Historical Society Archaeological Research Center in June 2016 to initiate coordination.³⁴⁷ Merjent, Inc. (Merjent), cultural resource specialists, conducted a literature review of the Project area and a one-mile buffer.³⁴⁸ The literature review revealed that no previously documented archaeological sites are located within the Project area.³⁴⁹ Seven previously-reported sites were identified within the surrounding one-mile buffer: three in Minnesota and four in South Dakota.³⁵⁰

189. All seven of the identified archeological sites have prehistoric cultural affiliations and are artifact scatters.³⁵¹ Two of the sites are identified as prehistoric habitation sites.³⁵² One site has been deemed eligible for and nominated to the National Register of Historic Places (NRHP), two sites have been investigated and recommended as not eligible for the NRHP, and the remaining four sites have not been evaluated.³⁵³

190. Sixty-seven previously reported architecture inventory resources are present within the one-mile study area.³⁵⁴ Only two are actually located within the Project Area: one is identified as Marble Lutheran Church, and the other is a two-stall garage that serves as the Marble Township Hall.³⁵⁵ Thirteen of the 67 architecture inventory resources have been evaluated, and nine have been recommended as not eligible for the NRHP, four are considered eligible.³⁵⁶

191. It is likely that the Project Area contains additional archaeological resources. The high number of recorded architecture inventory resources also implies that additional resources of these types and ages may be present within the Project area.³⁵⁷ Blazing Star will conduct a Phase I archaeological resources inventory and work cooperatively

³⁴⁵ Ex. 6 at 52 (Application).

³⁴⁶ *Id.*

³⁴⁷ *Id.* at 34.

³⁴⁸ *Id.*

³⁴⁹ *Id.* at 35.

³⁵⁰ *Id.*

³⁵¹ *Id.* at 35.

³⁵² *Id.*

³⁵³ *Id.*

³⁵⁴ *Id.*

³⁵⁵ *Id.* at 35, 38.

³⁵⁶ *Id.* at 36.

³⁵⁷ *Id.* at 39.

with SHPO and OSA.³⁵⁸ The inventory will focus on areas proposed for Project construction, including wind turbine locations, associated access roads, electrical cable routes, and other construction elements and will be conducted by a professional archaeologist.³⁵⁹ If resources are identified during the survey, an archaeologist will identify the local and record Universal Transverse Mercator coordinates so Blazing Star can adjust construction plans, if necessary.³⁶⁰ If plans cannot be adjusted, further investigation may be needed and further coordination with SHPO and possibly OSA will be required.³⁶¹

192. Section 5.2.15 of the Draft Site Permit requires Blazing Star to make every effort to avoid impacts to identified archaeological and historic resources.³⁶² If a resource is encountered, Blazing Star shall contact and consult with SHPO and OSA.³⁶³ Where feasible, avoidance of the resource is required.³⁶⁴ Where not feasible, mitigation must include an effort to minimize Project impacts consistent with SHPO and OSA requirements.³⁶⁵ In addition, before construction, workers shall be trained about the need to avoid cultural properties, how to identify cultural properties, and procedures to follow if undocumented cultural properties are found.³⁶⁶ If human remains are found during construction, Blazing Star shall immediately halt construction at the location and notify local law enforcement and OSA.³⁶⁷ Construction at the location shall not proceed until authorized by local law enforcement or OSA.³⁶⁸

N. Aviation

193. There are three airports and one radar facility within 20 miles of the Project area. The nearest airport is Myers Field in Canby, Minnesota, located approximately eight miles northeast of the Project area.³⁶⁹ The Tyler Municipal Airport is located approximately 15.6 miles from the Project, and Clear Lake Municipal Airport is located approximately 16.7 miles from the Project area.³⁷⁰

194. Hendricks Community Hospital has proposed a helipad at its facility, and Lincoln County passed an ordinance regarding the helipad in October 2016.³⁷¹ Officials at the Mayo Clinic in Rochester, Minnesota, have noted that impacts on helicopter

³⁵⁸ *Id.*

³⁵⁹ *Id.*

³⁶⁰ *Id.*

³⁶¹ *Id.*

³⁶² Ex. 311 at 10 (Draft Site Permit).

³⁶³ *Id.*

³⁶⁴ *Id.*

³⁶⁵ *Id.*

³⁶⁶ *Id.*

³⁶⁷ *Id.*

³⁶⁸ *Id.*

³⁶⁹ Ex. 6 at 45 (Application); Ex. 207 at 62 (Environmental Report).

³⁷⁰ Ex. 6 at 45 (Application); Ex. 207 at 62 (Environmental Report).

³⁷¹ Ex. 15 (Lincoln County Helipad Zoning Ordinance).

operations due to wind projects in the area have been insignificant.³⁷² There is no evidence that the Project will interfere with the helipad.

195. Blazing Star has filed applications with the Federal Aviation Administration (FAA) for Determinations of No Hazard for the proposed wind turbine positions.³⁷³ In the FAA's review of Blazing Star's proposed layout, the FAA identified an impact to the Tyler radar facility.³⁷⁴ Blazing Star has been working with the Department of Defense (DoD) on a final mitigation and a voluntary contribution agreement for the facility.³⁷⁵

196. Blazing Star will mark and light the wind turbines to comply with FAA requirements.³⁷⁶ Blazing Star will also paint MET towers red at the top to improve visibility and notify local airports about new towers in the area to reduce the risk to crop dusters.³⁷⁷ Blazing Star will work with landowners on coordinating crop dusting activities.³⁷⁸ Further, aerial crop applications are typically made during low wind conditions, when wind turbines may not be turning or creating turbulence wakes.³⁷⁹

197. The Draft Site Permit at Section 5.2.27 requires that towers be marked as required by the FAA, and no lights be placed on the towers other than as required by the FAA, except for infrared heating devices used to protect the wind monitoring equipment.³⁸⁰

198. The Project will not have a significant impact on aviation.

O. Wildlife

199. Wildlife in the Project area includes birds, mammals, fish, reptiles, amphibians, and insects, both resident and migratory, which all utilize habitats in the Project area for forage, breeding, and shelter.³⁸¹ The resident species are representative of game and non-game fauna in southwestern Minnesota.³⁸² The majority of migratory wildlife species are birds, including waterfowl, raptors, and songbirds, as well as migratory bat species.³⁸³

³⁷² Ex. 207 at 62 (Environmental Report).

³⁷³ Ex. 6 at 45 (Application).

³⁷⁴ *Id.*

³⁷⁵ *Id.* at 46.

³⁷⁶ *Id.*

³⁷⁷ *Id.* at 46; Ex. 207 at 63 (Environmental Report).

³⁷⁸ Ex. 6 at 46 (Application).

³⁷⁹ Ex. 207 at 63 (Environmental Report).

³⁸⁰ Ex. 311 at 12 (Draft Site Permit).

³⁸¹ Ex. 207 at 28 (Environmental Report).

³⁸² *Id.*

³⁸³ *Id.*

200. There are wetlands, lakes, and riverine habitats in the Project area.³⁸⁴ Small forested areas are present on the landscape; however, small groves of trees and wooded shelterbelts are common features of farmsteads in the area.³⁸⁵

201. Local animal species use the grasslands, farm woodlots, wetlands, and other areas for food and cover.³⁸⁶ Mammals common to the landscape include opossum, skunk, squirrels, rodents, rabbits, deer, fox, coyote, and raccoons.³⁸⁷ Reptiles and amphibians are associated with wetlands, waterways, and forested areas and those common to the landscape include snakes, turtles, and frogs.³⁸⁸ Several species of birds and bats are also known to occur in the landscape, including grassland birds, migratory birds, raptor, and waterfowl.³⁸⁹

202. Studies of bird fatalities near wind farms indicate that fatalities will occur and vary by bird type, habitat availability, and other resources.³⁹⁰ Based on publicly available data from five wind farms in Minnesota and four wind farms in South Dakota, the adjusted bird fatalities per MW per study period ranged from 0.44 to 5.59.³⁹¹

203. The MnDNR identified a blue heron rookery along the Lac Qui Parle River, which could potentially be impacted by the Project.³⁹² The MnDNR recommends that wind turbines not be located within 1,500 feet of an active heron rookery and not be used from March 1 through August 1 to reduce noise and visual disturbance to nesting herons.³⁹³ The DOC-EERA staff agrees with the MnDNR's recommendations.³⁹⁴ The final site plan for turbine locations is not yet complete, and the MnDNR indicated in its written comments that it has been in contact with Geronimo to create a refined layout for the wind turbines, and that it anticipates that ongoing coordination with Geronimo will resolve concerns regarding the setback distances for the noted turbines.³⁹⁵ Pursuant to Section 6.2 of the Draft Site Permit, the rookery will be monitored prior to construction, and if determined to be active, it will be monitored for an additional three years following completion of construction.³⁹⁶ Monitoring activities and results will be coordinated directly with the MnDNR and the Commission.³⁹⁷ Monitoring protocols, agency coordination, and any avoidance and minimization measures will be detailed in the Project Avian and Bat Protection Plan (ABPP).³⁹⁸

³⁸⁴ *Id.*

³⁸⁵ *Id.*

³⁸⁶ *Id.*

³⁸⁷ *Id.*

³⁸⁸ *Id.*

³⁸⁹ *Id.*

³⁹⁰ *Id.* at 29.

³⁹¹ *Id.*

³⁹² *Id.* at 31.

³⁹³ Comment by MnDNR (Apr. 17, 2017) (eDocket No. 20174-130839-01).

³⁹⁴ DOC-EERA Comments and Recommendations (May 2, 2017) (eDocket No. 20175-131541-01).

³⁹⁵ Comment by MnDNR (Apr. 17, 2017) (eDocket No. 20174-130839-01).

³⁹⁶ Ex. 311 at 14 (Draft Site Permit).

³⁹⁷ *Id.*

³⁹⁸ *Id.*

204. Bat fatality studies indicate a broad range of fatalities across the United States as a result of wind energy development.³⁹⁹ Fatality rates are highest for migrating-tree roosting bat species, with the majority of fatalities occurring during the late summer and early fall migration.⁴⁰⁰ Documented bat fatalities are highest in the eastern United States, and in the Midwest there are a wide range of fatality rates.⁴⁰¹ Post-construction fatality studies completed in Iowa, Minnesota, and Wisconsin show bat fatality estimates ranging from one to 24 bats/MW/year.⁴⁰² Bat studies conducted at eight Minnesota wind facilities and four South Dakota wind facilities indicated an adjusted bat fatality rate of 0.16 to 20.19 fatalities per turbine per study period.⁴⁰³ The cumulative impacts of the wind industry to bat populations are unknown at this time.⁴⁰⁴

205. Natural Heritage Information Systems (NHIS) data does not indicate any records of known bat maternity roost sites or known hibernacula within the Project area or within five miles of the Project's boundaries.⁴⁰⁵

206. Avian and bat fatalities will occur during Project operation and have the potential to be moderate to high.⁴⁰⁶ Although the extent of such fatalities is not known, the range of adjusted fatalities seen at other large wind facilities in Minnesota and South Dakota is 0.44 to 5.59 bird fatalities/MW/study period and 0.16 to 20.19 bats/MW/study period.⁴⁰⁷ The majority of Project-related fatalities will likely be migratory tree roosting bats, typical of other wind energy facilities in Minnesota.⁴⁰⁸

207. The MnDNR expressed concern that two turbines proposed to be located near a wetland area may increase the risk of bird and bat collisions, resulting in higher fatalities than other locations.⁴⁰⁹ The MnDNR recommends the two turbines be located an additional 500 feet farther away from the wetland or that alternate turbine locations be used.⁴¹⁰ In the event the turbines remain near the wetland, the MnDNR recommends the turbines be included in a two-year fatality monitoring study.⁴¹¹ The DOC-EERA staff agrees with the MnDNR's recommendations regarding the two turbines.⁴¹²

208. Blazing Star submitted a draft ABPP with its Site Permit Application and will submit an updated ABPP prior to construction.⁴¹³ The updated ABPP will include information on formal and informal monitoring, construction and operation training, and

³⁹⁹ Ex. 207 at 29 (Environmental Report).

⁴⁰⁰ *Id.*

⁴⁰¹ *Id.*

⁴⁰² *Id.* at 29-30.

⁴⁰³ *Id.* at 30.

⁴⁰⁴ *Id.*

⁴⁰⁵ *Id.* at 31.

⁴⁰⁶ *Id.* at 31.

⁴⁰⁷ *Id.* at 31-32.

⁴⁰⁸ *Id.* at 32.

⁴⁰⁹ Comment by MnDNR (Apr. 17, 2017) (eDocket No. 20174-130839-01).

⁴¹⁰ *Id.*

⁴¹¹ *Id.*

⁴¹² DOC-EERA Comments and Recommendations (May 2, 2017) (eDocket No. 20175-131541-01).

⁴¹³ Ex. 6, App. G (Application); Ex. 13 at 6 (Smith Direct).

reporting protocol.⁴¹⁴ Blazing Star proposes to minimize impacts to birds and bats through siting, timing of construction, and avoidance of habitat.⁴¹⁵ Siting turbines away from bird habitat, identified flyways, and bat feeding areas reduces impacts to avian and bat species. The Project will maintain a 3 x 5 RD setback from all public conversation lands within the Project Area and adjacent to the Project boundary.⁴¹⁶

209. Blazing Star's ABPP is based on Geronimo's corporate standards for minimizing impacts to avian and bat species during construction and operation of wind energy projects.⁴¹⁷ The ABPP has been developed consistent with the guidelines and recommendations of the Wind Turbine Guidelines Advisory Committee's Recommended Guidelines to the USFWS, and includes Blazing Star's commitments to wind farm siting and transmission route suitability assessments, construction practices and design standards, operational practices, permit compliance, and construction and operation working training.⁴¹⁸ The ABPP also includes additional avoidance and minimization measures that may be implemented in consultation with the USFWS and the MnDNR if avian and bat mortalities exceed an acceptable level.⁴¹⁹

210. Section 6.3 of the Draft Site Permit requires Blazing Star to utilize a qualified third party to conduct two full years of avian and bat fatality monitoring following the start of operations.⁴²⁰ Monitoring activities and results will be coordinated directly with the MnDNR, the USFWS, and the Commission.⁴²¹ Detailed monitoring protocols, agency coordination, and any avoidance and minimization measures will be detailed in the Project's ABPP.⁴²²

211. Section 7.5 of the Draft Site Permit requires Blazing Star to maintain an updated ABPP in coordination with the MnDNR, the USFWS, and the Commission and to submit immediate incident reports.⁴²³

212. In an effort to minimize avian impacts, Blazing Star has designed the Project to avoid high use wildlife habitat, and will use tubular towers to minimize perching, place electrical collection lines underground as practicable, and minimize infrastructure.⁴²⁴

213. Development of the Project is expected to produce a minimal impact to wildlife. Based on studies of existing wind power projects in the United States and Europe, the impact to wildlife would primarily occur to avian and bat populations. Similar to other wind developments, there is a high likelihood that individual bird fatalities will

⁴¹⁴ Ex. 13 at 6 (Smith Direct).

⁴¹⁵ Ex. 207 at 32 (Environmental Report).

⁴¹⁶ *Id.*

⁴¹⁷ Ex. 6 at 82 (Application).

⁴¹⁸ *Id.*

⁴¹⁹ *Id.*

⁴²⁰ Ex. 311 at 14 (Draft Site Permit).

⁴²¹ *Id.*

⁴²² *Id.*

⁴²³ *Id.* at 16-17.

⁴²⁴ *Id.*

occur at the Project, but it is unlikely to affect populations of most species, especially at a regional scale.⁴²⁵

214. Impacts to other terrestrial and aquatic animals are expected to be minimal during construction and operation of the Project, and no specific mitigation has been proposed.⁴²⁶

215. Blazing Star will also avoid and minimize siting turbines in mapped native prairie, native plant communities, and sites of biodiversity significance ranked moderate, high, or outstanding.⁴²⁷

P. Rare and Unique Natural Resources

216. Section 7 of the Endangered Species Act (ESA) requires that all federal agencies consider and avoid, if possible, adverse impacts to federally-listed threatened or endangered species or their critical habitats, which may result from their direct, regulatory or funding actions. Although the bald eagle has recently been delisted from the ESA, it remains protected under the Migratory Bird Treaty Act and the Bald and Golden Eagle Protection Act (BGEPA). In addition, Minnesota also has laws regulating the taking, importation, transportation, and sale of state endangered or threatened species.⁴²⁸

217. Bald eagle collisions with wind turbines are concerning because bald eagle populations continue to grow and expand in Minnesota.⁴²⁹ Blazing Star conducted a raptor nest survey in late March 2016, during which no active bald eagle nests were found within the Project area.⁴³⁰ Six active bald eagle nests and one potential nest that appeared inactive or unoccupied were located within ten miles of the Project area, ranging from 1.25 miles to 6.5 miles away.⁴³¹ Two nests are located within two miles of the Project area, but the nests are located approximately three miles from the nearest proposed or alternate wind turbine location.⁴³² According to a USFWS draft habitat conservation plan, 1.6 miles is the maximum setback from bald eagle nests.⁴³³

218. On December 12, 2016, Blazing Star learned that a community member contacted the MnDNR about a potential bald eagle nest in Section 36 of Hansonville Township.⁴³⁴ Blazing Star's biological consultant located the nest in late February 2017 and observed an eagle perched near the nest.⁴³⁵ The biologist observed that the nest

⁴²⁵ Ex. 6 at 77 (Application).

⁴²⁶ Ex. 207 at 32 (Environmental Report).

⁴²⁷ Ex. 6 at 81 (Application).

⁴²⁸ *Id.* at 82-83.

⁴²⁹ Ex. 207 at 34 (Environmental Report).

⁴³⁰ Ex. 6 at 72 (Application).

⁴³¹ *Id.*

⁴³² *Id.*

⁴³³ *Id.*

⁴³⁴ Ex. 13 at 2-3 (Smith Direct).

⁴³⁵ *Id.*

was small, which may indicate a recent construction.⁴³⁶ The nest is approximately 3,200 feet (0.6 miles) from the nearest proposed turbine.⁴³⁷ Blazing Star has prioritized the nest for further investigation and coordination with the USFWS to determine an appropriate course of action for Project design and operation.⁴³⁸

219. Section 6.1 of the Draft Site Permit requires Blazing Star to consult with the USFWS to determine if an Eagle Incidental Take Permit under the Bald and Golden Eagle Protection Act is appropriate for construction and operation of the Project.⁴³⁹

220. There are six federally-listed endangered or threatened species known to occur in Lincoln County.⁴⁴⁰ There is one record of a state-listed species in the Project area, the loggerhead shrike, last observed in 1995 and listed as endangered.⁴⁴¹ To date, loggerhead shrike has not been observed during ongoing preconstruction avian studies.⁴⁴² Blazing Star's studies did not identify any designated critical habitat within the Project area.⁴⁴³

221. Blazing Star contacted the USFWS and the MnDNR to review the Project for threatened and endangered species and unique habitats.⁴⁴⁴

222. The Project area is mostly cropped or heavily grazed pasture.⁴⁴⁵ No records of federal- or state-listed plant species occur within the Project boundary.⁴⁴⁶ Turbines have been sited to avoid mapped native prairie and native plant communities.⁴⁴⁷

223. A preconstruction inventory of existing native prairie, woodlands, and wetlands will be conducted in the Project area.⁴⁴⁸ Blazing Star will avoid the rare and unique resources identified to the extent practicable.⁴⁴⁹

224. Sections 4.7 (Native Prairie), 6.1 (USFWS Consultation), 6.3 (Commercial Operation Fatality Monitoring), and 7.5 (Avian and Bat Protection) of the Draft Site Permit identify conditions to monitor and mitigate the Project's potential impacts on rare and unique natural resources.⁴⁵⁰

⁴³⁶ *Id.*

⁴³⁷ *Id.*

⁴³⁸ *Id.*

⁴³⁹ Ex. 311 at 14 (Draft Site Permit)

⁴⁴⁰ Ex. 6 at 83 (Application); Ex. 207 at 35 (Environmental Report).

⁴⁴¹ Ex. 6 at 83 (Application)

⁴⁴² *Id.*

⁴⁴³ *Id.*

⁴⁴⁴ *Id.* at 83-84.

⁴⁴⁵ *Id.* at 87.

⁴⁴⁶ *Id.*

⁴⁴⁷ *Id.*

⁴⁴⁸ *Id.*

⁴⁴⁹ *Id.*

⁴⁵⁰ Ex. 207 at 36 (Environmental Report); Ex. 311 at 4, 14, 16-17 (Draft Site Permit).

Q. Vegetation

225. The majority of the land area within the Project is cultivated, grassland, or pasture. Grassland and wetland areas may contain potential remnant native prairie areas.⁴⁵¹ Native prairie is identified as lands that have never been plowed, with less than 10 percent tree cover, and the presence of native prairie vegetation.⁴⁵²

226. A total of approximately 184.8 acres (0.5 percent of the Project area) are identified as native prairie based on MnDNR data.⁴⁵³ Approximately 21.2 acres (less than 0.1 percent of the Project area) are identified as other native plant communities.⁴⁵⁴

227. Vegetation will be removed for the installation of Project facilities. The majority of turbines will be sited in plowed fields typically planted in row crops.⁴⁵⁵ Up to 100 acres of land will be permanently removed from agricultural production (less than one-half of one percent of the Project area).⁴⁵⁶

228. Temporary vegetation impacts will be associated with crane walkways, the installation of underground collection lines, and contractor staging and laydown areas.⁴⁵⁷ Blazing Star will work with all Project construction parties entering the Project area to control and prevent the introduction of invasive species.⁴⁵⁸ Temporarily disturbed areas will be reseeded to blend with existing vegetation.⁴⁵⁹ To the extent practicable, direct permanent and temporary impacts to natural areas, including wetlands and native prairies, will be avoided and minimized.⁴⁶⁰

229. The Project has been designed to minimize the need to clear existing trees and shrubs.⁴⁶¹ Best Management Practices (BMPs) will be used during construction and operation to protect topsoil and adjacent resources and minimize soil erosion.⁴⁶²

230. Section 4.7 of the Draft Site Permit provides that Project facilities will not be placed in native prairie unless addressed in a Prairie Protection and Management Plan, and shall not be located in areas enrolled in the Native Prairie Bank Program.⁴⁶³ Blazing Star must prepare a Prairie Protection and Management Plan in consultation with the MnDNR if native prairie is identified within the site boundaries.⁴⁶⁴ The plan will address steps that must be taken to avoid impacts to native prairie and mitigation to unavoidable impacts to native prairie by restoration or management of other native prairie areas that

⁴⁵¹ Ex. 6 at 62-63 (Application).

⁴⁵² *Id.* at 63.

⁴⁵³ *Id.* at 64.

⁴⁵⁴ *Id.*

⁴⁵⁵ *Id.*

⁴⁵⁶ *Id.*

⁴⁵⁷ *Id.* at 64.

⁴⁵⁸ *Id.* at 64-65.

⁴⁵⁹ *Id.* at 65.

⁴⁶⁰ *Id.*

⁴⁶¹ *Id.* at 66.

⁴⁶² *Id.*

⁴⁶³ Ex. 311 at 4 (Draft Site Permit).

⁴⁶⁴ *Id.*

are in degraded condition, by conveyance of conservation easements, or by other means agreed to by Blazing Star, the MnDNR, and the Commission.⁴⁶⁵

R. Soils, Geologic, and Groundwater Resources

231. Groundwater in the Project area is supplied by the Cretaceous aquifer, consisting of thick to thin discontinuous beds of sandstone confined in some places by overlying limestone and shale beds.⁴⁶⁶ Where the aquifer is not confined by overlying limestone and shale, glacial deposits make up the overlying material.⁴⁶⁷ The depth to bedrock throughout the Project area varies from 400 feet to nearly 900 feet.⁴⁶⁸

232. Two soil associations are found within the Project Area: Flom-Barnes and Singasaas-Flom.⁴⁶⁹ A soil association has a distinctive pattern of soils, relief, and drainage.⁴⁷⁰ Construction of the Project will increase the potential for soil erosion and convert prime farmland from agricultural use to industrial use.⁴⁷¹

233. Blazing Star will obtain a National Pollutant Discharge Elimination System (NPDES) permit from the MPCA to discharge stormwater from construction facilities.⁴⁷² BMPs will be used during construction and operation to protect topsoil and adjacent resources and to minimize soil erosion.⁴⁷³ In addition, a Stormwater Pollution Prevention Plan (SWPPP) will be developed prior to construction that will include BMPs such as silt fencing, revegetation plans, and management of exposed soils to prevent erosion.⁴⁷⁴

234. There are 17 domestic wells and one exploratory well within the Project area.⁴⁷⁵

235. A temporary batch plant may be needed to supply concrete for Project construction.⁴⁷⁶ The batch plant may be able to use rural water service, but is more likely to require well water.⁴⁷⁷ The batch plant operator will obtain the relevant permits and access to water supply and will address supply and drawdown issues in the permits.⁴⁷⁸

236. Impacts to geologic and groundwater resources are not anticipated.⁴⁷⁹ Wind turbine locations will not impact the use of existing water wells because the turbines

⁴⁶⁵ *Id.*

⁴⁶⁶ Ex. 207 at 20 (Environmental Report).

⁴⁶⁷ *Id.*

⁴⁶⁸ *Id.*

⁴⁶⁹ Ex. 6 at 55 (Application).

⁴⁷⁰ *Id.*

⁴⁷¹ *Id.*

⁴⁷² *Id.*

⁴⁷³ *Id.* at 55-56.

⁴⁷⁴ *Id.*

⁴⁷⁵ *Id.* at 56.

⁴⁷⁶ *Id.* at 57.

⁴⁷⁷ *Id.*

⁴⁷⁸ *Id.*

⁴⁷⁹ *Id.*

will be set back from occupied structures.⁴⁸⁰ Use of water for operations will be negligible and will not create an undue burden.⁴⁸¹ No mitigation is proposed.⁴⁸²

S. Surface Water and Wetlands

237. Blazing Star identified surface water and floodplain resources for the Project area by reviewing U.S. Geological Survey (USGS) topographic maps and Minnesota Public Waters Inventory (PWI) maps.⁴⁸³ The Project area occurs within the Minnesota River Basin in the La Qui Parle River and Minnesota River Watersheds.⁴⁸⁴ There are a number of unnamed intermittent and perennial streams, as well as eight county-designated ditches.⁴⁸⁵

238. There are 11 waterbodies in the Project area listed as MnDNR PWI public waters: nine PWI basins and 2 PWI wetlands.⁴⁸⁶ Seven PWI public watercourses are located partially inside the Project area.⁴⁸⁷

239. There are a total of 5,049.9 acres of National Wetland Inventory (NWI) wetlands in the Project area, which is approximately 13.5 percent of the Project area.⁴⁸⁸ Approximately 86 percent of those acres are mapped as palustrine emergent (PEM) wetlands, and the remaining 14 percent is palustrine forested (PFO) or palustrine shrubbed (PSS) (149 acres) and palustrine unconsolidated bottom (PUB) (529 acres).⁴⁸⁹ There are 601.5 acres of PWI wetlands located within the Project area, some of which may overlap with NWI wetlands.⁴⁹⁰

240. The Project will not require the appropriation of surface water or permanent dewatering.⁴⁹¹ Temporary dewatering may be required during construction for specific turbine foundations and/or electrical trenches.⁴⁹² Project facilities will be designed to avoid impacts on surface water resources and wetlands to the extent practicable.⁴⁹³ Project facilities have the potential to impact surface water runoff and cause sedimentation; however, these impacts are expected to be minimal.⁴⁹⁴ The Project will not impact known floodplain areas.⁴⁹⁵

⁴⁸⁰ *Id.*

⁴⁸¹ *Id.*

⁴⁸² *Id.*

⁴⁸³ *Id.*

⁴⁸⁴ *Id.*

⁴⁸⁵ *Id.*

⁴⁸⁶ *Id.*

⁴⁸⁷ *Id.*

⁴⁸⁸ *Id.* at 61.

⁴⁸⁹ *Id.*

⁴⁹⁰ *Id.*

⁴⁹¹ *Id.* at 59.

⁴⁹² *Id.*

⁴⁹³ *Id.*

⁴⁹⁴ *Id.*

⁴⁹⁵ *Id.*

241. Turbines will be constructed on relatively high elevation portions of the Project area to maximize the wind resource, and as such are likely to avoid direct impacts to surface waters, floodplains, and wetlands, which tend to be in lower topographical positions.⁴⁹⁶ Access roads and substations will be designed to minimize impacts to surface waters, floodplains, and wetlands.⁴⁹⁷ Additionally, after field verification of wetlands, Project facilities may undergo minor shifts to avoid wetland features to the extent practicable.⁴⁹⁸ Best practices will be used during construction and operation to protect topsoil, minimize soil erosion, and protect surface water and floodplain resources from direct and indirect impacts.⁴⁹⁹ If the Project will permanently or temporarily impact waters of the United States, Minnesota PWIs, or 100-year floodplains, Blazing Star will apply for necessary permits before construction and will work with officials to minimize impacts.⁵⁰⁰ In addition, a SWPPP will be prepared, and an NPDES permit will be obtained before construction.⁵⁰¹

242. Formal wetland delineations will be completed before construction, and wetlands will be avoided to the extent possible during Project construction.⁵⁰² If wetland impacts cannot be avoided, Blazing Star will submit an application to the USACE for dredge and fill within waters of the United States under Section 404 of the Clean Water Act, to the Local Government Unit for Minnesota Wetland Conservation Act (WCA) coverage, and the MPCA for Water Quality Certification under Section 401 of the Clean Water Act (CWA) before construction.⁵⁰³ Blazing Star will mitigate direct or indirect impacts to wetlands during construction and operation by protecting topsoil, minimizing soil erosion, and protecting adjacent wetland resources.⁵⁰⁴

243. Section 4.6 of the Draft Site Permit requires that wind turbines and associated facilities not be placed in public waters or wetlands, except that electric collector or feeder lines may cross or be placed in public waters or wetlands subject to applicable permits and approvals.⁵⁰⁵ Section 5.2.7 of the Draft Site Permit includes additional provisions related to wetlands, including a requirement that construction in wetlands occur during frozen ground conditions to minimize impacts, to the extent feasible.⁵⁰⁶ When winter construction is not possible, wooden or composite mats shall be used to protect wetland vegetation.⁵⁰⁷ Further, wetland and water resources disturbed by construction will be restored to pre-construction conditions, in accordance with applicable permits and landowner agreements.⁵⁰⁸

⁴⁹⁶ *Id.* at 62.

⁴⁹⁷ *Id.* at 59.

⁴⁹⁸ *Id.* at 62.

⁴⁹⁹ *Id.* at 59.

⁵⁰⁰ *Id.* at 62.

⁵⁰¹ *Id.* at 59.

⁵⁰² *Id.* at 62.

⁵⁰³ *Id.*

⁵⁰⁴ *Id.*

⁵⁰⁵ Ex. 311 at 3 (Draft Site Permit).

⁵⁰⁶ *Id.* at 8.

⁵⁰⁷ *Id.*

⁵⁰⁸ *Id.*

T. Air and Water Emissions

244. The Project will not emit criteria pollutants (sulfur dioxide, nitrogen oxides, carbon dioxide, and particulate matter) or mercury during operation.⁵⁰⁹ Emission impacts from construction will be minimal and localized, including dust and emissions from construction equipment.⁵¹⁰ The Project's wind turbines will not produce ozone.⁵¹¹ Under certain conditions, transmission lines produce limited, minimal amounts of ozone and nitrogen oxide emissions.⁵¹²

245. The Project will emit minimal hazardous air pollutants (HAPs) or volatile organic compounds (VOCs) during operation.⁵¹³ Petroleum-based fluids used in the operation of wind turbines have a low vapor pressure, and any release of VOCs will be minimal.⁵¹⁴

246. The Project will not create wastewater during the generation of electricity.⁵¹⁵ Operation of the O&M building may create wastewater, which will likely be discharged into a septic system associated with the building.⁵¹⁶ The potential impacts of this wastewater and septic system are anticipated to be minimal, and mitigation of the impacts is not anticipated.⁵¹⁷

U. Solid and Hazardous Wastes

247. Potential hazardous materials within the Project area are associated with agricultural activities, including petroleum products, pesticides and herbicides.⁵¹⁸ A Phase I Environmental Site Assessment will be conducted for the Project to identify known recognized environmental conditions or historical recognized environmental conditions.⁵¹⁹

248. The Project will create solid wastes during construction, including scrap wood, plastics, cardboard, and wire.⁵²⁰ In addition, three types of petroleum product fluids are necessary for turbine operation: gear box oil, hydraulic fluid, and gear grease.⁵²¹ These wastes will be managed and, if disposal is necessary, disposed of in compliance with the requirements of applicable laws and regulations.⁵²²

⁵⁰⁹ Ex. 207 at 14 (Environmental Report).

⁵¹⁰ *Id.*

⁵¹¹ *Id.* at 17.

⁵¹² *Id.* at 14.

⁵¹³ *Id.* at 16.

⁵¹⁴ *Id.*

⁵¹⁵ *Id.* at 19.

⁵¹⁶ *Id.*

⁵¹⁷ *Id.*

⁵¹⁸ Ex. 6 at 48 (Application).

⁵¹⁹ *Id.*

⁵²⁰ Ex. 207 at 23 (Environmental Report)

⁵²¹ Ex. 6 at 48 (Application).

⁵²² *Id.*; Ex. 207 at 23 (Environmental Report)

249. Blazing Star will avoid hazardous waste sites. If any wastes, fluids, or pollutants are generated during any phase of the operation of the Project, they will be handled, processed, treated, stored, and disposed of in accordance with Minn. R. ch. 7045 (2015).⁵²³

250. Section 5.2.22 of the Draft Site Permit requires that all waste and scrap produced during construction be removed and properly disposed of upon completion of each task.⁵²⁴ In addition, Section 5.2.23 of the Draft Site Permit requires Blazing Star to take all appropriate precautions against pollution of the environment and makes Blazing Star be responsible for compliance with all laws applicable to the generation, storage, transportation, clean up, and disposal of all wastes generated during construction and restoration of the site.⁵²⁵

V. Future Development and Expansion

251. The Commission is responsible for siting LWECS “in an orderly manner compatible with environmental preservation, sustainable development, and the efficient use of resources.”⁵²⁶

252. Section 4.1 of the Draft Site Permit imposes a wind access buffer and provides for setbacks from properties where Blazing Star does not hold wind rights.⁵²⁷

253. The Project is located in southwest Minnesota, where there are already many other large-scale wind energy facilities.⁵²⁸ There is no evidence that the Project is inconsistent with any future development or expansion plans in the area.

W. Maintenance

254. Blazing Star will construct an O&M facility associated with the Project, which will require a building permit from the applicable county and/or township where the facility will be located.⁵²⁹ Buildings typically used for this purpose are approximately 3,000 to 5,000 square feet.⁵³⁰ The building will require an adjacent parking lot of approximately 3,000 square feet.⁵³¹

255. Blazing Star estimates that 10 to 14 permanent employment positions will be created for Project operations, including performing maintenance and inspections.⁵³²

⁵²³ Ex. 6 at 49 (Application).

⁵²⁴ Ex. 311 at 11-12 (Draft Site Permit).

⁵²⁵ *Id.* at 12.

⁵²⁶ Minn. Stat. § 216F.03 (2016).

⁵²⁷ Ex. 311 at 2 (Draft Site Permit).

⁵²⁸ Ex. 207 at 38 (Environmental Report); Ex. 6 at 93 (Application)

⁵²⁹ Ex. 6 at 12 (Application).

⁵³⁰ *Id.*

⁵³¹ *Id.*

⁵³² *Id.* at 98-99; Ex. 3 at 36 (Certificate of Need Application)

Blazing Star will augment the permanent staff with appropriate contractors required to service and maintain the Project.⁵³³

X. Decommissioning, Turbine Abandonment and Restoration

256. The anticipated life of the Project is approximately 30 years beyond the start date of commercial operations.⁵³⁴ The Draft Site Permit Section 16.0 states that Blazing Star's permit will expire 30 years after the date the permit was approved and adopted.⁵³⁵

257. The Project decommissioning and restoration plan will be developed in accordance with the requirements of Minn. R. 7854.0500, subp. 13. Blazing Star will develop a decommissioning plan prior to the Project's pre-operation meeting with the DOC.⁵³⁶ At the end of commercial operation, the Project owners will be responsible for removing wind facilities and removing the turbine foundations to a depth of four feet below grade.⁵³⁷ Blazing Star has reserved the right to extend operations instead of decommissioning at the end of the site permit term.⁵³⁸ As necessary, Blazing Star may apply for an extension of the LWECs Site Permit to continue Project operations.⁵³⁹ In this case, a decision may be made on whether to continue operation with existing equipment or to retrofit the turbines and power system with upgrades based on newer technologies.⁵⁴⁰

258. Section 11.1 of the Draft Site Permit requires Blazing Star to submit a decommissioning plan to the Commission prior to the pre-operation meeting.⁵⁴¹ The decommissioning plan will document the manner in which Blazing Star will carry out its obligations to fulfill the requirements to properly decommission the Project at the appropriate time.⁵⁴²

259. Section 11.2 of the Draft Site Permit requires Blazing Star to dismantle and remove all towers, turbine generators, transformers, overhead and underground cables and lines, foundations, buildings, and ancillary equipment to a depth of four feet.⁵⁴³ Any agreement for removal to a lesser depth or no removal shall be recorded with the county and show the locations of all such foundations.⁵⁴⁴ Further, Blazing Star is required to restore the site to its pre-Project topography and topsoil quality within 18 months of the Project's termination.⁵⁴⁵

⁵³³ Ex. 6 at 98-99 (Application); Ex. 3 at 36 (Certificate of Need Application).

⁵³⁴ Ex. 6 at 102 (Application).

⁵³⁵ Ex. 311 at 26 (Draft Site Permit).

⁵³⁶ Ex. 6 at 102 (Application).

⁵³⁷ *Id.*

⁵³⁸ *Id.*

⁵³⁹ *Id.*

⁵⁴⁰ *Id.*

⁵⁴¹ Ex. 311 at 22 (Draft Site Permit).

⁵⁴² *Id.*

⁵⁴³ *Id.*

⁵⁴⁴ *Id.*

⁵⁴⁵ *Id.*

260. Blazing Star estimates the decommissioning cost in current dollars to be around \$34,000 per turbine after salvage value.⁵⁴⁶ Blazing Star will bear all costs of decommissioning the Project and associated facilities.⁵⁴⁷ Due to uncertainties surrounding decommissioning costs and salvage values, Blazing Star will review and update the cost for decommissioning and restoration every five years.⁵⁴⁸ Blazing Star will also create a reserve fund or enter into an agreement or other security to fund site decommissioning and restoration costs after operations cease, to the extent that the salvage value will not cover decommissioning costs.⁵⁴⁹

261. The Draft Site Permit contains appropriate conditions to ensure proper decommissioning and restoration of the Project site.

Y. Permit Conditions

262. The Draft Site Permit issued on February 27, 2017, includes a number of proposed permit conditions, many of which have been discussed above. The conditions apply to site preparation, construction, cleanup, restoration, operation, maintenance, abandonment, decommissioning, and other aspects of the Project.

263. Many of the conditions contained in the Draft Site Permit were established as part of the site permit proceedings of other wind turbine projects permitted by the Commission. Comments received by the Commission have been considered in development of the Draft Site Permit for this Project.

264. On March 10, 2017, Blazing Star provided suggested revisions to the Draft Site Permit in the Direct Testimony of Patrick Smith, Senior Director, Environmental Planning for Geronimo.⁵⁵⁰ Some of the suggested revisions are intended to clarify permit provisions. Other suggested revisions are more substantive, including proposed revisions to Sections 4.5, 5.2.13, 5.5.2, 6.1, 7.5.1, and 7.5.4 of the Draft Site Permit.

265. On May 1, 2017, Blazing Star provided revisions to the Draft Site Permit that reflected further input from the DOC-EERA and the MnDNR.⁵⁵¹ The revisions are as follows:

⁵⁴⁶ Ex. 6 at 102 (Application).

⁵⁴⁷ *Id.*

⁵⁴⁸ *Id.*

⁵⁴⁹ *Id.* at 102-103.

⁵⁵⁰ See Ex. 13 (Smith Direct).

⁵⁵¹ Blazing Star Post-Hearing Comments (May 1, 2017) (eDocket No. 20175-131479-04).

Section No.	Proposed Revision	Explanation for Proposed Revision
4.5	<p>Wind turbines and associated facilities including foundations, access roads, underground cable, and transformers shall not be located in public <u>publicly-owned lands that have been designated for recreational or conservation purposes</u>, including, but not limited to, Waterfowl Production Areas, State Wildlife Management Areas, Scientific and Natural Areas and county parks, <u>except in the event that the public entity owning those lands enters into a land lease and easement with the Project</u>. Wind turbine towers shall also comply with the setbacks of Section 4.1.</p>	<p>There are a number of public entities that may have interest in leasing to the Project. This modification would allow them to participate in the Project. Section 4.5 as written would apply to all public lands, regardless of their purpose. This could be overly restrictive for government entities, particularly county, township, and special purpose governmental entities, that may wish to participate in the Project.</p>
5.2.13	<p>The Permittee shall construct the least number of turbine access roads necessary to safely and efficiently operate the project and satisfy landowner requests. Access roads shall be low profile roads so that farming equipment can cross them and shall be covered with Class 5 gravel or similar material. Access roads shall not be constructed across streams and drainage ways <u>ditches</u> without required permits and approvals. When access roads are constructed across streams, and drainage ways, <u>or drainage ditches</u>, the access roads shall be designed and constructed in a manner so runoff from the upper portions of the watershed can readily flow to the lower portion of the watershed. Any access roads that are constructed across streams <u>or drainage ditches</u> shall be designed and constructed in a manner that maintains existing fish passage. <u>Access roads that are constructed across grassed waterways, which provide drainage for surface waters that are ephemeral in nature, are not required to maintain or provide fish</u></p>	<p>This revision makes this requirement more specific and explicitly excludes those waterways without fish habitat.</p>

Section No.	Proposed Revision	Explanation for Proposed Revision
	<p><u>passage.</u> Access roads shall be constructed in accordance with all necessary township, county or state road requirements and permits.</p>	
5.5.2	<p>The Permittee shall comply with all applicable state rules and statutes. The Permittee shall obtain all required permits for the project and comply with the conditions of those permits unless those permits conflict with or are preempted by federal or state permits and regulations. A list of the permits known to be required is included in the permit application. The Permittee shall file documentation showing approval or issuance of such permits with the Commission. <u>At least 14 days prior to the preconstruction meeting, the Permittee submit a filing demonstrating that it has obtained such permits. The Permittee shall provide a copy of any such permit upon Commission request.</u></p> <p>The Permittee shall comply with all terms and conditions of permits or licenses issued by the counties, cities, and municipalities affected by the project that do not conflict with or are not pre-empted by federal or state permits and regulations.</p>	<p>This revision is proposed because the current language would result in administrative burden for both Blazing Star and the Commission. As set forth in the permit tables in Section 12.4 of the Certificate of Need Application and Section 11.0 of the Site Permit Application, numerous permits will be obtained for the Project. In addition, some of the permits will be obtained by Blazing Star's contractors during the construction phase of the Project. Compiling and filing each and every one of these permits – the majority of which are ministerial – would be burdensome upon Blazing Star, and it would be burdensome for the Commission and/or the Department to review them all.</p>
6.1	<p>The Permittee shall consult with the U.S. Fish and Wildlife Service to determine if an Eagle Incidental Take Permit under the Bald and Golden Eagle Protection Act is appropriate for the construction and operation of the LWECS. All consultation with, and recommendations provided by the U.S. Fish and Wildlife Service, shall be filed with the Commission. <u>The Permittee shall file with the Commission all formal written correspondence received from the U.S. Fish and Wildlife Service. The</u></p>	<p>This revision is proposed because this requirement is vague and could be quite burdensome. Consultation with USFWS is already underway and will continue through construction and throughout the operation of the Project. In addition, some of the information exchanged between a project developer and the agency could be confidential and/or</p>

Section No.	Proposed Revision	Explanation for Proposed Revision
	<p><u>Permittee shall provide a copy of any additional agency correspondence upon Commission request.</u></p>	<p>trade secret. Further, the agency's formal written guidance is more informative and a better reflection of its position than back-and-forth information sharing between the agency and Blazing Star.</p> <p>Blazing Star is sensitive to any concerns the Commission may have related to the Bald and Golden Eagle Protection Act. Thus, Blazing Star proposes that the permit language be modified to require the permittee to submit formal written correspondence received from USFWS. This modification would keep the Commission apprised of any issues.</p>
7.5.1	<p>The Permittee shall comply with the provisions of the final Avian and Bat Protection Plan (ABPP) submitted for this project on [date], and revisions resulting from the annual audit of ABPP implementation. <u>The first annual audit and revision will be filed with the Commission 14 days before the preconstruction meeting and revisions should include any updates associated with final construction plans.</u> The ABPP must address steps to be taken to identify and mitigate impacts to avian and bat species during the construction phase and the operation phase of the project. The ABPP shall also include formal and incidental post-construction fatality monitoring, training, wildlife handling, documentation (e.g., photographs), and reporting protocols for each phase of the project.</p>	<p>The additional language will make it clear than an update prior to construction is appropriate.</p>

Section No.	Proposed Revision	Explanation for Proposed Revision
	<p>The Permittee shall, by the 15th of March following each complete or partial calendar year of operation, file with the Commission an annual report detailing findings of its annual audit of ABPP practices. The annual report shall include summarized and raw data of bird and bat fatalities and injuries and shall include bird and bat fatality estimates for the project using agreed upon estimators from the prior calendar year. The annual report shall also identify any deficiencies or recommended changes in the operation of the project or in the ABPP to reduce avian and bat fatalities and shall provide a schedule for implementing the corrective or modified actions. The Permittee shall provide a copy of the report to the Minnesota Department of Natural Resources and to the U.S. Fish and Wildlife Service at the time of filing with the Commission.</p>	
7.5.4	<p>The Permittee shall feather turbine blades when operating below the cut-in speed to reduce the potential for bat fatalities for the lifespan of the project. The Permittee shall consult with the Department of Natural Resources to discuss other operational mitigative measures such as raising the cut-in speed should bat fatalities continue to be high despite feathering of turbine blades. All turbines shall be equipped with operational software capable of allowing for adjustment of turbine cut-in speeds.</p> <p><u>All operating turbines at the facility must be equipped and operated with software enabling adjustment of turbine cut-in speeds. The Permittee shall operate all facility turbines so that all turbines are programmed to be locked</u></p>	<p>This revision will ensure consistency with other permits issued by the Commission. It further allows other detail to be part of Blazing Star's Avian and Bat Protection Plan ("ABPP"). The ABPP includes an adaptive management component that includes modifications such as curtailment and will be updated annually in consultation with USFWS and MDNR to address issues as they arise during the Project's operation and maintenance. Unlike the Site Permit, which would need to be amended, the ABPP is an evolving document that will</p>

Section No.	Proposed Revision	Explanation for Proposed Revision
	<u>or feathered at wind speeds up to the manufacturer's standard cut-in speed, from one-half hour before sunset to one-half hour after sunrise, from April 1 to October 31 of each year of operation through the life of the project.</u>	be better able to respond to any changing conditions. Further, the Site Permit already requires Blazing Star to comply with the ABPP and any revisions (see § 7.5.1).

266. The DOC-EERA staff filed comments and recommendations on May 2, 2017, indicating agreement with the proposed revisions to the Draft Site Permit.⁵⁵²

267. Any of the foregoing Findings of Fact more properly designated as Conclusions of Law are hereby adopted as such.

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

CONCLUSIONS OF LAW

1. The Commission and the Administrative Law Judge have jurisdiction over the site permit applied for by Blazing Star for the up to 200 MW proposed Project pursuant to Minn. Stat. § 216F.04.
2. Blazing Star has complied with the procedural requirements of Minn. Stat. ch. 216F and Minn. R. ch. 7854.
3. The Commission has complied with all procedural requirements required by Minn. Stat. ch. 216F and Minn. R. ch. 7854.
4. A public hearing was conducted in a community near the proposed Project. Proper notice of the public hearing was provided, and members of the public had the opportunity to speak at the hearing and to submit written comments.
5. The Commission has the authority under Minn. Stat. § 216F.04 to place conditions in a LWECs site permit.
6. The Draft Site Permit contains a number of important mitigation measures and other reasonable conditions.
7. It is reasonable and appropriate to amend the Draft Site Permit to include the proposed revisions to Sections 4.5, 5.2.13, 5.5.2, 6.1, 7.5.1, and 7.5.4, and additionally to require Blazing Star to coordinate with the MnDNR regarding the location of the two turbines of concern near the Blue Heron Rookery.

⁵⁵² DOC-EERA Comments and Recommendations (May 2, 2017) (eDocket No. 20175-131541-01).

8. The Project, with the permit conditions revised as set forth above in paragraph 7, satisfies the site permit criteria for an LWECS stated in Minn. Stat. § 216F.03 and meets all other applicable legal requirements.

9. The Project, with the permit conditions discussed above, is compatible with environmental preservation, sustainable development, and the efficient use of resources.

10. The Project, with the permit conditions discussed above, does not present a potential for significant adverse environmental effects pursuant to the Minnesota Environmental Rights Act and the Minnesota Environmental Policy Act.

11. Any of the foregoing Conclusions of Law more properly designated Findings of Fact are hereby adopted as such.

RECOMMENDATION

Based upon these Findings of Fact and Conclusions of Law, the Administrative Law Judge recommends that the Commission issue a site permit to Blazing Star to construct and operate the up to 200 MW Project in Lincoln County, Minnesota, and that the permit include the conditions amended as set forth in paragraph 7 of the above Conclusions of Law.

Dated: June 1, 2017


JESSICA A. PALMER-DENIG
Administrative Law Judge

NOTICE

Notice is hereby given that exceptions to this Report, if any, by any party adversely affected must be filed under the time frames established in the Commission's rules of practice and procedure, Minn. R. 7829.2700, .3100 (2015), unless otherwise directed by the Commission. Exceptions should be specific and stated and numbered separately. Oral argument before a majority of the Commission will be permitted pursuant to Minn. R. 7829.2700, subp. 3. The Commission will make the final determination of the matter after the expiration of the period for filing exceptions, or after oral argument, if an oral argument is held.

The Commission may, at its own discretion, accept, modify, or reject the Administrative Law Judge's recommendations. The recommendations of the Administrative Law Judge have no legal effect unless expressly adopted by the Commission as its final order.

June 1, 2017

See Attached Service List

Re: In the Matter of the Application of Blazing Star Wind Farm, LLC for a Site Permit for the 200 Megawatt Blazing Star Wind Project in Lincoln County

**OAH 71-2500-34030
MPUC IP6961/WS-16-686
MPUC IP6961/CN-16-215**

To All Persons on the Attached Service List:

Enclosed and served upon you is the Administrative Law Judge's **SUMMARY OF PUBLIC TESTIMONY, FINDINGS OF FACT, CONCLUSIONS OF LAW AND RECOMMENDATION** in the above-entitled matter.

If you have any questions, please contact my legal assistant Sheena Denny at (651) 361-7881 or Sheena.Denny@state.mn.us, or facsimile at (651) 539-0310.

Sincerely,



JESSICA A. PALMER-DENIG
Administrative Law Judge

JPD:klm

Enclosure

cc: Docket Coordinator

STATE OF MINNESOTA
OFFICE OF ADMINISTRATIVE HEARINGS
PO BOX 64620
600 NORTH ROBERT STREET
ST. PAUL, MINNESOTA 55164

CERTIFICATE OF SERVICE

In the Matter of the Application of Blazing Star Wind Farm, LLC for a Site Permit for the 200 Megawatt Blazing Star Wind Project in Lincoln County	OAH Docket No.: 71-2500-34030
--	----------------------------------

Kendra McCausland certifies that on June 1, 2017 she served the true and correct **SUMMARY OF PUBLIC TESTIMONY, FINDINGS OF FACT, CONCLUSIONS OF LAW AND RECOMMENDATION** by eService, and U.S. Mail, (in the manner indicated below) to the following individuals:

First Name	Last Name	Email	Company Name	Address	Delivery Method	View Trade Secret
Julia	Anderson	Julia.Anderson@ag.state.mn.us	Office of the Attorney General-DOC	1800 BRM Tower 445 Minnesota St St. Paul, MN 551012134	Electronic Service	Yes
Christina	Brusven	cbrusven@fredlaw.com	Fredrikson Byron	200 S 6th St Ste 4000 Minneapolis, MN 554021425	Electronic Service	No
Ian	Dobson	Residential.Utilities@ag.state.mn.us	Office of the Attorney General-RUD	1400 BRM Tower 445 Minnesota St St. Paul, MN 551012130	Electronic Service	Yes
Kate	Fairman	kate.frantz@state.mn.us	Department of Natural Resources	Box 32 500 Lafayette Rd St. Paul, MN 551554032	Electronic Service	No
Sharon	Ferguson	sharon.ferguson@state.mn.us	Department of Commerce	85 7th Place E Ste 280 Saint Paul, MN 551012198	Electronic Service	No
Travis	Germundson	travis.germundson@state.mn.us		Board of Water & Soil Resources 520 Lafayette Rd Saint Paul,	Electronic Service	No

First Name	Last Name	Email	Company Name	Address	Delivery Method	View Trade Secret
				MN 55155		
Kari	Howe	kari.howe@state.mn.us	DEED	332 Minnesota St, #E200 1ST National Bank Bldg St. Paul, MN 55101	Electronic Service	No
Stacey	Karels	skarels@local563.org	Mankato Area Bldg & Construction Trades Council	310 McKinzie St Mankato, MN 56001	Electronic Service	No
Ray	Kirsch	Raymond.Kirsch@state.mn.us	Department of Commerce	85 7th Place E Ste 500 St. Paul, MN 55101	Electronic Service	No
Karen	Kromar	karen.kromar@state.mn.us	MN Pollution Control Agency	520 Lafayette Rd Saint Paul, MN 55155	Electronic Service	No
Susan	Medhaug	Susan.medhaug@state.mn.us	Department of Commerce	Suite 280, 85 Seventh Place East St. Paul, MN 551012198	Electronic Service	No
Debra	Moynihan	debra.moynihan@state.mn.us	MN Department of Transportation	395 John Ireland Blvd MS 620 St. Paul, MN 55155-1899	Electronic Service	No
Bob	Patton	bob.patton@state.mn.us	MN Department of Agriculture	625 Robert St N Saint Paul, MN 55155-2538	Electronic Service	No
Jamie	Schrenzel	jamie.schrenzel@state.mn.us	Minnesota Department of Natural Resources	500 Lafayette Road Saint Paul, MN 55155	Electronic Service	No
Janet	Shaddix Elling	jshaddix@janetshaddix.com	Shaddix And Associates	Ste 122 9100 W Bloomington Frwy Bloomington, MN 55431	Electronic Service	No
Daniel P	Wolf	dan.wolf@state.mn.us	Public Utilities Commission	121 7th Place East Suite 350 St. Paul, MN 551012147	Electronic Service	Yes

Julia	Anderson	Julia.Anderson@ag.state.mn.us	Office of the Attorney General-DOC	1800 BRM Tower 445 Minnesota St St. Paul, MN 551012134	Electronic Service	Yes
Christina	Brusven	cbrusven@fredlaw.com	Fredrikson Byron	200 S 6th St Ste 4000	Electronic Service	No

				Minneapolis, MN 554021425		
Ian	Dobson	Residential.Utilities@ag.state.mn.us	Office of the Attorney General- RUD	1400 BRM Tower 445 Minnesota St St. Paul, MN 551012130	Electronic Service	Yes
Sharon	Ferguson	sharon.ferguson@state.mn.us	Department of Commerce	85 7th Place E Ste 280 Saint Paul, MN 551012198	Electronic Service	Yes
Emerald	Gratz	emerald.gratz@state.mn.us	Office of Administrative Hearings	PO Box 64620 Saint Paul, Minnesota 55164- 0620	Electronic Service	Yes
Stacy	Kotch	Stacy.Kotch@state.mn.us	MINNESOTA DEPARTMENT OF TRANSPORTATION	395 John Ireland Blvd. St. Paul, MN 55155	Electronic Service	Yes
Jessica	Palmer Denig	jessica.palmer-Denig@state.mn.us	Office of Administrative Hearings	600 Robert St N PO Box 64620 St. Paul, MN 55164	Electronic Service	Yes
Janet	Shaddix Elling	jshaddix@janetshaddix.com	Shaddix And Associates	Ste 122 9100 W Bloomington Frwy Bloomington, MN 55431	Electronic Service	Yes
Cynthia	Warzecha	cynthia.warzecha@state.mn.us	Minnesota Department of Natural Resources	500 Lafayette Road Box 25 St. Paul, Minnesota 55155- 4040	Electronic Service	Yes
Daniel P	Wolf	dan.wolf@state.mn.us	Public Utilities Commission	121 7th Place East Suite 350 St. Paul, MN 551012147	Electronic Service	Yes