

STATE OF MINNESOTA
OFFICE OF ADMINISTRATIVE HEARINGS

FOR THE PUBLIC UTILITIES COMMISSION

In the Matter of the Application of Rose Creek Wind, LLC for a LWECS Site Permit for the up to 17.4 MW Rose Creek Wind Project in Mower County, Minnesota

FINDINGS OF FACT, CONCLUSIONS OF LAW, AND RECOMMENDATION

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This matter was assigned to Administrative Law Judge Suzanne Todnem (ALJ) to conduct a public hearing on the Site Permit Application (MPUC Docket No. WS-21-643) (SP Application) of Rose Creek Wind, LLC (Rose Creek or Applicant) for the Rose Creek Wind Project, an up to 17.4 megawatt (MW) nameplate capacity Large Wind Energy Conversion System (LWECS) and associated facilities in Mower County (the Repower Project or Project). The Minnesota Public Utilities Commission (MPUC or Commission) also requested that the ALJ prepare findings of fact, conclusions of law and recommendations, including recommendations, if any, on conditions and provisions of the proposed site permit.

Public hearings on the SP Application were held on July 27, 2022 (in-person) and July 28, 2022 (remote-access - telephone and internet). The factual record remained open until August 15, 2022, for the receipt of written public comments.

Christina Brusven, Fredrikson & Byron, P.A., and Sue Hansen, Project Developer Associate for Consolidated Edison Clean Energy Businesses, appeared on behalf of Rose Creek Wind, LLC.

Scott Ek, Energy Facility Planner, Minnesota Public Utilities Commission Staff (Staff), appeared on behalf of the Commission.

Rich Davis, Environmental Review Manager, appeared on behalf of the Department of Commerce, Energy Environmental Review and Analysis (EERA).

STATEMENT OF ISSUE

Has Rose Creek satisfied the criteria established in Minn. Stat. ch. 216F (2022) and Minn. Stat. § 216E.03, subd. 7 (2022), and the Minn. R. ch. 7854 (2021) for a site permit for the proposed Repower Project?

SUMMARY OF RECOMMENDATION

The ALJ concludes that Rose Creek 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 ALJ makes the following:

FINDINGS OF FACT

I. APPLICANT

1. Rose Creek is a Delaware limited liability company and is registered with the Minnesota Secretary of State. Rose Creek is owned by Rose Wind Holdings, LLC, which is owned by ConEdison Development (CED), a New York renewable energy development and operations company.¹

2. The currently operating Rose Wind Facility (Rose Wind Facility), owned by CED via a holding company, Rose Wind Holdings, LLC (Rose Wind), consists of 11 turbines that were built in 2004 and 2005 pursuant to Conditional Use Permits issued by Mower County. Because the existing turbines were originally permitted by Mower County, the Repower Project does not have a LWECS site permit from the MPUC.²

3. The up to 17.4 MW of electricity generated by Rose Wind is sold to Dairyland Power Cooperative (Dairyland) under an existing Power Purchase Agreement with CED. The 11 existing Rose Wind turbines range in size from 1.5 MW to 1.65 MW.³

4. The proposed Repower Project will involve decommissioning the 11 Rose Wind turbines and constructing six to seven new turbines with greater power outputs per turbine to continue to deliver up to 17.4 MW of electricity to Dairyland.⁴

5. The Repower Project will have a nameplate capacity of up to 17.4 MW.⁵

II. SITE PERMIT APPLICATION AND RELATED PROCEDURAL BACKGROUND

6. On January 28, 2022, Rose Creek filed an application requesting a site permit for a LWECS, the Rose Creek Wind Project (MPUC Docket No. IP7065/WS-21-643).⁶

7. On February 4, 2022, the Commission issued a Notice of Comment Period on the SP Application, announcing it would accept written comments through

¹ Ex. RCW-103 at 1 Site Permit Application (January 28, 2022) (eDocket No. [20221-182146-02](#)) (“SP Application”).

² *Id.*

³ *Id.*

⁴ *Id.*

⁵ *Id.*

⁶ *Id.*

February 18, 2022, and reply comments through February 25, 2022. The Notice requested comments on whether Rose Creek's SP Application contained the information required under Minn. R. 7854.0500; whether the SP Application should be reviewed as a summary report, summary proceeding, or referred for a contested case hearing; and whether there were any contested issues of fact with respect to the representations made in the SP Application.⁷

8. On February 18, 2022, EERA staff filed comments recommending that the Commission accept the SP Application as substantially complete with the understanding that Rose Creek will continue to work with EERA through the review of the proposed Project and the LWECS site permit process; that the Aircraft Detection Lighting Systems (ADLS) issue should be highlighted in the public hearing notice; that the Commission request the ALJ provide specific findings around this issue to help inform their final decision regarding the Applicant's claim of ADLS causing significant financial burden; that the Commission delay the decision on whether to refer the Project for a contested case proceeding until the Commission's consideration of the Draft Site Permit; that the Commission request a full ALJ report with recommendations for the Project's public hearing; and that the Commission vary the procedural requirements of Minn. R. 7854.0800, to allow longer than 45 days to determine whether to issue a draft site permit.⁸

9. On February 25, 2022, LIUNA⁹ Minnesota & North Dakota (LIUNA) filed reply comments stating their concerns about the lack of detail concerning the applicant's plans to ensure that promised socioeconomic benefits and worker safety are delivered through the applicant's selection of contractor or other means and stating that their preference would be to resolve such concerns through an informal process.¹⁰

10. On February 25, 2022, Rose Creek filed reply comments stating the following: (1) EERA Staff correctly identifies that Rose Creek is not proposing to install and operate an ADLS; (2) Rose Creek is committed to avoiding impacts to native prairie, and therefore will conduct field studies during the second quarter of 2022 to make a formal determination as to the presence or absence of native prairie within the Project's construction and operation areas, if native prairie is found in areas where Project impacts could occur, Rose Creek will develop a Native Prairie Protection Plan and will avoid all impacts to native prairie; (3) request that the Commission accept the Application as substantially complete, with the understanding that Rose Creek will provide additional information requested by EERA staff during the proceedings; and

⁷ Ex. PUC-1 Notice of Comment Period on Application Completeness (February 4, 2022) (eDocket No. [20222-182415-01](#)).

⁸ Ex. EERA-1 Comments – EERA Completeness Comments and Recommendations (February 18, 2022) (eDocket No. [20222-182986-01](#)).

⁹ Laborers International Union of North America.

¹⁰ Reply Comments from LIUNA (February 25, 2022) (eDocket No. [20222-183214-01](#)).

(4) that the Commission refer the matter to the Office of Administrative Hearings (OAH) for a public hearing and preparation of a full ALJ report with recommendations.¹¹

11. On March 1, 2022, International Union of Operating Engineers, Local 49 (Local 49) filed supplemental comments stating that it is unclear how Rose Creek will ensure that socioeconomic benefits are realized and stating that a contested case hearing may be useful for developing a more thorough record on the socioeconomic benefits of the Project.¹²

12. On March 4, 2022, Rose Creek filed supplemental comments in response to comments filed by LIUNA and Local 49 stating that a contested case is not necessary to further develop the record on these issues and agreeing with the Commission's delay of the decision on whether to refer the Project to a contested case proceeding until the Commission's consideration of the Draft Site Permit.¹³

13. On March 4, 2022, EERA staff filed supplemental comments recommending that the Commission accept the application for the proposed Project as substantially complete.¹⁴

14. On March 15, 2022, the Commission issued an order with the following dispositions: (1) accepting the site permit application as substantially complete, with the understanding that Rose Creek will continue to work with EERA through the review of the Repower Project and the site permit process; (2) delaying the decision on whether to refer the Project for a contested case proceeding until the Commission's consideration of the Draft Site Permit; and (3) Request that an administrative law judge preside over a public hearing, establish the types of filings necessary to facilitate proper record development, a schedule for submitting the filings and prepare a report setting forth findings of fact, conclusions of law, and recommendations.¹⁵

15. On March 31, 2022, Rose Creek filed an Application Acceptance Compliance Filing stating that Rose Creek had completed the notice requirements of Minn. R. 7854.0600 and provided direct mail notice and newspaper publication relating to Rose Creek's SP Application.¹⁶

16. On April 19, 2022, the Commission issued a Notice of Public Information Meeting scheduling meetings for May 4, 2022 (in-person) and May 5, 2022 (remote-access) and announcing that written comments would be accepted through

¹¹ Ex. RCW-104 Rose Creek Completeness Comments (February 25, 2022) (eDocket No. [20222-183184-01](#)).

¹² Comments from IUOE Local 49 (March 1, 2022) (eDocket No. [20223-183311-01](#)).

¹³ Ex. RCW-105 Rose Creek Supplemental Completeness Comments (March 4, 2022) (eDocket No. [20223-183441-01](#)).

¹⁴ Ex. EERA-2 Response to Reply Comments - Supplemental Comments (March 4, 2022) (eDocket No. [20223-183430-01](#)).

¹⁵ Ex. PUC-2 Order Accepting Application (March 15, 2022) (eDocket No. [20223-183769-01](#)).

¹⁶ Ex. RCW-106 Compliance Filing – Rose Creek Application Compliance Filing (March 31, 2022) (eDocket No. [20223-184281-01](#)).

May 19, 2022.¹⁷ Notice of the public information meetings was published in the *Austin Daily Herald* on April 23, 2022.¹⁸

17. On May 4, 2022, Commission Staff and EERA staff held a public information meeting in Austin, Minnesota. Five persons attended this meeting and five of the attendees provided public comments or questions.¹⁹

18. On May 5, 2022, Commission Staff and EERA Staff held a public information meeting via Webex and telephone. Four persons attended this meeting and one of the attendees provided public comments.²⁰

19. On May 18, 2022, Local 49 and North Central States Regional Council of Carpenters (NCSRCC) filed comments encouraging the Department of Commerce to consider socioeconomic impacts stemming from construction jobs created as a result of the Project in the Draft Site Permit.²¹

20. On May 18, 2022, the Minnesota Department of Natural Resources (MNDNR) filed comments recommending that Rose Creek coordinate with the MNDNR to determine the need for a Prairie Protection and Management Plan (PPMP), utilize best management practices to minimize erosion and sediment loads that could affect downstream public waters; obtain a water use permit; conduct two years of post-construction monitoring; create a special permit condition requiring the use of wildlife friendly erosion control; create a special permit condition to minimize impacts of the substation by using shielded and downward facing lighting that minimizes blue hue; and create a permit condition requiring the permittee to avoid using chemical dust suppressants containing chloride.²²

21. On May 19, 2022, LIUNA filed comments in support of the Project stating that the Project will maximize local benefits, minimize environmental impacts by upgrading an existing facility and efficiently utilize resources through the use of an existing interconnect.²³

22. On May 19, 2022, the Minnesota Department of Transportation (MNDOT) filed comments recommending that if temporary access/changes to road radii from the state trunk highway system onto county or township roads is proposed, and if the PUC

¹⁷ Ex. PUC-4 Notice of Public Information Meeting (April 19, 2022) (eDocket No. [20224-184887-01](#)).

¹⁸ Ex. PUC-5 Notice of Public Information Meeting Affidavit of Publication (April 19, 2022) (eDocket No. [20224-185348-01](#))).

¹⁹ Ex. EERA-8 Minutes – Public Information Meeting Minutes (May 23, 2022) (eDocket No. [20225-185968-01](#)) (“Public Meeting Minutes”).

²⁰ Ex. EERA-7 Minutes – Virtual Public Information Meeting Minutes (May 23, 2022) (eDocket No. [20225-185969-01](#)) (“Virtual Meeting Minutes”).

²¹ Ex. EERA-3 Comments from IUOE Local 49 and NCSRCC (May 18, 2022) (eDocket No. [20225-185869-01](#)) (“Local 49 and NCSRCC Comments”).

²² Ex. EERA-4 Comments from Minnesota Department of Natural Resources (May 18, 2022) (eDocket No. [20225-185867-01](#)) (“MNDNR Comments”).

²³ Ex. EERA-5 Comments from LIUNA Minnesota and North Dakota (May 19, 2022) (eDocket No. [20225-185927-01](#)) (“LIUNA Comments”).

issues a site permit, then Rose Creek should engage in early consultation with MNDOT staff.²⁴

23. On May 20, 2022, the OAH filed a Notice of Prehearing Conference scheduled for June 2, 2022 (remote-access).²⁵

24. On May 26, 2022, Rose Creek filed a proposed procedural schedule as requested in the Notice of Prehearing Conference.²⁶

25. On June 1, 2022, EERA staff filed comments recommending that the Commission issue a draft site permit to Rose Creek and providing a preliminary draft site permit for the Commission's consideration.²⁷

26. On June 1, 2022, EERA filed comments it received directly from the Minnesota Pollution Control Agency (MPCA) on May 12, 2022. The MPCA comments identified potential environmental impacts associated with the Project.²⁸

27. On June 1, 2022, the EERA filed comments it received directly from the U.S. Fish and Wildlife Service (USFWS) on April 29, 2022. The USFWS comments recommended Rose Creek Wind follow both the Final Land-Based Wind Energy Guidelines as well as the Eagle Conservation Plan Guidance (ECP) to minimize impacts to migratory birds, eagles, and federally listed species, as well as providing specific comments on the Northern Long-eared bat (NLEB), prairie bush-clover, impacts to migratory birds, lighting and tower design, and impacts to eagles.²⁹

28. On June 3, 2022, the OAH filed the First Scheduling Order establishing a procedural schedule.³⁰

29. On July 6, 2022, the Commission issued an Order issuing the Draft Site Permit with the modifications proposed by the EERA.³¹

30. On July 13, 2022, the Commission issued a Notice of Public Hearings and Availability of Draft Site Permit, notifying the public of the availability of the Draft Site Permit and of the July 27, 2022, in-person public hearing and July 28, 2022, remote-

²⁴ Ex. EERA-6 Comments from MnDOT (May 19, 2022) (eDocket No. [20225-185911-01](#)) ("MnDOT Comments").

²⁵ Notice of Prehearing Conference (May 20, 2022) (eDocket No. [20225-185955-01](#)).

²⁶ Proposed Rose Creek Wind Procedural Schedule (May 26, 2022) (eDocket No. [20225-186135-01](#)).

²⁷ Ex. EERA-9 Comments – Recommendations and Preliminary DSP (June 1, 2022) (eDocket No. [20226-186277-01](#)) ("DOC-EERA Comments").

²⁸ Ex. EERA-10 Comments from MPCA (June 1, 2022) (eDocket No. [20226-186247-01](#)) ("MPCA Comments").

²⁹ Ex. EERA-11 Comments from USFWS (June 1, 2022) (eDocket No. [20226-186246-01](#)) ("USFWS Comments").

³⁰ First Scheduling Order (June 3, 2022) (eDocket No. [20226-186374-01](#)).

³¹ Ex. PUC-6 Order Issuing Draft Site Permit (July 6, 2022) (eDocket No. [20227-187232-01](#)) ("Draft Site Permit").

access public hearing, and initiating a public comment period ending August 15, 2022.³² The Notice of Public Hearings and availability of Draft Site Permit was also published in the *EQB Monitor*.³³ Notice of Public Hearings and Availability of Draft Site Permit was also published in the *Austin Daily Herald*.³⁴

31. On July 20, 2022, Rose Creek filed the direct testimonies of Dan Flo³⁵ and Gokhan Andi.³⁶

32. On July 25, 2022, the Commission filed the public hearing presentation.³⁷

33. On July 27, 2022, the ALJ presided over an in-person public hearing.³⁸

34. On July 28, 2022, the ALJ presided over a virtual public hearing.³⁹

35. On August 15, 2022, Rose Creek filed comments that it received directly from the Minnesota State Historic Preservation Office (SHPO) concerning the Project on May 18, 2022. SHPO offered comments on archaeological resources, history/architecture projects, and tribal consultation.⁴⁰

36. On August 15, 2022, EERA staff filed comments regarding the Commission's Draft Site Permit for the Project and the direct testimony of Rose Creek.⁴¹

37. On August 15, 2022, LIUNA filed comments in support of the Project and recommended that the Commission issue a site permit for the proposed large wind energy conversion system with no additional conditions or requirements included in the site permit.⁴²

38. On August 19, 2022, Rose Creek filed comments that it received directly from the SHPO concerning the Project on August 17, 2022. SHPO acknowledged that it reviewed the addendum survey report covering areas that were not accessible during the previous survey efforts and the revised project layout submitted by Rose Creek in

³² Ex. PUC-7 Notice of Public Hearings and Availability of Draft Site Permit (July 13, 2022) (eDocket No. [20227-187361-01](#)).

³³ Ex. PUC-9 Notice of Public Hearings and Availability of Draft Site Permit in *EQB Monitor* (July 19, 2022) (eDocket No. [20227-187591-01](#)).

³⁴ Ex. PUC-8 Notice of Public Hearings and Availability of Draft Site Permit Affidavit of Publication (July 19, 2022) (eDocket No. [20227-187581-01](#)).

³⁵ Ex. RCW-102 Prefiled Direct Testimony of Dan Flo with Schedules A, B, C, and D (July 20, 2022) (eDocket Nos. [20227-187646-01](#), [20227-187646-02](#), [20227-187646-03](#), [20227-187646-04](#), [20227-187646-05](#) (Trade Secret), and [20227-187646-06](#)) ("Flo Direct").

³⁶ Exs. RCW-100 and RCW-101 Prefiled Direct Testimony of Gokhan Andi with Schedules A and B (July 20, 2022) (eDocket No. [20227-187644-02](#), [20227-187644-03](#), [20227-187644-04](#), [20227-187644-05](#), and [20227-187644-06](#) (Trade Secret)) ("Andi Direct").

³⁷ Public Hearing Slide Presentation (July 25, 2022) (eDocket No. [20227-187747-01](#)).

³⁸ See July 27, 2022 Public Hearing Transcript.

³⁹ See July 28, 2022 Public Hearing Transcript.

⁴⁰ SHPO Comments (August 15, 2022) (eDocket No. [20228-188363-01](#)).

⁴¹ EERA Public Hearing Comments (August 15, 2022) (eDocket No. [20228-188365-01](#)).

⁴² LIUNA Comments (August 15, 2022) (eDocket No. [20228-188370-01](#)).

July 2022. SHPO offered comments on archaeological resources, history/architecture projects, and tribal consultation.⁴³

III. CERTIFICATE OF NEED EXEMPTION AND RELATED PROCEDURAL BACKGROUND

39. Pursuant to Minn. Stat. § 216B.243, subd. 2 (2022), a certificate of need from the MPUC is required for siting and construction of any large energy facility as defined in Minn. Stat. § 216B.2421, subd. 2 (2022). The Project is a repowering project and its nameplate capacity will not exceed 50 MW.

IV. DESCRIPTION OF THE PROJECT

40. The proposed Project is an LWECS, as defined in Minn. Stat. § 216F.01, subd. 2. The Project has a proposed boundary of 5,258 acres (approximately 2,128 hectares) in size. The Project is located in Lodi and Adams Townships in Mower County, Minnesota.⁴⁴

41. The proposed Project is an up-to 17.4 MW nameplate capacity wind farm in southeastern Minnesota. Rose Creek is requesting a Site Permit that will allow it to construct six to seven new turbines, each with a greater power output than the existing 11 Rose Wind turbines which will be decommissioned. The Project nameplate capacity and point of interconnect will remain the same.⁴⁵

42. Rose Creek proposes to use a combination of two potential GE model wind turbines and one Gamesa model, including the GE 2.3 MW, 80 m (262.47 ft) hub height turbine; the GE 2.82 MW, 89 m (292 ft) hub height turbine; and the Gamesa 2.0 MW, 100 m (328.08 ft) hub height turbine. The selected turbines are each three-bladed, active yaw (designed to move the machine with respect to the wind direction), active blade pitch control (designed to regulate turbine rotor speed), and each has a generator/power electronic converter system. Each turbine is equipped with variable-speed control and independent blade pitch to enhance efficiency. An automated Supervisory Control and Data Acquisition (SCADA) system located at the Project Site will provide remote supervision and control of turbine equipment and performance.⁴⁶

43. The Project will include a wind access buffer of five rotor diameters (RD) in the prevailing wind directions and three RDs in the non-prevailing wind directions, a noise setback meeting the MPCA's Noise Standards found in Minn. R. ch. 7030 (2021); a minimum setback from residences of 1,500 ft and sufficient distance to meet noise standards, and a minimum setback of 250 ft from public roads and trails.⁴⁷

⁴³ SHPO Comments (August 19, 2022) (eDocket No. [20228-188477-01](#)).

⁴⁴ Ex. RCW-103 at 6.

⁴⁵ *Id.* at 7.

⁴⁶ *Id.* at 10.

⁴⁷ *Id.* at 8.

44. Rose Creek estimates the costs to design and construct the Repower Project to be approximately \$24 to \$36 million. Ongoing operations and maintenance (O&M) costs and administrative costs are estimated to be approximately \$700,000 to \$1.2 million per year, including landowner land lease and easement payments.⁴⁸

V. SITE LOCATION AND CHARACTERISTICS

45. The Project is located in Lodi and Adams Townships in Mower County, Minnesota.⁴⁹

46. The Project boundary contains approximately 5,258 acres,⁵⁰ and leasing for the Project is nearly complete.⁵¹ Rose Creek is still negotiating one collection line agreement and expects to secure that prior to the start of construction.⁵²

47. Land cover within the Project boundary consists of approximately 95.8 percent cultivated crops.⁵³

48. The Project is located in a rural area. Within the Project area, the population density is approximately 55.1 individuals per square mile.⁵⁴

VI. WIND RESOURCE CONSIDERATIONS

49. Modeled wind speeds near the Project area are measured at an 80-meter (262.47 ft) wind speed frequency distribution and have an average wind speed of 8.78 meters per second (m/s).⁵⁵

50. A wind resource assessment was conducted for the Project by TrendLine Insights, LLC (Trendline Insights). Interannual variation is the variation in expected annual wind speeds at a specific location. The interannual variation of the 20-year ERA-5 dataset at the Project area is 2.178 percent. The Project area at 80 m (262.47 ft) is characterized with higher wind speeds during the fall, winter, and late spring (October to April; ~> 8.0 m/s) and significantly lower wind speeds during the early spring and summer (May to September; ~< 7.0 m/s).⁵⁶

51. The Project area is characterized by a distinct bimodal wind direction frequency distribution with prevailing winds coming from the northwest and a secondary lobe from the south. The stronger northwesterly winds occur during the winter and fall

⁴⁸ *Id.* at 90.

⁴⁹ *Id.* at 6.

⁵⁰ *Id.* at 6.

⁵¹ *Id.* at 7.

⁵² Exs. RCW-100 and RCW-101 at 4.

⁵³ Ex. RCW-103 at 42.

⁵⁴ *Id.* at 14.

⁵⁵ *Id.* at 81.

⁵⁶ *Id.* at 74.

months, while the weaker southerly winds occur during the late spring and summer months.⁵⁷

52. A net capacity factor of approximately 48 percent is expected annually. The projected average annual output of approximately 73.7 gigawatt hours is anticipated for the Project.⁵⁸

VII. WIND RIGHTS AND EASEMENT/LEASE AGREEMENTS

53. At the time the Application was filed, Rose Creek had secured 95 percent of land leases required to accommodate setback requirements and Project infrastructure. Since then, Rose Creek has worked with landowners to secure one additional good neighbor agreement and the agreement for the laydown yard site.⁵⁹ The secured easement agreements will ensure access for construction and operation of the Project and identify the obligations and responsibilities of the landowners and Rose Creek.⁶⁰

54. Rose Creek has made three changes to the proposed Project layout to reflect the status of land leasing and easement acquisition. First, based on landowner negotiations to date, it has become increasingly unlikely that Rose Creek will be able to obtain sufficient land control to build the Alternative (T1) wind turbine shown in the Application for Scenario 1. Presuming Rose Creek is unable to secure the necessary land control, it would not build Alternative T1 and would instead construct only the six primary turbines reflected in the Application. Second, Rose Creek has identified an area for the laydown yard and signed an agreement with the landowner. The laydown yard will be approximately seven acres of land and located in the Northeast corner of the land described as follows: The East Half of the Northwest Quarter of Section 16, Township 101 North, Range 16 West, Mower County, Minnesota. Third and finally, based on the results of its native prairie survey, Rose Creek has decided to relocate one segment of the planned collection lines to avoid an identified native prairie community.⁶¹

VIII. PROJECT SCHEDULE

55. Rose Creek anticipates Project construction starting in the second quarter of 2023, and to begin commercial operations in the fourth quarter of 2023.⁶²

IX. SUMMARY OF PUBLIC COMMENTS

56. On May 4, 2022, Commission Staff and EERA staff held an in-person meeting and a May 5, 2022, remote-access public meeting. Nine people attended these meetings and six people provided public comments.⁶³

⁵⁷ *Id.* at 75.

⁵⁸ *Id.* at 90.

⁵⁹ Exs. RCW-100 and RCW-101 at 3.

⁶⁰ Ex. RCW-103 at 12.

⁶¹ Exs. RCW-100 and RCW-101 at 3.

⁶² Exs. RCW-100 and RCW-101 at 2.

57. During the comment period ending May 19, 2022, written comments were filed by Local 49 and North Central States Regional Council of Carpenters (NCSRCC), MNDNR, LIUNA Minnesota & North Dakota, and MNDOT.⁶⁴

58. On June 1, 2022, EERA filed comments it received directly from the MPCA (received May 12, 2022) and USFWS (received April 29, 2022).⁶⁵

59. On or about May 18, 2022, Local 49 and NCSRCC filed comments in support of the Project in light of Applicant's commitment to project safety and recognition of the importance of local benefits. They asked the Department to consider socioeconomic impacts stemming from construction jobs created as a result of the Project in the Draft Site Permit.⁶⁶ Site Permit Condition 10.5 requires the Permittee to file quarterly reports related to this issue.⁶⁷

60. On May 18, 2022, the MNDNR filed comments recommending that Rose Creek coordinate with the MNDNR to determine the need for a PPMP, utilize best management practices to minimize erosion and sediment loads that could affect downstream public waters; obtain a water use permit; conduct two years of post-construction monitoring; create a special permit condition requiring the use of wildlife friendly erosion control; create a special permit condition to minimize impacts of the substation by using shielded and downward facing lighting that minimizes blue hue; and create a permit condition requiring the permittee to avoid using chemical dust suppressants containing chloride.⁶⁸ Rose Creek has reviewed the MNDNR's comments and agrees with the recommendations.⁶⁹ Site Permit Conditions 4.7, 5.6.2, 7.5.1, 6.3, 6.4, and 6.5 address these issues.⁷⁰

61. On May 19, 2022, LIUNA filed comments in support of the Project, stating that "this repower project will provide significant socioeconomic benefits to the regional economy because the developer, Consolidated Edison, has indicated the company's willingness to work with labor unions to recruit and utilize skilled local workers to build it." LIUNA also states their support for the Project in saying that it will:

[E]fficiently use existing wind resources and have a minimal impact on the surrounding environment. The developer is replacing outdated wind turbines with new more efficient turbines. Additionally, the project will utilize an existing interconnection point, which is critical at a time of grid congestion. This project will maximize local benefits, minimize

⁶³ Exs. EERA-7, and EERA-8.

⁶⁴ Ex. EERA-3; Ex. EERA-4; Ex. EERA-5; Ex. EERA-6.

⁶⁵ Exs. EERA-10 and EERA-11.

⁶⁶ Ex. EERA-3.

⁶⁷ Ex. PUC-6.

⁶⁸ Ex. EERA-4.

⁶⁹ Exs. RCW-100 and RCW-101 at 4.

⁷⁰ Ex. PUC-6.

environmental impacts by upgrading an existing facility and efficiently utilize resources through the use of an existing interconnect.⁷¹

Site Permit Condition 10.5 addresses these issues.⁷²

62. On May 19, 2022, the MNDOT filed comments on potential impacts and mitigation measures, stating that the Rose Creek could utilize the State of Minnesota trunk highway system for removal and delivery of materials to the Project Site. Also, MNDOT stated that if temporary access/changes to road radii from the state trunk highway system onto county or township roads is proposed, then Rose Creek should engage in early consultation with the MNDOT as some access may be prohibited. MNDOT expressed their appreciation for Rose Creek's stated turbine setback of 1.1X tip height being applied to the Project. The MNDOT went on to say that Rose Creek should familiarize themselves with MNDOT construction projects within the Project and anticipated delivery areas, because MNDOT's highway construction activities could impact the Applicant's plans to haul oversize loads to the proposed site. MNDOT also stated that early coordination with MNDOT staff is strongly encouraged. MNDOT emphasized that any permits applied for as a part of the Rose Creek Wind Project will not be issued until the PUC has issued an approved Site Permit for the Project.⁷³ Rose Creek has reviewed the MNDOT comments and agrees with the recommendations.⁷⁴ Site Permit Conditions 5.6.2, 6.6, and 10.1 address these issues.⁷⁵

63. On June 1, 2022, EERA filed comments it received directly from the MPCA on May 12, 2022. The MPCA's comments on the environmental impacts of the Project stating the following: (1) if stormwater from the Project construction has the ability to flow to the unnamed creeks along the north of the Project Site that have construction-related impairments, then additional erosion and sediment control Best Management Practices (BMPs) are required per the MPCA National Pollutant Discharge Elimination System/State Disposal System General Construction Stormwater permit (CSW Permit); (2) a temporary sediment basin will also be required if five or more acres of the site drains to a common location.; (3) any unavoidable disturbance of the existing 50 ft of buffer to wetlands or other surface waters identified at the site (public or non-public) will require use of redundant (double) down gradient sediment controls; (3) if the total impervious surface equals one or more acres, then permanent stormwater management must be included in the Project plans and Stormwater Pollution Prevention Plan; and (4) if infiltration methods of stormwater management are not feasible due to high water tables or poorly drained soils, then use of wet sediment basins or a combination may be required.⁷⁶ Rose Creek has reviewed the MPCA's comments and

⁷¹ Ex. EERA-5.

⁷² Ex. PUC-6.

⁷³ Ex. EERA-6.

⁷⁴ Exs. RCW-100 and RCW-101 at 5.

⁷⁵ Ex. PUC-6.

⁷⁶ Ex. EERA-10.

agrees with the recommendations.⁷⁷ Site Permit Condition 6.2 addresses these issues.⁷⁸

64. On June 1, 2022, EERA filed comments it received directly from the USFWS on April 29, 2022. The USFWS's comments recommend Rose Creek follow both the Final Land-Based Wind Energy Guidelines as well as the ECP to minimize impacts to migratory birds, eagles, and federally listed species, as well as providing the following specific comments: (1) if the status of the NLEB changes, then the USFWS recommends further coordination with the USFWS to understand implications these changes might have on project operations; (2) the lack of suitable habitat makes it highly unlikely that prairie bush-clover occurs within the proposed Project area; (3) the USFWS recommends any necessary lights on buildings, turbines or meteorological (met) towers are compliant with the 2016 Federal Aviation Administration (FAA) guidance on tower lighting; and (4) if the Project proponent wishes to apply for an eagle take permit, pre-construction surveys will need to comply with the data collection requirements under the 2016 Eagle Incidental Take Permit Regulations.⁷⁹ Rose Creek has reviewed the USFWS's comments and agrees with the recommendations.⁸⁰ Site Permit Conditions 7.1, 7.5.1, 5.3.9, and 5.3.28 address these issues.⁸¹

65. On August 15, 2022, Rose Creek filed comments that it received directly from the SHPO concerning the Project on May 18, 2022. SHPO commented on archaeological resources, history/architecture projects, and tribal consultation. Concerning archaeological resources, the SHPO stated that they look forward to reviewing the result of the additional Phase I survey work when it becomes available. Concerning history/architecture projects, the SHPO agreed with Rose Creek's determination that the Project, as currently proposed, will have no adverse effect on the Adams State Bank, which is listed in the National Register of Historic Places. Concerning tribal consultation, the SHPO asked to be informed if any tribes express concern or disagreement with efforts to identify historic properties and/or the assessment of effects for this project.⁸²

66. On August 15, 2022, EERA staff filed comments regarding the Commission's Draft Site Permit for the Project and the direct testimony of Rose Creek. Concerning the three changes to the overall project layout mentioned in the direct testimony, EERA stated that it appreciates the updates on Alternative (A1) turbine, the laydown yard area, and relocation of one segment of the collection line system provided by Rose Creek. EERA supports Rose Creek's plan to only proceed with the use of turbine locations with which they can reach agreements with landowners as this will eliminate the need for wind access buffer waivers. EERA supports Rose Creek's request that the specifically identified laydown yard be included on an updated Site Map to be attached to the Site Permit. EERA supports the collection line segment shift to the

⁷⁷ Exs. RCW-100 and RCW-101 at 4.

⁷⁸ Ex. PUC-6.

⁷⁹ Ex. EERA-11.

⁸⁰ Exs. RCW-100 and RCW-101 at 4.

⁸¹ Ex. PUC-6.

⁸² SHPO Comments (August 15, 2022) (eDocket No. [20228-188363-01](#)).

other side of the road to avoid native prairie impacts. EERA staff agrees with Rose Creek's requested revision to Section 2.1 of the DSP. Concerning the ADLS, EERA stated that ADLS provides a good mitigation measure to reduce impacts on nighttime aesthetics for local residents. EERA noted the recency of the ADLS requirement. As required in statute, EERA deferred to the Commission to weigh the mitigation benefits against the cost of ADLS implementation and maintenance at the Project. Concerning the decommissioning of the existing Rose Wind facility, EERA staff disagreed that Special Condition 6.1 is unnecessary and beyond the scope of this proceeding. However, EERA agreed with Rose Creek that the decommissioning of the existing Rose Wind Facility and commencement of construction of the proposed Rose Creek Wind Project can occur concurrently. Thus, EERA supports the deletion of the second sentence in Special Condition 6.1.⁸³

67. On August 15, 2022, LIUNA filed comments in support of the Project stating the Project will provide significant socioeconomic benefits to the regional economy. LIUNA recommended that the Commission issue a site permit for the proposed large wind energy conversion system with no additional conditions or requirements included in the site permit.⁸⁴

68. On August 19, 2022, Rose Creek filed comments that it received directly from the SHPO concerning the Project on August 17, 2022. SHPO acknowledged that it had reviewed the addendum survey report covering areas that were not accessible during the previous survey efforts and the revised project layout submitted by Rose Creek in July 2022. SHPO commented on archaeological resources, history/architecture projects, and tribal consultation. Concerning archaeological resources, SHPO concluded that there are no known or suspected archaeological sites that will be affected by the Project as it is currently proposed. Concerning history/architecture projects, SHPO agreed with Rose Creek's determination that the Project, as currently proposed, will have no adverse effect on the Adams State Bank. Concerning tribal consultation, SHPO asked to be informed if any tribes express concern or disagreement with efforts to identify historic properties and/or the assessment of effects for this project.⁸⁵

X. SITE PERMIT CRITERIA

69. Wind energy projects are governed by Minn. Stat. ch. 216F and Minn. R. ch. 7854. Minn. Stat. § 216F.01, subd. 2, defines a large wind energy conversion system 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.

70. 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, which

⁸³ EERA Public Hearing Comments (August 15, 2022) (eDocket No. [20228-188365-01](#)).

⁸⁴ LIUNA Comments (August 15, 2022) (eDocket No. [20228-188370-01](#)).

⁸⁵ SHPO Comments (August 19, 2022) (eDocket No. [20228-188477-01](#)).

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

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

(2) environmental evaluation of sites . . . 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 . . . proposed pursuant to subdivisions 1 and 2;

(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.⁸⁶

71. The Commission must also consider whether the applicant has complied with all applicable procedural requirements.⁸⁷

72. 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.⁸⁸ No separate environmental review document is required for a LWECS project.⁸⁹

XI. APPLICATION OF SITING CRITERIA TO THE PROPOSED PROJECT

A. Human Settlement

73. The Project is located in a rural, agricultural region in southeastern Minnesota.⁹⁰ Within the Project area, the population density is approximately 55.1 persons per square mile. The Project area includes both Adams and Lodi Townships in Mower County, Minnesota, while all Project infrastructure will be in Adams Township. No municipalities are within the Project Site. The City of Adams is directly north of the Project and the City of Taopi is 1.5 miles northeast. The City of Austin, located approximately 15 miles (24.14 km) northwest of the Project Site, is the county seat and largest city in Mower County.⁹¹

74. There are 11 windfarms and 385 wind turbines (including the 11 existing Rose Wind turbines) within 10 miles of the Project Boundary of various heights, rotor diameters, and lighting mechanisms.⁹²

75. The Project area is rural in nature with an agriculture-based economy and will remain so after construction.⁹³ The Project will not displace residents and will not significantly change the population size or demographics in the Project area or Mower County.⁹⁴

⁸⁶ Minn. Stat. § 216E.03, subd. 7. Considerations (8) and (10) are omitted because they pertain only to proposed routes of high voltage transmission lines.

⁸⁷ Minn. R. 7854.1000, subp. 3.

⁸⁸ Minn. R. 7854.0500, subp. 7.

⁸⁹ Minn. R. 7854.0500, subp. 7 ("The analysis of the environmental impacts required by this subpart satisfies the environmental review requirements of chapter 4410, parts 7849.1000 to 7849.2100, and Minnesota Statutes, chapter 116D. No environmental assessment worksheet or environmental impact statement shall be required on a proposed LWECS project.").

⁹⁰ Ex. RCW-103 at 14.

⁹¹ *Id.*

⁹² *Id.* at 24.

⁹³ *Id.* at 43.

⁹⁴ *Id.* at 14, 15.

B. Zoning and Land Use

76. The Project is located in Mower County in an area zoned for agricultural use.⁹⁵

77. Mower County has adopted a Comprehensive Plan and a Zoning Ordinance. The land for the Project is zoned for agricultural use, however, the Project Site contains an existing wind farm surrounded by agricultural land. The Project will involve the replacement of existing turbines with new turbines in the same general vicinity, and the surrounding area will remain in agricultural use. As such, no significant change to land use is proposed.⁹⁶

78. According to Mower County Zoning Maps, the Project falls entirely within the Agricultural District. The Zoning Ordinance also includes a Shoreland Management Overlay District, which may apply to new development within 300 ft (91.44 m) of Public Water Inventory (PWI)-listed waterways.⁹⁷

79. The intent of the Shoreland Management Overlay policy is to regulate the subdivision, use, and development of shoreland areas to: (1) protect and enhance the quality of surface waters; (2) preserve the natural environmental values (steep slopes, vegetation, and wildlife); (3) promote wise utilization of waters related to land resources; and (4) preserve historic values. Shoreland is located within 1,000 ft (304.8 m) of the normal high-water mark of a lake, pond, or flowage; and within 300 ft (91.44 m) of any river or stream, or the landward extent of a floodplain designated by ordinance on a river or stream, whichever is greater. Per the County's Zoning Ordinance Section 14-90, the Shoreland Overlay regulations apply to all public waters in the unincorporated areas of Mower County. Within the Project Site, Shoreland Management Overlay occurs within 300 ft (91.44 m) of one public waterway in the north central portion of the Project.⁹⁸

80. Within the Zoning Ordinance, Mower County also maintains a Floodplain Management Ordinance, which applies to all Floodway, Flood Fringe, or General Floodplain areas within the county. There are no mapped floodplains that fall within the Project.⁹⁹

81. The Mower County Zoning Ordinance outlines special requirements for wind energy conversion facilities with a rated capacity of 100 kilowatt (kW) or less and between 100 kW and 5 MW. Per the ordinance, wind energy conversion systems are a permitted use within agricultural districts if they are 100 kW or less and are allowed as a conditional use if between 100 kW and 5 MW. The existing Rose Wind turbines were sited following the then-current Ordinance. The Project will have a total capacity of up to

⁹⁵ *Id.* at 15.

⁹⁶ *Id.* at 15-18.

⁹⁷ *Id.* at 17.

⁹⁸ *Id.*

⁹⁹ *Id.*

17.4 MW; therefore, the County requirements do not apply to the Rose Creek Wind Project.¹⁰⁰

82. The Project is consistent with the Mower County Comprehensive Plan's goals to conserve prime agricultural lands for long-term agricultural use, conserve and enhance the County's rich natural resource base, and maintain healthful living environments and compatible land use relationships. Since there are existing wind turbines that are considered compatible with the goals of the Comprehensive Plan, the replacement wind turbines will more likely than not continue to be compatible with the stated goals of the Comprehensive Plan.¹⁰¹

83. The Project is not likely to impact future zoning and expansion of incorporated areas in the Project area. Urban Expansion Districts are intended to designate areas of the County where urban development can take place. The Project is located more than five miles from the nearest Urban Expansion District, which will minimize potential impacts on future urban growth. The Project will also allow for participating landowners to continue to use their agricultural land for activities such as farming and grazing, with a minimal loss of land that will be occupied by Project facilities. In return, participating landowners will receive income from Project leases. The Project will positively impact local economies by providing a diversified income stream for landowners, possible temporary construction jobs for local workers and suppliers, and tax benefits to the local governments.¹⁰²

84. The Project compliments current agricultural and other land uses within and nearby the Project boundary and does not conflict with the applicable zoning and/or comprehensive plan requirements. The Project is not expected to impact future zoning and expansion of developed areas in the surrounding area. The Project infrastructure is compliant with the Mower County setback conditions to the extent practicable to minimize impacts on future agricultural use. The location of the Project will not limit continued agricultural use of the surrounding area. The Project is not expected to have negative impacts on local zoning, conservation easements, or comprehensive plans. The record demonstrates that Rose Creek Wind has taken steps to avoid and minimize impacts to land use and local zoning.¹⁰³

85. All turbines associated with the Project are located within the Agricultural District. Rose Creek plans to site turbines and any associated aboveground facilities outside of the Shoreland Management Overlay District. Because the Project will involve decommissioning of existing turbines and constructing new turbines in the vicinity, the Project will continue to be compatible with the existing Mower County zoning ordinance. If any new shoreland crossings or land use changes occur as a part of the Project, Rose Creek will comply with the applicable regulations, as necessary.¹⁰⁴

¹⁰⁰ *Id.*

¹⁰¹ *Id.* at 18.

¹⁰² *Id.*

¹⁰³ *Id.*

¹⁰⁴ *Id.*

C. Property Values

86. Project facilities will be sited and constructed predominantly on leased agricultural lands owned by participating landowners being compensated for the use of their property.¹⁰⁵ The Project is not expected to have negative impacts on local zoning, conservation easements, or comprehensive plans. There is no evidence in the record indicating that the Project will negatively impact property values in the Project area.

87. The Project may alter the viewshed from nearby public and private lands. However, as this is a repowering project, turbine structures are already present within the viewshed of the Project area. The number of turbines will be reduced from eleven to six or seven and it is not anticipated to have an impact on tourism in this area.¹⁰⁶

88. The record demonstrates that the Project will not negatively impact property values of participating or non-participating landowners within or near the Project area.

D. Noise

89. The operation of wind turbines produces noise. “Noise” means “any sound not occurring in the natural environment, including, but not limited to, sounds emanating from aircraft and highways, and industrial, commercial, and residential sources.”¹⁰⁷ The term “background or ambient noise” as described in the MPCA’s Guide to Noise Control in Minnesota refers to all noise sources other than the noise source of concern. Common background sound sources within an agricultural and/or rural environment include, but are not limited to, sound from farm equipment such as tractors and combines, sound generated from traffic on roadways, sounds from birds, and wind rustling through the vegetation.

90. LWECS, along with all other sources of man-made noise, must comply with the MPCA’s Noise Standards found in Minn. R. ch. 7030.¹⁰⁸ The Noise Standards regulate noise from the operation of the wind turbines and other project-related sources. The Noise Standards limit the sound pressure level, measured in decibels, using the A-weighted scale (dB(A)).¹⁰⁹ The Noise Standards specify both L₁₀ and L₅₀ limits for one-hour periods for daytime and nighttime hours.¹¹⁰ L₁₀ is the sound pressure level exceeded ten percent of the time for a one-hour survey, and L₅₀ is the sound pressure level exceeded 50 percent of the time for a one-hour survey.¹¹¹

91. The Noise Standards are specific to the type of land use adjacent to the Project. The most stringent limits are for Noise Area Classification (NAC) 1, which

¹⁰⁵ *Id.* at 46.

¹⁰⁶ *Id.* at 45.

¹⁰⁷ Minn. Stat. § 116.06, subd. 15 (2022).

¹⁰⁸ Minn. Stat. §§ 116.07(c) and 216E.03, subd. 7(d) (2022) and Minn. R. ch. 7030 (2022).

¹⁰⁹ Minn. R. 7030.0020 and 7030.0040.

¹¹⁰ Minn. R. 7030.0040.

¹¹¹ Minn. R. 7030.0020, subp. 7 and 8.

includes household units, including farm houses.¹¹² In NAC 1, the nighttime noise limit is 50 dB(A).¹¹³ The Noise Standards also contain specific measurement procedures to be used for accurately measuring the noise from the source only, while taking care not to include noise from “background noise,” which is defined as “any ambient noise other than the noise to be measured, including wind, precipitation, traffic, etc.”¹¹⁴

92. The Project is in an agricultural land use setting. Therefore, existing sources of noise may include frequent agricultural activity road use by freight truck and automobile traffic, farmstead operations, wind turbine operations, and intermittent aircraft overflights. There are 11 existing wind turbines within the Project Site, 15 turbines within 1,000 ft of the Project Boundary, and 21 turbines within 0.5 mile of the Project Boundary.¹¹⁵

93. Rose Creek contracted with KiloNewton to conduct a sound modeling study. The modeling was conducted using OpenWind, a modeling software that calculates sound levels at site-specific locations using sound sensitive receptors. The modeling results of Scenario 1 indicate that the maximum value at any receptor due to the Project was found to be just below 47.0 dB(A); therefore, the Project is not projected to cause or contribute to any exceedance of the standard. No receptors were modeled to exceed a total sound of 50 dB(A). The modeling results of Scenario 2 indicate the maximum value at any receptor due to the Project was 46.4 dB(A); therefore, the Project is not projected to cause or contribute to any exceedance of the standard. No receptors were modeled to exceed a total sound of 50 dB(A).¹¹⁶

94. Project-specific sounds may also be produced temporarily during Project construction. The sound levels resulting from construction activities vary significantly depending on several factors, such as the type and age of equipment, the specific equipment manufacturer and model, the operations being performed, and the overall condition of the equipment and exhaust system mufflers. Reasonable efforts will be made to minimize the impact of sound resulting from construction activities. Most Project construction work will occur during the daytime, although some construction may occur outside of typical business hours; construction that occurs outside of normal business hours is typically work that needs to be finished during the same time period as it is initiated (e.g., concrete pouring). All equipment will be maintained in good working order in accordance with manufacturer specifications.¹¹⁷

95. Project construction and decommissioning activities that produce noise will comply with applicable state and local regulations. The Project will comply with MPCA noise standards based on the acoustic modeling results and all turbines will be

¹¹² Minn. R. 7030.0050, subp. 2.

¹¹³ Minn. R. 7030.0040, subp. 2.

¹¹⁴ Minn. R. 7030.0060 and “A Guide to Noise Control in Minnesota; Acoustical Properties, Measurement, Analysis and Regulation,” MPCA (November 2015) available at: www.pca.state.mn.us (accessed March 8, 2018) [hereinafter “MPCA Guide”] at 13.

¹¹⁵ *Id.* at 20.

¹¹⁶ *Id.* at 21-22.

¹¹⁷ *Id.* at 22.

set back more than 1,500 ft from receptors. The Project will adhere to the MPUC process for documenting, investigating, and resolving complaints related to Project noise.¹¹⁸

E. Shadow Flicker

96. Shadow flicker is an intermittent change in light intensity from the interaction of an operating wind turbine and the sun. The result may be repeated changes in brightness as wind turbine blades rotate. Shadow flicker is limited to time periods when the wind turbine is operating, and the sun is shining. In addition, shadow flicker is limited to the times of day when a window of the participating or non-participating residence is in the shadow of the wind turbine.¹¹⁹

97. Shadow flicker is currently present in the Project area due to operating turbines, including Adams Wind, Rose Wind, and other nearby wind farms. No complaints are known to have been recorded related to shadow flicker from existing turbines.¹²⁰

98. Rose Creek designed the Project to minimize potential impacts from shadow flicker on participating and non-participating residences. These design considerations include turbine setbacks of at least 1,500 ft (456 m) from participating and non-participating residences and fewer turbines than the existing Rose Wind Facility, which will result in reduced shadow flicker.¹²¹

99. The modeled shadow flicker results demonstrate that no residence is expected to experience shadow flicker more than 30 hours per year. No mitigation measures are proposed due to the expectation of no significant impacts in the Project area related to shadow flicker. Complaints related to shadow flicker will be managed on a site-specific basis.¹²²

100. The record demonstrates that Rose Creek designed the Project to minimize potential impacts from shadow flicker.¹²³

F. Aesthetic Impacts

101. The topography of the Project area is relatively flat, with some areas of undulating, rolling relief. There are no USFWS national parks or refuges, USFWS Waterfowl Production Areas, Minnesota state parks, MNDNR aquatic management areas, MNDNR wildlife management areas (WMA), or other MNDNR-managed lands within the Project Site. However, there are several public recreation and wildlife areas within three miles (4.83 km) of the Project. One waterway listed on the state Public Waters Inventory, a tributary to Little Cedar River, is located in the north central portion

¹¹⁸ *Id.* at 22-23.

¹¹⁹ *Id.* at 24.

¹²⁰ *Id.*

¹²¹ *Id.* at 26.

¹²² *Id.* at 27.

¹²³ *Id.* at 24-27.

of the Project Site. Private lands and homes in this area of Mower County include residential farmsteads along rural county and township roads.

102. The existing Rose Wind Facility is located within the Project Site and consists of 11 turbines with red-blinking lights. These will be decommissioned prior to the commercial operation of the proposed Project.¹²⁴

103. While the installation of the proposed wind turbines may impact the visual surroundings of the Project and could visually impact public resources and individuals' visual experiences, the degree of visual impact will vary based on personal preferences. The Project will not introduce a new feature type to the landscape or create a new impact on public resources because many wind turbines are currently operating in the Project area. The Project meets MPUC setback requirements, and public resources are not present within the Project Site, with the exception of one public water that will not be impacted.¹²⁵

104. The number of turbines in the immediate vicinity will be reduced by four or five after the removal of the 11 Rose Wind turbines and depending on the Repower Project layout scenario. In addition, no meteorological evaluation towers (METs) will be constructed for the Repower Project. Therefore, the overall impact from turbine lighting will be less than current conditions.¹²⁶

105. The Project's facilities will include up to seven wind turbines, collector lines, gravel turbine access roads, and a temporary construction yard. The Project will not include a MET or an O&M facility.¹²⁷ The existing Rose Wind Facility does not include MET towers.¹²⁸

G. Local Economy

106. Overall, the Project will positively impact the local economy by providing new revenue streams to participating landowners and by continuing to support the county's tax base.¹²⁹

107. Mower County will experience short-term positive economic impacts associated with tax payments during the construction phase of the Project through the use of local hotels, restaurants, and other consumer goods and services by the various workers as well as the purchase of materials such as fuel, equipment, services, and supplies necessary to construct and operate the facilities from local vendors.¹³⁰

108. The existing Rose Wind Facility has been providing significant long-term positive economic benefits to the state and the local economy of southeastern

¹²⁴ *Id.* at 24.

¹²⁵ *Id.* at 25.

¹²⁶ *Id.* at 25-26.

¹²⁷ *Id.* at 1.

¹²⁸ *Id.* at 6.

¹²⁹ *Id.* at 46.

¹³⁰ *Id.* at 46-47.

Minnesota. The current production tax is \$0.36 per MW hour. The Rose Wind Facility is unique in that the land occupied by the facility, including the turbines, access roads, and most of the collector lines, is owned in fee by CED, which pays a property tax of 0.85 percent of the property's market value. These lands will continue to be owned by CED via a holding company also solely-owned by CED, and therefore will continue to provide property tax revenue to local governments, albeit at a new valuation that does not include the Rose Wind turbines.¹³¹

109. The existing turbines that were built in 2004 and 2005, have nameplate capacities that are 1.5 and 1.65 MW. The newer turbines replacing the existing turbines have a higher nameplate capacity of 2 MW to 2.82 MW. Since the turbines are newer, they are going to increase reliability, as well as efficiency. The byproduct of this is an increase in yearly generation of electricity from the new turbines when compared to the existing turbines. Consequentially, there will be increased wind energy production tax revenue to the county and township.¹³²

110. It is anticipated that the new Rose Creek Project will pay a wind energy production tax to Mower County of \$1.20 per MW hour of electricity produced. This will result in an annual wind energy production tax of approximately \$70,000 to \$80,000 for Mower County and Adams Township once the Project is operational. In comparison, the existing Rose Wind had an average annual wind energy production tax of approximately \$12,000 to \$13,000.¹³³

111. The Project's estimated total payments to landowners are expected to exceed \$2 million over the life of the Project.¹³⁴

112. The Project is expected to create approximately 50 construction jobs and the existing local staff are currently planned to be retained for O&M of the Project, once complete.¹³⁵

113. Mitigation measures are not anticipated because socioeconomic impacts associated with the Project will be primarily positive with an influx of wages and expenditures made at local businesses during Project construction and an increase in the County's tax base from the construction and operation of the wind turbines. In addition, the Project will not result in permanent impacts to agricultural land after decommissioning.¹³⁶

114. The record demonstrates that the Project will result in both short- and long-term benefits to the local economy.

¹³¹ *Id.* at 46.

¹³² Exs. EERA-7 at 12 and EERA-8 at 12.

¹³³ Ex. RCW-103 at 47.

¹³⁴ *Id.*

¹³⁵ *Id.* at 46.

¹³⁶ *Id.* at 47.

H. Public Health and Safety

115. The term electromagnetic fields (EMF) refers to electric and magnetic fields that are present around electrical devices indoors and outdoors. Voltage or electrical chargers generate electric fields and the flow of electricity along transmission lines, collector lines, and substation transformers generate magnetic fields. 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 wire. EMF strength decreases significantly with increasing distance from the source.¹³⁷

116. EMF associated with a transformer or turbine will dissipate within five ft (1.5 m), and the Project was sited beyond typical dissipation distances where EMFs will be at background levels. Furthermore, all collector lines will be buried at a depth of 50 to 54 inches (1.27 m – 1.37 m) and EMF from underground collector lines dissipates within 20 ft (6.1 m) on either side because they are buried and wound with copper wires. No conclusive evidence exists that EMFs from wind facilities and their associated equipment present health concerns.¹³⁸

117. The Project will comply with required setbacks and Rose Creek will regularly inspect and maintain each turbine in good condition. Additionally, impacts to safety and security of the local population from construction and maintenance are not expected. During operation, the Project will not interfere with emergency services.¹³⁹

I. Public Service and Infrastructure

118. The Project is in rural southern Minnesota immediately north of the Iowa border. Rural residences in the Project area are served by a system of existing roads and utilities that provide access, water, electricity, telephone, and other communication services to rural residences and farmsteads. Rural residences and farmsteads are likely to use private septic systems and water wells for household needs. The small cities of Adams and Taopi, Minnesota are located north of and adjacent to and 1.5 miles northeast, respectively, of the Project area.¹⁴⁰

119. Rose Creek will submit FAA Form 7460 for the Project. The FAA evaluates the aeronautical compatibility and regulatory compliance under FAA Part 77. Additionally, a Tall Towers Permit and approval may be required by MNDOT, if the turbines are greater than 500 ft above ground level, prior to developing the Project to ensure the safety of airspace within Minnesota. Determinations of no hazard are anticipated in spring 2022; the Project does not anticipate any impacts to aviation.¹⁴¹

120. Existing road infrastructure within the Project Site consists of state, county, and township roads that typically follow section lines; farmstead driveways; and

¹³⁷ *Id.* at 59.

¹³⁸ *Id.* at 60.

¹³⁹ *Id.* at 40.

¹⁴⁰ *Id.* at 28.

¹⁴¹ *Id.* at 39-40.

farming access roads. Various county and township roads provide access to the Project Site. No railroads were identified within the Project Site.¹⁴²

121. Temporary impacts are expected to public roads during construction as materials, personnel, and equipment will be brought in via existing highways and roads. Construction traffic will use the existing county, township, and state roadway system to access the Project and deliver construction materials and personnel. Changes to road radii for turbine and blade delivery may be required; however, they will be returned to pre-construction conditions. After construction is complete, operation activities for the new (up to 7) turbines will be similar to the existing (11) turbines. There will be no new operational activities and traffic in the Project area will not increase.¹⁴³

122. To mitigate potential impacts to public roads during construction, prior to construction, Rose Creek Wind will coordinate with MNDOT, Adams Township, and the Mower County Public Works Department to ensure all relevant permits are obtained, delivery plans are communicated, traffic management plans are implemented where necessary, and weight limits are not exceeded. Additionally, large trucks will have a maximum speed limit of 25 miles per hour within project construction areas. Rose Creek will negotiate road use agreements with applicable roadway authorities to ensure that impacted or damaged roadways will be restored to their original condition or better. Temporary impacts to the landscape associated with temporary access road approaches, the crane walks, and other temporary activities will be restored to previous agricultural conditions or otherwise reseeded with seed mixes appropriate for the region. Traffic is not expected to increase during the operations phase of the Project.¹⁴⁴

123. There are several communication systems in the Project area, including microwave, radio, fixed land-mobile stations, and television. Rose Creek also identified one cellular site recorded with the Federal Communications Commission (FCC) that is owned by Verizon and located 7.55 miles (12.2 km) east of the Project Boundary. No pipelines were identified within the Project Site in publicly available databases or mapping. However, according to Minnesota Geospatial Information, three electric transmission lines 69 kV and greater are located within the Project Site. In addition, two other transmission or distribution lines under 69 kV are located within the Project Site.¹⁴⁵

124. Based on Rose Creek Wind's analysis of the proposed turbine locations, there are no potential obstructions between the wind turbine locations and the Fresnel Zones or Consultation Zones of the incumbent microwave paths in the Project area. Thus, no impacts on microwave paths are anticipated due to the Project.¹⁴⁶

125. As there were no stations found within three km (1.86 miles) of the Project, which is the maximum possible exclusion distance based on a directional AM

¹⁴² *Id.* at 28.

¹⁴³ *Id.* at 31.

¹⁴⁴ *Id.* at 33.

¹⁴⁵ *Id.* at 29-30.

¹⁴⁶ *Id.* at 31, 33.

antenna broadcasting at 1000 KHz or less, the Project should not impact the coverage of local AM stations. The coverage of FM stations is generally not sensitive to interference due to wind turbines, especially when large objects (e.g., wind turbines) are located in the far field region of the radiating antenna to avoid the risk of distorting its radiation pattern. Station KFNL-FM is the nearest FM station to the Project Site at 9.9 km (6.15 miles) away. At this distance there should be adequate separation to avoid radiation pattern distortion.¹⁴⁷

126. The Project is not anticipated to have any impacts to licensed and operational AM or FM broadcast stations, and mitigation is not anticipated.¹⁴⁸

127. Fixed land-mobile stations may be used in the Project area for police, fire, emergency medical services, emergency management, hospitals, public works, transportation and other state, county, and municipal agencies, among other reasons. Fixed land-mobile stations are typically unaffected by wind projects because their systems have multiple transmitters that provide redundancies such that their signals can be broadcasted around wind turbines. No significant impacts are anticipated to these services in the Project area.¹⁴⁹ Six site-based licenses were identified in the communication systems study area.¹⁵⁰

128. The Project is not anticipated to have any impacts on fixed land-mobile stations, and mitigation is not anticipated.¹⁵¹

129. Based on an Off-Air TV Analysis that was completed in February 2021, a total of 93 database records were identified for TV stations within approximately 150 km (93.21 miles) of the Project. Based on the analysis, it was determined that 11 of the full-power digital TV stations and two low-power digital TV stations may have their reception interrupted; however, the areas primarily affected would be within 10 km (6.21 miles) of the turbines that have clear line-of-sight to a proposed wind turbine but not to the respective station. Residences may have degraded reception from these stations due to multipath interference caused by signal scattering because TV signals are reflected by the rotating wind turbine blades and masts. However, modern digital TV receivers have undergone significant improvements to mitigate the effects of signal scattering. When used in combination with a directional antenna, it is even less likely that signal scattering from wind farms will cause interference to digital TV reception. Nevertheless, signal scattering could still impact certain areas currently served by the TV stations, especially those that would have line-of-sight to at least one wind turbine but not to the station antennae.¹⁵²

130. In the unlikely event that interference is observed in any of the TV service areas, the interference may be mitigated through use of a high-gain directional antenna

¹⁴⁷ *Id.* at 31.

¹⁴⁸ *Id.* at 33.

¹⁴⁹ *Id.* at 31.

¹⁵⁰ *Id.* at 29.

¹⁵¹ *Id.* at 33.

¹⁵² *Id.* at 32.

placed outside and oriented towards the signal origin. Both cable service and direct broadcast satellite service will be unaffected by the presence of the wind turbine facility. If TV interference is reported, Rose Creek will log the report, determine if the interference is related to the Project, and work with the landowner and local communication technician to determine if a high-grain directional antenna could be installed. Alternatively, Rose Creek may offer monetary compensation comparable to the direct cost of the antenna.¹⁵³

131. The telephone communications in the mobile phone carrier bands are typically unaffected by the presence of the wind turbines and no significant harmful effect to mobile phone services are anticipated in the Project area. The Project is also not expected to impact broadband service. Thus, no mitigation is anticipated.¹⁵⁴

132. The Project will be constructed to avoid impacts to pipelines and other underground infrastructure as well as overhead transmission lines. Although not a requirement under Minnesota rules, Project turbines will be set back at least 1.1 times total height from all electric transmission lines as an impact avoidance measure.¹⁵⁵

133. The Project is not anticipated to have any impacts on pipeline or transmission lines and mitigation is not anticipated.¹⁵⁶

134. The record demonstrates that construction and operation of the Project is expected to have a minimal effect on existing public services and infrastructure in the area.¹⁵⁷

J. Recreational Resources

135. Recreational opportunities in Mower County, Minnesota and Mitchell County, Iowa include areas to bike, hike, fish, hunt, camp, and observe nature.¹⁵⁸

136. There are no state or county parks/trails located within the Project, however, Shooting Star State Trail runs adjacent to the northern Project Boundary. Additionally, there is one county-managed trail in Iowa. The Wapsi-Great Western Line Trail (designated as both a recreational trail and bike trail), located 2.6 miles (4.18 km) east of the Project. Lake Loise State Park (MN) is located 7.0-miles (11.26 km) east of the Project. The park offers swimming, fishing, and paddling in its 25-acre man-made lake, as well as hiking and horseback riding. There are two county parks located in Iowa within 10 miles (16.09 km) of the Project. The Wapsi-Great Western Line Bike Trail is designated as a county park and owned and managed by Mitchell County. The bike trail is split into two segments, north and south, and travels through Lake Hendricks Park in Elma, Iowa and the Wapsi-Great Western Line Recreation Area near the city of

¹⁵³ *Id.* at 33-34.

¹⁵⁴ *Id.* at 32, 34.

¹⁵⁵ *Id.* at 33.

¹⁵⁶ *Id.* at 34.

¹⁵⁷ *Id.* at 28.

¹⁵⁸ *Id.* at 37.

McIntire. The northern segment of the trail/park meanders through the Pinicon Alders WMA before reaching the Minnesota-Iowa border. Riverside County Park, located 5.6-miles (9.01 km) southeast of the Project in Stacyville Iowa, offers recreationists a place to camp, fish, and canoe in Little Cedar River.¹⁵⁹

137. Mower County has more than 250 miles (402.34 km) of state-designated snowmobile trails. While no snowmobile trails traverse the Project, portions of three trails are within 10 miles (16.09 km) of the Project.

138. The Project will avoid Scientific Natural Areas (SNA). The closest SNA, Shooting Star Prairie, is located approximately 4.5 miles (7.24 km) east of the Project.¹⁶⁰

139. Several public and recreational lands are located within 10 miles (16.09 km) of the Project. However, there are no public lands located within the Project Site and the Project will not impact the Shooting Star State Trail. Therefore, direct impacts to recreational facilities are not anticipated. Though the Wapsipinicon River flows through the Project Site, no collector lines or access roads/crane paths will cross the waterbody.¹⁶¹

140. In addition, the number of turbines will be reduced from eleven to six or seven, potentially reducing the number of turbines within the viewshed of recreational lands. Turbines will be sited consistent with the three RD by five RD setback from recreational lands and trails.¹⁶²

141. The design and mitigative measures described above will effectively minimize impacts such that the Project will not cause adverse impacts to recreational resources.¹⁶³ Based on the record, no significant impacts to recreational opportunities are anticipated.

K. Land-Based Economies

142. The majority of the Project area is in agricultural cropland. Cultivated crops account for approximately 5,038 acres or approximately 95.8 percent of the Project Site. Mower County has approximately 1,068 active farms with approximately 447,193 acres of land in farms.¹⁶⁴

143. Local forested land within the Project area is generally associated with homes in the form of woodlots and along the creeks. These, however, are not typically considered economically significant forest resources.¹⁶⁵

¹⁵⁹ *Id.* at 38-39.

¹⁶⁰ *Id.* at 39.

¹⁶¹ *Id.*

¹⁶² *Id.*

¹⁶³ *Id.*

¹⁶⁴ *Id.* at 42.

¹⁶⁵ *Id.* at 43.

144. A review of the MNDOT Aggregate Source Information System indicates one aggregate pit in the Project area.¹⁶⁶

145. The Project is not expected to significantly impact agricultural land use or the general character of the area. Approximately 2.85 acres (approximately 0.05 percent of the Project Site) of land will be taken out of agricultural production for the life of the Project to accommodate the turbine pads and permanent access roads. Landowners may continue to plant crops near and graze livestock up to the turbine pads. In some instances, agricultural practices will be impacted by requiring new maneuvering routes around the turbine structures for agricultural equipment. Less than 0.1 percent of the Project Site will be converted to non-agricultural land use. This will not significantly alter crop production in the Project Site.¹⁶⁷

146. The Project is not expected to significantly impact agricultural land use or the general character of the area. Construction activities such as clearing, grading, trench excavation and backfilling, as well as the movement of construction equipment within the construction easement, may result in impacts on farmland resources. Potential impacts on soil resources include soil erosion, soil compaction, reduction of soil fertility and changes to other soil characteristics.¹⁶⁸

147. No feedlots will be impacted by the Project; however, during construction, agricultural practices may be interrupted temporarily in areas that are typically farmed and construction activities may result in the temporary reduction in access to those areas and damage to drain tiles. Drain tiles will be repaired as needed, during construction. This economic impact is offset through lease payments agreed to by the landowner. Overall, long term operations will not significantly alter existing crop production in the Project area or Mower County.¹⁶⁹

148. A majority of the woodlots are associated with homesteads, which are not considered economically significant resources. Mixed forested areas account for less than one percent of the total Project Site, and very few trees are anticipated to be removed for Project construction. Therefore, impacts to forestry-based economies are not anticipated.¹⁷⁰

149. Project infrastructure will not be located within or near existing mines; therefore, impacts to mining resources are not anticipated. Rose Creek may request to use aggregate from mining operations for use during construction. Rose Creek will coordinate with the local mining operations, as appropriate. No abandoned mines are known to exist within the Project.¹⁷¹

¹⁶⁶ *Id.*

¹⁶⁷ *Id.*

¹⁶⁸ *Id.*

¹⁶⁹ *Id.*

¹⁷⁰ *Id.* at 44.

¹⁷¹ *Id.*

150. Rose Creek will implement the following BMPs: (1) Topsoil will be stripped from any agricultural area used for traffic or vehicle parking, segregated, and replaced during restoration activities, (2) Drainage problems caused by construction will be corrected to prevent damage to agricultural fields; (3) Following completion of construction and during decommissioning, subsoils will be decompacted in all construction areas that will return to use as agricultural fields, (4) Permanent access roads will be left for future use only if requested by the property's landowner; and (5) Excess concrete will not be buried or left in active agricultural areas.¹⁷²

151. The proposed mitigative measures will effectively avoid and minimize impacts such that the Project will not result in unavoidable adverse impacts to land-based economies.¹⁷³

L. Archaeological and Historic Resources

152. Rose Creek initiated coordination with the SHPO and the Office of the State Archaeologist (OSA) for the Project in March 2021. A Phase Ia literature search was completed for the Project in August 2021. Based on the results of the literature search, a Phase I archaeological survey and an Architecture-History Effects Analysis were completed in November 2021. The Phase I archaeological survey was completed in Project areas where access had been granted by Project participants. Surveys identified no previously unidentified archaeological resources.¹⁷⁴

153. Rose Creek initiated coordination with the 11 federally recognized tribes that share geography with the state of Minnesota in 2021. To date, three Tribes (Lower Sioux Indian Community, Upper Sioux Community, and Shakopee Mdewakanton Sioux Community) have expressed interest in receiving further information on the Project. In August 2021, information on the results of the literature search and the plan to conduct a Phase I archaeological survey were provided to these communities. Rose Creek continues to provide regular Project updates to these three interested Tribes.¹⁷⁵

154. Additional surveys for new or previously unsurveyed Project areas were performed in Summer 2022. Reports detailing the results of the archaeological survey were published in July 2022.¹⁷⁶

155. On June 21-22, 2022, Merjent conducted an additional Phase I survey for the Project. The July 2022 report represents a continuation of archaeological investigations completed for the Project in November 2021. Some parcels were not surveyed during the previous effort due to lack of access. The July 2022 report completes the Phase I survey in areas where survey access was granted and includes

¹⁷² *Id.* at 44-45.

¹⁷³ *Id.* at 42-45.

¹⁷⁴ *Id.* at 34.

¹⁷⁵ *Id.*

¹⁷⁶ *Id.* at 35.

Project design changes. The 2022 Survey Corridor encompasses 67.0 acres in Township 101 North, Ranges 15 and 16 West, in Mower County, Minnesota.¹⁷⁷

156. A literature search completed in advance of survey identified no previously recorded archaeological sites intersecting the 2022 Survey Corridor. The Phase I survey conducted on June 21–22, 2022 produced the following result: No archaeological sites were encountered. Merjent recommends that no further archaeological work is needed, and that no historic properties will be affected by the Project as currently planned.¹⁷⁸

157. Land use in the Survey Corridor consisted of cultivated fields and county and township road right of way (ROW). Cultivated fields contained young, recently planted corn and soybeans. Typical road ROW conditions consisted of built-up paved or graveled roadbed, ditches with mixed grasses and weeds, concrete culverts, and utilities. Natural streams crossing the Survey Corridor have been modified into controlled drainages. No archaeological sites were identified during the survey, and no areas were identified for shovel testing. Merjent recommends that no further archaeological work is needed, and that no historic properties will be affected by the Project as currently planned.¹⁷⁹

158. Section 5.3.16 of the Draft Site Permit addresses archeological and historic resources. If previously unidentified archaeological and historic sites are found during construction, the Applicant would be required to consult with SHPO and the State Archaeologist. Ground disturbing activity will stop, and local law enforcement and the State Archaeologist will be notified should human remains be discovered.¹⁸⁰

159. The record demonstrates that the Project design and mitigative measures described above are intended to avoid and minimize impacts of the Project to cultural resources.¹⁸¹

M. Aviation

160. There are no registered public or private airports within 10 miles (16.09 km) of the Project Boundary.¹⁸²

161. The Project area is predominantly agricultural; therefore, crop dusting activities within the Project Boundary may occur.¹⁸³ The location of the Project will not limit continued agricultural use of the surrounding area including crop dusting. Crop dusting activity usually occurs during daylight hours with good visibility, allowing pilots to

¹⁷⁷ Ex. RCW-102 at 5-6 and Schedule C at 2.

¹⁷⁸ Ex. RCW-102 Schedule C at 6.

¹⁷⁹ Ex. RCW-102 Schedule C at 2.

¹⁸⁰ Ex. PUC-6 at Section 5.3.16.

¹⁸¹ Ex. RCW-103 at 34-35.

¹⁸² *Id.* at 40.

¹⁸³ *Id.*

have a clear line of site with obstacles. Therefore, Rose Creek expects impacts to crop dusting activities to be minimal.¹⁸⁴

162. The record demonstrates that Rose Creek has taken steps to minimize and mitigate impacts to aviation.

N. Wildlife

163. The existing Rose Wind Facility has been operating since 2004, prior to the issuance of the USFWS voluntary *Land-Based Wind Energy Guidelines* (WEG), the *Eagle Conservation Plan Guidance: Module 1 – Land-based Wind Energy, Version 2* (ECPG), the MNDNR *Guidance for Commercial Wind Energy Projects*, and the MNDNR and Minnesota Department of Commerce-Energy Environmental Review and Analysis (DOC-EERA) *Avian and Bat Survey Protocols for Large Wind Energy Conversion*. As a result, formal WEG Tier 1 or Tier 2 site screening and characterization studies and Tier 3 field surveys were not required or completed prior to the construction of the existing Rose Wind Facility. In addition, Tier 4 post-construction fatality monitoring (PCM) was not required or completed when operation commenced.¹⁸⁵

164. The siting and development process for the proposed Project followed the tiered process described in the WEG and ECPG, as well as wind energy guidance from the MPUC, MNDNR, and DOC-EERA.¹⁸⁶

165. Wildlife species, including birds, mammals, reptiles, and amphibians, with the potential to occur within or near the Project area were determined through Tier 1 and 2 site evaluations, Tier 3 field surveys, and available desktop data sources, including MNDNR Natural Heritage Information System (NHIS), and USFWS Information for Planning and Consultation (IPaC).¹⁸⁷

166. Completed study reports, including the Tier 1 and Tier 2 Report, 2021 Raptor Nest Survey, and Northern Long-eared Bat Habitat Assessment, are provided in the Application as appendices. Avian use and acoustic bat use surveys have also been completed at the Project; and survey reports were provided in 2022.¹⁸⁸

167. The Minnesota Ornithologists' Union (MOU) has recorded 184 species of birds in Mower County over the last 20 years; 48 of these include confirmed breeding records. The LeRoy and Austin USGS Breeding Bird Survey routes (approximately 8 and 17 miles from the Project, respectively) and one National Audubon Society Christmas Bird Count point in Austin, Minnesota (approximately 14 miles from the Project), have collectively recorded 121 unique bird species in the Project area. Public

¹⁸⁴ *Id.*

¹⁸⁵ *Id.* at 58.

¹⁸⁶ *Id.*

¹⁸⁷ *Id.*

¹⁸⁸ *Id.*

data from the eBird database indicates that 263 species have been recorded in Mower County, Minnesota.¹⁸⁹

168. State-listed endangered species and species of special concern (SPC) have been documented in Mower County, including three state-endangered species: Henslow's sparrow (*Centronyx henslowii*), loggerhead shrike (*Lanius ludovicianus*), and horned grebe (*Podiceps auratus*); and six SPC: red-shouldered hawk (*Buteo lineatus*), Forster's tern (*Sterna forsteri*), American white pelican (*Pelecanus erythrorhynchos*), purple martin (*Progne subis*), lark sparrow (*Chondestes grammacus*), and Bell's vireo (*Vireo bellii*).¹⁹⁰

169. Avian and eagle use surveys were conducted between January and December 2021. The objective of the avian use surveys was to characterize spatial use of the Project area by diurnal birds across seasons, with special attention to eagles, which are federally protected by the Bald and Golden Eagle Protection Act (BGEPA), and species designated as state-listed or as Species in Greatest Conservation Need (SGCN) in Minnesota.¹⁹¹

170. In Summer 2022, Rose Creek provided an Avian Use Survey Report to the MNDNR and USFWS that summarizes the results of avian use surveys conducted from January to December 2021. No federally or state-listed threatened or endangered species were observed during avian use surveys. Six species designated as Minnesota Species in Greatest Conservation Need were documented, including upland sandpiper (one observation; also federally designated as a Bird of Conservation Concern), northern harrier (two observations), American kestrel (five observations), American white pelican (two observations containing 23 and eight individuals; also a state-listed Species of Special Concern), sedge wren (two observations), and dickcissel (22 observations). A total of 28 bald eagle observations totaling 18 eagle exposure minutes were documented during surveys, and two additional observations were documented incidentally. No golden eagles were observed during surveys.¹⁹²

171. Tier 3 eagle and raptor nest surveys were conducted during the 2021 breeding season. A hybrid ground-based and aerial survey was conducted to locate bald eagle and other raptor nests within two miles of the original 12,745-acre Project Boundary. The aerial survey was conducted in accordance with the guidance provided in the ECPG, the *Interim Golden Eagle Technical Guidance*, and the *Updated Eagle Nest Survey Protocol*. The ground-based survey was conducted following methods adapted from the ECPG and the *Updated Eagle Nest Survey Protocol*. MNDNR and Minnesota Department of Commerce (MNDOC) approved the survey study plan on February 25, 2021, and March 3, 2021, respectively.¹⁹³

¹⁸⁹ *Id.* at 59.

¹⁹⁰ *Id.*

¹⁹¹ *Id.*

¹⁹² Ex. RCW-102 at 2-5 and Schedule B at 5.

¹⁹³ Ex. RCW-103 at 60.

172. According to the MNDNR, an estimated 78 mammal species have the potential to occur in Minnesota. All eight of the bat species known to occur in Minnesota have the potential to occur within the Project area. These species include the federally threatened northern long-eared bat (NLEB; *Myotis septentrionalis*), three state-listed species of concern big brown bat (*Eptesicus fuscus*), little brown bat (*Myotis lucifugus*), and tri-colored bat (*Perimyotis subflavus*), and the hoary bat (*Lasiurus cinereus*), silver-haired bat (*Lasionycteris noctivagans*), eastern red bat (*Lasiurus borealis*), and evening bat (*Nycticeius humeralis*). The eastern red bat, silver haired bat, and hoary bat are migratory species; the others overwinter in Minnesota by hibernating in caves and mines during the winter. Big brown, little brown, silver-haired, eastern red, hoary, and tri-colored bats were recently detected during pre-construction acoustic surveys at the Mower County Wind Project north of the Project.¹⁹⁴

173. An NLEB habitat assessment was conducted to identify and quantify potentially suitable summer NLEB habitat within 2.5 miles of the original 12,745-acre Project Boundary (the assessment area). This assessment defined potentially suitable NLEB summer habitat as described in the *2020 Range-Wide Indiana Bat Summer Survey Guidelines*.¹⁹⁵

174. Seasonal bat activity levels at the Project were monitored from April 16, 2021, to October 20, 2021, using two acoustic bat detectors. One detector was positioned between crop fields in an agricultural area similar to the areas where turbines have been sited; this detector was intended to be representative of future turbine placement (representative station). A second detector was located north of the existing Rose Wind turbines in an area containing forest and water sources considered attractive to bats. This detector was intended to gather a more representative sampling of the bat species composition within the Project area (bat feature station). Detectors were set to record daily from one half-hour prior to sunset until one half-hour after sunrise. The microphones deployed at the two chosen locations were elevated 1.5 m off the ground; due to the lack of meteorological towers at the Project, no raised microphones set at or above the rotor-swept zone were included in the study design. MNDNR and MNDOC approved this survey methodology on February 25, 2021, and March 3, 2021, respectively.¹⁹⁶

175. Rose Creek provided the 2021 Bat Activity Survey Report to the MNDNR in March 2022 and the USFWS in July 2022. Acoustic surveys were conducted from April 16 – October 20, 2021, at two monitoring stations. One station was located in cropland, which is the dominant land cover type within the Project area and representative of planned turbine locations (representative station), and one station was placed along a creek riparian system, which is considered habitat attractive to bats for foraging and drinking (bat feature station). Activity was higher at the bat feature station (98.35 ± 14.15 bat passes per detector-night) compared to the representative station at RW1g (6.37 ± 0.73 bat passes per detector-night). The bat feature station on average

¹⁹⁴ *Id.* at 61.

¹⁹⁵ *Id.* at 67.

¹⁹⁶ *Id.* at 61.

recorded almost 16 times more activity than the representative station. Eight species with the potential to occur within the Project area were identified in the survey data. Hoary bats and silver-haired bats were the primary species recorded, present on 83 percent and 79 percent of all calendar nights, respectively, followed by big brown bats on 77 percent of calendar nights. Other commonly detected species included little brown bat (73 percent), eastern red bat (53 percent), evening bat (39 percent), and tri-colored bat (30 percent). Little brown bats, tri-colored bats, and big brown bats are state-listed in Minnesota as Species of Special Concern. No federally listed bat species were confirmed at the Project.¹⁹⁷

176. According to the MNDNR, 49 reptile and amphibian species have the potential to occur in Minnesota. Based on heavy agricultural use within the Project area, reptile and amphibian species are likely limited to those that are common, widespread, and resilient to agricultural and human disturbance.¹⁹⁸

177. Concerning potential impacts of the Project, Rose Creek's ground-disturbing construction activities could potentially reduce, alter, or fragment wildlife habitats, which may affect local wildlife species. However, Rose Creek sited the Project to minimize indirect impacts to wildlife species, including birds and bats, by placing turbines and other Project infrastructure primarily within previously disturbed agricultural areas; avoiding wetlands, waterbodies, and naturally vegetated areas, including forests and potential prairies; and using developed road systems to the extent possible. Additionally, post-construction restoration will occur in temporarily disturbed areas, reducing the length of time until affected wildlife habitats are revegetated. BMPs will be implemented during Project construction, operation, and decommissioning to minimize the extent of vegetation removal and indirect impacts to wetlands and waterbodies.¹⁹⁹

178. The record demonstrates that Rose Creek has taken steps to minimize and mitigate impacts to wildlife. Section 7.5.2 of the Draft Site Permit addresses avian and bat protection.

O. Rare and Unique Natural Resources

179. Rose Creek evaluated the potential presence of rare and unique natural features through a desktop review of online databases including the IPaC and the MNDNR NHIS. A one-mile (1.61 km) buffer was applied and reviewed for potential occurrences of rare and unique features.²⁰⁰

180. Merjent consulted information from the USFWS' IPaC tool to determine the potential presence of federally listed species. Two federally listed species are potentially present in the Project area: the NLEB and the prairie bush clover.²⁰¹

¹⁹⁷ Ex. RCW-102 at 2-5 and Schedule A at 2-3.

¹⁹⁸ Ex. RCW-103 at 62.

¹⁹⁹ *Id.* at 63.

²⁰⁰ *Id.* at 67.

²⁰¹ *Id.* at 68.

181. Merjent reviewed the MNDNR and USFWS Townships Containing Documented NLEB Maternity Roost Trees and/or Hibernacula Entrances in Minnesota (dated June 3, 2020). No known roost trees or hibernacula have been recorded in Mower County. Suitable hibernacula such as caves or mines have not been documented within the Project area. Landcover within the Project Site is primarily row-crop agriculture; however, stands of trees greater than 3 inches (7.62 cm) diameter at breast height could provide suitable roosting or foraging habitat for NLEBs. Tree clearing is not currently proposed for the Project. In addition, and as described above, there are no known roost trees or hibernacula within Mower County.²⁰²

182. Western EcoSystems Technologies, Inc. (WEST) conducted a habitat assessment for the Project to quantify the amount of potentially suitable NLEB summer habitat located within the Project Site and within a 2.5-mile buffer. Within the assessment area, approximately 2,125 acres of potentially suitable NLEB summer habitat are primarily situated within the riparian areas of the Little Cedar River, Wapsipinicon River, North Branch Upper Iowa River, and their tributaries. However, only 2.0 acres of potentially suitable NLEB summer habitat are located within the current 5,258-acre Project Site; this acreage includes two small riparian patches located east of the Little Cedar River on the western and northwestern edges of the Project Site.²⁰³

183. Landcover within the Project Site is primarily row-crop agriculture; however, any areas of native, unplowed prairie could provide suitable habitat for prairie bush clover. Remnants of native prairie habitat have been known to occur along roadsides, railroad rights-of way, and isolated patches of private land throughout Minnesota, and if present could provide habitat for this species. Based on a desktop review and field observations during wetland delineations, no suitable habitat for Prairie bush clover was identified within the wetland survey area.²⁰⁴

184. No federally designated critical habitat, for either species, is present within the Project area.²⁰⁵

185. Merjent, under MNDNR license agreement LA-958, conducted a query of the MNDNR's NHIS to determine if state-listed and rare species have been documented within one mile (1.61 km) of the Project Boundary. Seven State-Protected and Rare Species are potentially present within one Mile (1.61 km) of the Project Boundary: Rattlesnake Master, Redfin Shiner, Suckermouth Minnow, Creek Heelsplitter, Wild Quinine, Sullivant's Milkweed, and Edible Valerian. The field survey results showed that Creek Heelsplitter may be present in the Project area, but the other species were not observed during the field survey.²⁰⁶

²⁰² *Id.*

²⁰³ *Id.* at 69.

²⁰⁴ *Id.*

²⁰⁵ *Id.* at 69-71.

²⁰⁶ *Id.* at 69.

186. Eagles may occur within the Project area throughout the year. Bald eagles may nest and breed within the general Project area and are likely to occur year-round. Based on bald eagle data from the USFWS, one documented eagle nest is located within one mile (1.61 km) of the Project Boundary.²⁰⁷

187. A review of the MBS data identified multiple Sites of Biodiversity Significance (SOBS) within one mile (1.61 km) of the proposed Project. A site's biodiversity significance rank is based on a variety of factors, including the quality (i.e., size and condition) of native plant communities (NPCs) within the site, the presence and numbers of rare species populations, and the site's context within the landscape (i.e., whether the site is isolated in a landscape dominated by cropland or developed land, or whether it is contiguous with or close to other areas with intact NPCs). These sites are ranked by grouping and rated within each of the state's ecological classification system subsections. A rank of outstanding is assigned to those sites which contain the largest, most intact functional landscapes, and the best occurrences of the rarest plant and animal species.²⁰⁸

188. NPC are referred to as native habitats or natural communities and are named for the characteristic plant species within them or for characteristic environmental features. In 1997, the MNDNR surveyed active railroad rights-of-way for native prairie remnants. Many native or sensitive plants in Minnesota can be found in native prairie remnants along railroads.²⁰⁹

189. No SOBs are located within the Project Site; therefore, impacts on SOBS are not anticipated. No NPCs are located within the Project Site; therefore, impacts on NPCs are not anticipated. No railroad prairies as identified and designated by the MNDNR are located within one mile (1.61 km) of the Project Boundary.²¹⁰

190. In terms of potential impacts to federally-listed species like the NLEB, the collision risk for NLEB at the Project are expected to be comparable to other wind energy facilities in the region.²¹¹ Also, while the prairie bush-clover has been documented within the northwest corner of Mower County, due to the predominance of agricultural land and overall lack of suitable habitat within the Project area, this species is considered unlikely to be present. Furthermore, according to an NHIS data request, there are no documented occurrences of the prairie bush-clover species within the Project area; therefore, impacts to this species are not anticipated.²¹²

191. The Project Site may contain suitable habitat for some state-listed species; however, the Project area is largely dominated by agricultural land. Project infrastructure has been sited to avoid disturbing undeveloped habitats to reduce potential impacts to state-listed species. Impacts to the following species are not

²⁰⁷ *Id.* at 71.

²⁰⁸ *Id.*

²⁰⁹ *Id.*

²¹⁰ *Id.* at 72.

²¹¹ *Id.*

²¹² *Id.* at 72-73.

anticipated: Rattlesnake Master, Redfin Shiner, Suckermouth Minnow, Creek Heelsplitter, Wild Quinine, Sullivant's Milkweed, and Edible Valerian.²¹³

192. Rose Creek completed state-protected plant habitat surveys in June 2022. Rose Creek found that State-protected plants (Sullivant's milkweed and edible valerian) are not present within the project design / survey areas.²¹⁴

193. Rose Creek will continue to design and construct the Project to reduce potential impacts to rare and unique species and will implement numerous conservation measures during project construction, operation, and decommissioning to further avoid and minimize impacts to rare and unique species. Based on these planned voluntary measures, Rose Creek anticipates that additional Project mitigation measures are not necessary.²¹⁵

194. The record demonstrates that Rose Creek has taken steps to avoid and minimize impacts to rare and unique natural features. Further, Section 7.1 of the Draft Site Permit contains adequate conditions to monitor and mitigate the Project's potential impacts on rare and unique natural resources.

P. Vegetation

195. The majority of land within the Project boundary is agricultural crop with existing turbines. Other land types include developed open space (2.4 percent) and hay/pasture (0.27 percent), with all other land cover categories composing less than one percent of the Project Site.²¹⁶

196. WEST conducted a desktop assessment to identify potentially undisturbed grasslands within the Project area that may contain native prairie. Additional potentially undisturbed grassland areas were identified and classified as either potential prairies or probable degraded grasslands. Nineteen potentially undisturbed grassland areas are potentially present within the Project area, including one potential prairie and five probable degraded grasslands within 100 ft of proposed Project infrastructure – specifically, collector lines and access roads.²¹⁷

197. No MNDNR-designated railroad right-of-way prairies or Minnesota Biological Survey (MBS) native prairie, MBS NPC, or Sites of SOBS are located within the Project Site. A review of the MBS data identified multiple SOBS and NPCs within one mile (1.61 km) of the proposed Project.²¹⁸

198. Vegetation will be removed during construction and installation of Project infrastructure, including turbine pads, access roads/crane paths, and collector lines. Less than one half of one percent of the total Project Site will be permanently converted

²¹³ *Id.* at 73-74.

²¹⁴ Ex. RCW-102 at 6.

²¹⁵ Ex. RCW-103 at 74.

²¹⁶ *Id.* at 56.

²¹⁷ *Id.*

²¹⁸ *Id.* at 57.

from its current land use and the majority of Project infrastructure will be located in agricultural lands.²¹⁹

199. Temporary vegetation impacts will occur during construction and will be associated with activities such as access road improvements, trenching of collector lines, the use of laydown areas and construction easements. Proposed laydown areas and construction easements have been routed primarily on agricultural lands.²²⁰

200. The Project will avoid woodlands, shrublands, potentially undisturbed grasslands (i.e., potential prairies and probable degraded grasslands), and water resources to the extent practicable. In addition, the Project infrastructure will avoid SOBS and state-designated NPCs.²²¹

201. Rose Creek completed native prairie surveys in June 2022. Rose Creek found one instance of potential native prairie within the project boundaries, on the west side of 660th Avenue, south of 120th Street, on June 12, 2022. This prairie community is located within a highly disturbed site, at the bottom of an excavated roadside ditch. The site receives runoff from the adjacent crop land and gravel road, and groundwater seepage was observed at the base of the ditch slopes. A narrow, ephemeral waterway is present at the bottom of the ditch, which flows into a perennial waterway that bisects the ditch. Since the construction of this ditch, the bottom and lower slopes have been colonized by a combination of native wet prairie species, native wetland generalist species, and exotic species. The native species present were common in the surrounding prairie-dominated landscape prior to conversion to agriculture. The vegetation is dominated by native plant species with exotic species also abundant but comprising less than 50 percent total cover. The dominant species in descending order are prairie cordgrass (*Spartina pectinata*), hairy-fruited sedge (*Carex trichocarpa*), reed canary grass (*Phalaris arundinacea*), wild parsnip (*Pastinaca sativa*), big bluestem (*Andropogon gerardii*), common milkweed (*Asclepias syriaca*), marsh hedge nettle (*Stachys palustris*), swamp milkweed (*Asclepias incarnata*), giant goldenrod (*Solidago gigantea*), Jerusalem artichoke (*Helianthus tuberosus*), and white meadowsweet (*Spiraea alba*).²²² Applicant provided a figure depicting where the native prairie community was observed.²²³

202. Rose Creek has and will continue to design and construct the Project to minimize impacts to natural communities to the extent practicable. Should minor, unavoidable temporary impacts occur to degraded grasslands, adjacent wetlands and/or shrubland as a result of construction, Rose Creek is committed to restoring and seeding these areas to previous conditions, as appropriate for the region and landowner agreement.²²⁴

²¹⁹ *Id.* at 57.

²²⁰ *Id.*

²²¹ *Id.*

²²² Ex. RCW-102 at 6-7.

²²³ Ex. RCW-102 Schedule D.

²²⁴ Ex. RCW-103 at 57.

203. Section 4.7 of the Draft Site Permit addresses the issue of native prairie.²²⁵ Rose Creek will coordinate with the MNDNR and MNDOC on preparation of a Native Prairie Protection Plan, which will document the avoidance, minimization or mitigation measures that Rose Creek will implement to reduce adverse effects to potential native prairies during Project construction, restoration, and operation.²²⁶

204. Land cover mapping within the Project Site indicates that nearly all Project development will occur in agricultural fields. Mitigation measures will include restoring non-agricultural vegetation areas to pre-construction conditions using a native seed mix consistent with state requirements.²²⁷

205. The record demonstrates that Rose Creek has taken steps to avoid and minimize impacts to vegetation. Further, the Draft Site Permit contains adequate conditions to monitor and mitigate the Project's potential impacts on vegetation.

Q. Soils, Geologic, and Groundwater Resources

206. Overall, the Project Site is comprised of 38 soil types. Soils within the Project Site range from poorly drained to somewhat well drained. Three soil types account for over half of the soils (68 percent) within the Project Site and are generally composed of silt loams to clay loams with zero to three percent slopes. Twelve of the soil types within the Project Site are classified as hydric.²²⁸

207. Construction and operation of the Project will result in short- and long-term impacts to soils within the Project Site. Short-term impacts will result from the clearing of vegetation, generation of dust, and the excavation, stockpiling, and redistribution of soils. During construction, there is also the potential for localized soil erosion and sedimentation. Long-term impacts will include soil compaction in areas of permanent disturbance. Soils that are the most prone to compaction are soils with high moisture content or medium to fine textures. Soils within the Project Site may be prone to compaction from heavy construction equipment, especially when wet.²²⁹

208. A Stormwater Pollution Prevention Plan (SWPPP) will be developed prior to initiating earth-disturbing activities. Impacts, including sedimentation and erosion, will be minimized by developing and implementing BMPs in accordance with the SWPPP. BMPs may include mulching, hydroseeding, erosion control blankets, silt fence installation, jute matting, or revegetation. Water and chemical application may be used to suppress dust.²³⁰

209. Following the completion of construction, impacted soils that will not continue to be used for operation of the Project will be decompacted and restored to

²²⁵ Ex. PUC-6 at Section 4.7.

²²⁶ Ex. RCW-103 at 57-58.

²²⁷ *Id.* at 58.

²²⁸ *Id.* at 48.

²²⁹ *Id.* at 49-50.

²³⁰ *Id.* at 50.

preconstruction conditions in accordance with landowner agreements. Additional impacts are not anticipated; therefore, no additional mitigation is necessary.²³¹

210. Construction of the turbine foundations will require minor impacts to glacial drift. Geotechnical testing will occur at turbine locations prior to construction to determine soil stability and depth to bedrock. The Project is not expected to impact geologic resources.²³²

211. According to the Minnesota Well Index online database, there are wells interspersed throughout the Project area. Major impacts to groundwater resources and wells are not expected from Project-related activities due to turbine setbacks from water wells and the minimal water-related needs of the Project. Water used for dust abatement and other construction needs would either come from a local well or may be trucked in from a suitable local source and stored at the laydown yard. The source of water will be determined closer to construction.²³³

212. Construction and operation of the proposed Project is not expected to impact geologic or groundwater resources; therefore, mitigation is not anticipated. The Applicant will obtain necessary water use and dewatering permits from the MNDNR, prior to construction.²³⁴

213. The record demonstrates that Rose Creek has taken steps to avoid and minimize impacts to soils, geologic, and groundwater resources. Further, Sections 5.3.5, 5.3.6, and 5.3.7 of the Draft Site Permit contain adequate conditions to monitor and mitigate the Project's potential impacts on soil.

R. Surface Water and Wetlands

214. The Project area is located within two U.S. Geological Survey (USGS) Hydrologic Unit Code 8 watersheds: Upper Cedar River (07080201) and Upper Wapsipinicon (07080102), which are both part of the larger Upper Mississippi River System.²³⁵

215. The topography across the Project area is generally flat to gently rolling. The landform and hydrology of large portions of the Project area have been modified to improve drainage and facilitate agricultural crop production. Because agricultural practices alter surface water flow patterns, any potential waterways will be field-verified to confirm their presence and jurisdictional potential.²³⁶

216. According to the DNR PWI dataset, there is a tributary to Little Cedar River located in the north central portion of the Project. Based on Federal Emergency Management Agency (FEMA) floodplain maps, no FEMA-designated floodplains are

²³¹ *Id.*

²³² *Id.* at 51.

²³³ *Id.*

²³⁴ *Id.*

²³⁵ *Id.*

²³⁶ *Id.* at 52.

present within the Project Site. There are no recorded waterbodies within the Project Site listed as impaired by the MPCA, per the 2018 Impaired Waters List. A portion of the Wapsipinicon River, approximately 0.75 mile east of the Project Boundary is listed as impaired for benthic macroinvertebrate bioassessments, *Escherichia coli*, and fishes bioassessments, which can be caused by construction.²³⁷

217. No designated wildlife management lakes are present within the Project Site. No other special waters are located within the Project Site, including sensitive lakeshores; trout streams; outstanding resource value waters; State Wild, Scenic or Recreation Rivers; or Migratory Waterfowl Feeding and Resting Areas. There are no NRI-listed rivers within the Project area. The closest Nationwide Rivers Inventory (NRI) segment listed is the Shell Rock River, approximately 25 miles (40.23 km) west of the Project.²³⁸

218. Rose Creek completed wetland and waterbody surveys in 2021 and 2022 within the areas of proposed infrastructure. Within the survey corridor, 11 wetlands and four waterbodies were identified. The initial report was filed in January 2022 and an updated wetland and waterbody survey report will be provided when complete.²³⁹

219. The Project was designed to avoid or minimize impacts to surface waters. Permanent impacts to surface waters may occur from the installation of permanent culverts associated with roadway access to turbine locations, without impeding natural hydrology of the landscape.²⁴⁰

220. Temporary impacts to surface waters may result from the installation and removal of temporary waterway crossings placed below the ordinary high-water mark to allow for vehicle and equipment access throughout the Project. Temporary impacts to surface waters may also occur when collector lines are installed beneath waterbodies. During this installation, temporary dewatering may be required to ensure the line is safely installed.²⁴¹

221. Where necessary, the collector lines will be installed under waterways using the directional bore method, which is not anticipated to permanently or directly impact waterways. There is also limited potential for groundwater dewatering associated with the placement of the concrete collar around the base of turbine foundations. Permanent dewatering will not occur. Rose Creek will work with the MNDNR and U.S. Army Corps of Engineers (USACE) to obtain all necessary licenses, permits, or approvals prior to conducting waterway crossings or any work within waterways. Construction activities such as clearing, grading, trench excavation, and backfilling may result in sedimentation, erosion, and stormwater runoff to adjacent surface waters. BMPs will be implemented to protect water quality of nearby streams, wetlands, or other surface waters. Permanent impacts to floodplains and surface waters, with the

²³⁷ *Id.*

²³⁸ *Id.* at 52-53.

²³⁹ Ex. RCW-102 at 6.

²⁴⁰ Ex. RCW-103 at 53.

²⁴¹ *Id.*

exception of potential permanent culvert installation, are not expected to occur from the development of the Project.²⁴²

222. While significant dewatering is not anticipated, it may be necessary in conjunction with deeper excavations, foundation installation, or collector line installation under waterways, based on site conditions. Sediment basins and filtration systems can help filter the dewatered water before it is discharged to a surface water within uplands. Dewatering will be conducted in a manner such that the velocity of the discharged water will not cause scouring of the receiving area. If the receiving area is a structural BMP (i.e., basin or sump), the design of the BMP will be based on the anticipated flow from the dewatered area.²⁴³

223. Should dewatering occur, measures to address dewatering may include the following to ensure sediment laden water will not be directly discharged to surface waters: constructing a temporary sediment trap for pretreatment of water discharge; use of a portable sediment containment system such as dumpsters; application of natural based flocculent technology such as chitosan in sediment traps or a series of ditch checks to contain sediment; discharge water through a series of fiber logs or a rock weeper into a large, vegetated buffer area; provide energy dissipation and erosion control BMPs at all discharge points; and utilize a dewatering bag to ensure discharged water does not contribute sedimentation to receiving waters.²⁴⁴

224. A National Pollutant Discharge Elimination System (NPDES)/State Disposal System (SDS) permit will be obtained prior to construction. The MPCA, which administers the NPDES/SDS, requires a SWPPP be designed for construction activities to prevent sedimentation and erosion through the implementation of BMPs to ensure no significant impacts to surface waters and floodplains. The type of BMP implemented will vary depending upon site conditions such as slope gradients and the susceptibility of soil to wind and water erosion. No surface water mitigation is anticipated at this time.²⁴⁵

225. Rose Creek has committed to continue to design and construct the Project to minimize impacts to waterbodies to the extent practicable. Should minor, unavoidable temporary impacts occur as a result of construction, Rose Creek is committed to returning these areas to pre-construction conditions. All necessary permits will be secured prior to construction.²⁴⁶

226. The record demonstrates that Rose Creek has taken steps to avoid and minimize impacts to surface waters and wetlands and has agreed to take remedial action if there are impacts. Further, the Draft Site Permit contains conditions that adequately address potential impacts.

²⁴² *Id.* at 53.

²⁴³ *Id.*

²⁴⁴ *Id.* at 53-54.

²⁴⁵ *Id.* at 54.

²⁴⁶ *Id.*

S. Air and Water Emissions

227. Temporary short-term air quality impacts may occur during the construction phase of the Project as a result of vehicle exhaust from the construction equipment and from vehicles traveling to and from facility locations as well as fugitive dust emissions due to travel on unpaved roads.²⁴⁷

228. During construction, water may be applied to gravel roadways near residences for dust control to abate dust and prevent nuisance conditions. In high traffic areas, it may be determined that the application of chemical dust suppressants, such as calcium chloride, is warranted.²⁴⁸

229. A SWPPP will be developed prior to initiating earth-disturbing activities. Impacts, including sedimentation and erosion, will be minimized by developing and implementing BMPs in accordance with the SWPPP.²⁴⁹

230. Following construction, as applicable, public roadway maintenance and repairs will be performed associated with Project activities. BMPs will be implemented to ensure public roadways are kept clear of debris and do not pose hazardous conditions to the public.²⁵⁰

T. Solid and Hazardous Wastes

231. During construction and operation of the Project, hazardous wastes will be properly stored and contained. Where necessary, hazardous materials will be stored in a secondary containment structure. Secondary containment will ensure that if leaks occur, they will be contained.²⁵¹ Hazardous materials used and stored during Project construction may include fuel, lubricating oil, hydraulic oil, propylene glycol, and other materials commonly required for construction vehicles and equipment. During operation, a third-party vendor may maintain the turbines and may require the use and on-site storage of hazardous materials including hydraulic oil, lube oil, grease, and cleaning solvents. During operation, the Project will also require pad-mounted and grounding transformers, which commonly contain liquids for insulation, typically consisting of mineral oil.²⁵²

232. Prior to construction, Rose Creek must conduct a Phase I Environmental Site Assessment to identify and avoid existing recognized environmental conditions within the Project boundary.²⁵³ Rose Creek will use information obtained from this assessment to avoid recognized environmental conditions (RECs). If RECs cannot be avoided, they will be investigated to verify the presence or absence of contamination. In the unlikely event contamination is identified at concentrations above established

²⁴⁷ *Id.* at 87.

²⁴⁸ *Id.*

²⁴⁹ *Id.* at 50.

²⁵⁰ *Id.* at 87.

²⁵¹ *Id.* at 41.

²⁵² *Id.*

²⁵³ *Id.*

criteria, remediation activities may be required. Rose Creek and its contractors will handle and dispose of any wastes generated during any phase of the Project in accordance with Minn. R. ch. 7045 (2021), local rules and regulations. In addition, if more than 1,320 gallons of oil will be stored at the site, then a site-specific Spill Prevention, Control, and Countermeasures Plan (SPCC Plan) will be developed for the construction and operation phases of the Project, as applicable. The SPCC Plan will detail the appropriate storage, cleanup, disposal, and transportation of hazardous wastes to ensure potential impacts are minimized.²⁵⁴

233. The record demonstrates that Rose Creek has taken steps to avoid and minimize potential impacts such that the Project is not expected to result in adverse environmental impacts due to hazardous materials.²⁵⁵ Further, Section 5.3.24 of the Draft Site Permit contains adequate conditions to monitor and mitigate the Project's potential impacts from solid and hazardous wastes.

U. Future Development and Expansion

234. The Project is located in a rural, agricultural region in southeastern Minnesota.²⁵⁶ There are 11 existing wind turbines within the Project Site, 15 turbines within 1,000 ft of the Project Boundary, and 21 turbines within 0.5 mile of the Project Boundary.²⁵⁷ The existing 11-turbine Rose Wind Facility represents less than three percent of the turbines within a 10-mi-radius of the Project Boundary.²⁵⁸

235. Section 4.1 of the Draft Site Permit imposes a wind access buffer and provides for setbacks from properties where Rose Creek does not hold wind rights, unless a waiver is approved by the Commission.²⁵⁹

236. As of the date that the application was e-filed with the MPUC, Rose Creek had land lease agreements or good neighbor agreements in place for all the private land required for construction and operation of the Project, with the exception of four parcels needing a good neighbor agreement for a wind access buffer setback.²⁶⁰ Since then, Rose Creek has worked with landowners to secure one additional good neighbor agreement and the agreement for the laydown yard site. The Applicant provided updated Application Figures 4a and 4b reflecting these additional land rights.²⁶¹

237. Rose Creek is continuing to negotiate one collection line agreement and expects to secure that easement prior to the start of construction.²⁶²

²⁵⁴ *Id.* at 42.

²⁵⁵ *Id.* at 41-42.

²⁵⁶ *Id.* at 14.

²⁵⁷ *Id.* at 20.

²⁵⁸ *Id.* at 65.

²⁵⁹ Ex. PUC-6 at Section 4.1.

²⁶⁰ Ex. RCW-103 at 7.

²⁶¹ Exs. RCW-100 and RCW-101 Schedule A.

²⁶² Exs. RCW-100 and RCW-101 at 4.

238. Rose Creek continues to be open to negotiating agreements needed to construct turbine Alternative T1, but if these negotiations are unsuccessful, Rose Creek would not build Alternative T1 and would instead construct only the six primary turbines reflected in the Application.²⁶³

239. There is no evidence that the Project is inconsistent with any future development or expansion plans.

V. Decommissioning, Turbine Abandonment, and Restoration

240. Rose Creek has requested that the expiration date for the permit be 30 years following the date of Site Permit issuance.²⁶⁴

241. Rose Creek developed a Decommissioning Plan to decommission the Project at the end of its 30-year operating life.²⁶⁵ The Draft Site Permit contains appropriate conditions to ensure proper decommissioning and restoration of the Project Site.²⁶⁶ Pursuant to Section 11.1 of the Draft Site Permit, Rose Creek will file an updated decommissioning plan in accordance with the requirements of Minn. R. 7854.0500, subp. 13, with the Commission 14 days before the pre-construction meeting. 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.²⁶⁷

242. The decommissioning of the existing Rose Wind Facility will be conducted pursuant to conditional use permits issued by Mower County.²⁶⁸

243. DOC-EERA recommended that the Site Permit contain a condition that requires Rose Wind to follow the requirements of the permits issued by Mower County and any requirements deemed necessary by Mower County Staff. Additionally, DOC-EERA initially recommended that decommissioning of the existing Rose Wind facility be completed prior to the beginning of construction of Rose Creek Wind.²⁶⁹

244. Rose Creek responded to the proposed condition and noted that it is critical to the overall economics of the Project that the period of time in which no renewable energy is being produced is as short as possible. Rose Wind and Rose Creek both use the same interconnection facilities, so it is physically impossible for both projects to operate simultaneously. However, it is likely that the decommissioning activities and construction activities will overlap to minimize downtime, efficiently utilize labor and equipment at the site, and ensure that Rose Creek can begin producing

²⁶³ Exs. RCW-100 and RCW-101 at 4.

²⁶⁴ Ex. RCW-103 at 91.

²⁶⁵ *Id.*

²⁶⁶ Ex. PUC-6 at Section 11.1, 11.2, 11.3.

²⁶⁷ Ex. PUC-6 at Section 11.2.

²⁶⁸ Exs. RCW-100 and RCW-101 at 8.

²⁶⁹ Ex. EERA-9.

renewable energy as soon as practicable.²⁷⁰ Accordingly, Rose Creek opposed the proposed decommissioning timing restrictions proposed by DOC-EERA.

245. Rose Creek proposed the following revisions to Special Condition 6.1 of the Draft Site Permit relating to the decommissioning of the existing Rose Wind Facility that allows decommissioning of Rose Wind turbines and construction of the Project to proceed simultaneously:

6.1 Decommissioning of the Existing Rose Wind Facility

The existing Rose Wind Facility must be decommissioned and removed in accordance with all requirements set forth in the permits issued by Mower County and per any requirements deemed necessary by Mower County staff. ~~Decommissioning of the existing Rose Wind facility must be completed prior to beginning construction of the Rose Creek Wind facility authorized by this permit.~~

246. On August 15, 2022, DOC-EERA filed post-hearing comments agreeing that concurrent decommissioning and construction will reduce the facility's generation down time, improve labor and construction equipment efficiencies, and help to minimize impacts caused by construction equipment mobilization and movement throughout the site. DOC-EERA therefore agreed with Rose Creek's proposal to delete the second sentence in Draft Site Permit Special Condition 6.1.²⁷¹

247. The record demonstrates that it is reasonable to amend Section 6.1 of the Draft Site Permit as proposed by Rose Creek to remove the timing restriction related to decommissioning.

XII. SITE PERMIT CONDITIONS

248. The Draft Site Permit 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.

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

250. Rose Creek proposed several minor corrections to Section 2.1 of the Draft Site Permit.²⁷² It is reasonable to include these corrections in the Site Permit for the Project.

²⁷⁰ Exs. RCW-100 and RCW-101 at 9.

²⁷¹ EERA Hearing comments (August 15, 2022) (eDocket No. [20228-188365-01](#)).

²⁷² Exs. RCW- 100 and RCW-101 at 6.

251. As discussed above, the FAA requires obstruction lighting or marking of structures over 200 ft (60.96 m) above ground level because they have the potential to obstruct air navigation.²⁷³ Additionally, under Minn. Stat. § 216F.084, subd. 3, an LWECS must be equipped with a light-mitigating technology that meets the requirements established in Chapter 14 of the Federal Aviation Administration's Advisory Circular 70/760-1. Minn. Stat. § 216F.084, subd. 4(b)(2), provides that the Commission may grant exemption to the requirement for a light-mitigating system if the owner of the LWECS can demonstrate that equipping an LWECS with a light-mitigating technology imposes a significant financial burden on the permittee.

252. Rose Creek seeks an exemption under Minn. Stat. § 216F.084, subd. 4(b)(2), from the requirement to install light-mitigating technology, commonly referred to as ADLS.

253. In support of an exemption, Rose Creek stated that the Project is small, with only six or seven turbines proposed, whereas the existing Rose Wind Facility, which includes 11 existing wind turbines, does not use ADLS lighting. Rose Creek further stated that based on the vendor estimates for equipment and operational costs, the cost of the ADLS would be approximately three to four percent of the total development costs of the Project and would likely require an increase in the price of purchased power from the Project.²⁷⁴

254. EERA commented that the use of an ADLS would further reduce the visual impacts associated with the Project and have been shown to be an effective mitigation to reduce visual impacts on nighttime aesthetics for local residents.²⁷⁵

255. Rose Creek's argument for an exemption ignores that the new turbines in the Project have a larger rotor diameter than the existing Rose Wind turbines which necessitates larger setback requirements and new locations within the Project area.²⁷⁶ The Project's turbines, at approximately 500 ft in height from ground to blade-tip, are significantly taller than the 200-ft height minimum that triggers the ADLS requirement.²⁷⁷ The Rose Wind Facility does not have ADLS installed because the requirement was newly effective as of June 2021. Rose Wind Facility and the other existing wind farms that Rose Creek references as not having ADLS do not have ADLS because it was not required at the time those facilities were built. Lastly, the estimated costs related to the ADLS requirement is two to three percent of the Project costs.²⁷⁸

256. Rose Creek has not provided sufficient information for the Commission to grant an exemption under Minn. Stat. § 216F.084, subd. 4(b)(2). Though the Applicant has provided evidence of the cost of the ALDS system relative to the Project's total development costs, it has not demonstrated that the cost would impose a financial

²⁷³ Ex. RCW-103 at 26.

²⁷⁴ Exs. RCW-100 and RCW-101 at 7.

²⁷⁵ Ex. EERA Reply Comments (September 13, 2022) (eDocket No. [20229-189037-01](#)).

²⁷⁶ Ex. RCW-103 at 1.

²⁷⁷ Public Hearing Slide Presentation at 11 (eDocket No. [20227-187747-01](#)).

²⁷⁸ Ex. RCW-101 at 6.

burden on the permittee. Accordingly, the Administrative Law Judge recommends no revisions to Section 5.3.28 of the Draft Site Permit relating to Federal Aviation Administration Lighting.

Based on the foregoing Findings of Fact and the record in this proceeding, the ALJ makes the following:

CONCLUSIONS OF LAW

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

2. The Commission and the Administrative Law Judge have jurisdiction over the Site Permit applied for by Rose Creek for the up to 17.4 MW proposed project pursuant to Minn. Stat. § 216F.04.

3. Rose Creek has substantially complied with the procedural requirements of Minn. Stat. ch. 216F, Minn. Stat. § 216E.03, and Minn. R. ch. 7854.

4. The Commission has complied with the procedural requirements of Minn. Stat. ch. 216F and Minn. R. ch. 7854.

5. Public hearings were conducted on July 27, 2022 (in-person) and July 28, 2022 (remote-access). Proper notice of the public hearings was provided, and the public was given an opportunity to speak at the hearings and to submit written comments.

6. The Commission has the authority under Minn. Stat. § 216F.04 to place conditions in a LWECS site permit.

7. The Draft Site Permit contains a number of important mitigation measures and other reasonable conditions that adequately address the potential impacts of the Project on the human and natural environments.

8. It is reasonable to issue a Draft Site Permit including changes to Sections 2.1 and 6.1 of the Draft Site Permit as suggested by Rose Creek.

9. The Project complies with the criteria set forth in Minn. Stat. ch. 216F and Minn. Stat. § 216E.03, subd. 7, and Minn. R. ch. 7854 and all other applicable legal requirements.

10. The Project, with the Draft Site Permit conditions revised as set forth above, satisfies the criteria for a LWECS in Minn. Stat. § 216F.03 and meets all other applicable legal requirements.

11. The Project, with the applicable permit conditions, is compatible with environmental preservation, sustainable development, and the efficient use of resources.

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


Based upon these Conclusions of Law, the ALJ makes the following:

RECOMMENDATION

Based upon these Conclusions, the ALJ recommends that the Commission issue a LWECS Site Permit to Rose Creek Wind, LLC, to decommission the Rose Wind Facility, to construct and operate the Project and associated facilities in Mower County, and that the permit include the permit conditions, amended to include the minor changes proposed by the Applicant in section 2.1 and deletion of the last sentence of section 6.1, as set forth in the Conclusions above.

This report is not an order and no authority is granted herein. The Minnesota public utilities commission will issue the order that may adopt or differ from the preceding recommendation.

Dated: October 13, 2022



SUZANNE TODNEM
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. 7829.1275, .2700 (2021), 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.

October 13, 2022

See Attached Service List

**Re: *In the Matter of the Application of Rose Creek Wind, LLC for a
LWECS Site Permit for the 17.4 MW Rose Creek Wind Project in
Mower County, Minnesota, IP-7065***

**OAH 23-2500-38341
MPUC IP-7065/WS-21-643**

To All Persons on the Attached Service List:

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

If you have any questions, please contact me at (651) 361-7857,
nichole.helmuelle@state.mn.us, or via facsimile at (651) 539-0310.

Sincerely,



NICHOLE HELMUELLER
Legal Assistant

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 Rose Creek Wind, LLC for a LWECS Site Permit for the 17.4 MW Rose Creek Wind Project in Mower County, Minnesota, IP-7065	OAH Docket No.: 23-2500-38341
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Nichole Helmueller certifies that on October 13, 2022, she served the true and correct **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
Gokhan	Andi	andig@conedceb.com	Consolidated Edison Clean Energy Businesses.
Vernon	Archibald	archibaldv@conedceb.com	Rose Creek Wind, LLC
Christina	Brusven	cbrusven@fredlaw.com	Fredrikson Byron
Generic Notice	Commerce Attorneys	commerce.attorneys@ag.state.mn.us	Office of the Attorney General-DOC
Sharon	Ferguson	sharon.ferguson@state.mn.us	Department of Commerce
Lucas	Franco	lfranco@liunagroc.com	LIUNA
Stacy	Kotch Egstad	Stacy.Kotch@state.mn.us	MINNESOTA DEPARTMENT OF TRANSPORTATION
Alicia	LaValla	alavalla@fredlaw.com	Fredrikson & Byron, P.A.
Kevin	Pranis	kpranis@liunagroc.com	Laborers' District Council of MN and ND
Generic Notice	Residential Utilities Division	residential.utilities@ag.state.mn.us	Office of the Attorney General-RUD
Nathaniel	Runke	nrunke@local49.org	
Will	Seuffert	Will.Seuffert@state.mn.us	Public Utilities Commission
Janet	Shaddix Elling	jshaddix@janetshaddix.com	Shaddix And Associates
Suzanne	Todnem	suzanne.todnem@state.mn.us	Office of Administrative Hearings