OAH 82-2500-34034
PUC IP-6646/WS-16-618

STATE OF MINNESOTA
OFFICE OF ADMINISTRATIVE HEARINGS

FOR THE PUBLIC UTILITIES COMMISSION

In the Matter of the Application of Red Pine Wind Project, LLC for a LWECS Site Permit for the 200 MW Red Pine Wind Project in Lincoln County, Minnesota

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

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This matter was assigned to Administrative Law Judge Barbara J. Case to conduct a public hearing and provide a summary of public testimony on the site permit application of Red Pine Wind Project, L.L.C. for an up to 200.1 MW wind energy conversion system in Lincoln County. The Public Utilities Commission also requested that the Administrative Law Judge prepare Findings of Fact, Conclusions of Law, and a Recommendation on whether the proposed project meets the site permitting criteria set forth in Chapter 216F (2016) of the Minnesota Statutes and Chapter 7854 (2015) of the Minnesota Rules.

A public hearing on the site permit application was held on March 6, 2017, in Ivanhoe, Minnesota. The factual record remained open until March 16, 2017, for the receipt of written public comments. Post-hearing submissions were filed by the Applicant and the Department of Commerce in accordance with the Scheduling Order issued by the Administrative Law Judge.

Shanelle Montana and Hank Koegel appeared at the public hearing on behalf of Red Pine Wind Project L.L.C. (Red Pine or Applicant).

Rich Davis appeared at the public hearing on behalf of the Energy Environmental Review Analysis Unit of the Department of Commerce (DOC-EERA).

Michael Kaluzniak appeared at the public hearing on behalf of the Public Utilities Commission (Commission).

STATEMENT OF THE ISSUE

Has Red Pine satisfied the criteria set forth in Chapter 216F of the Minnesota Statutes and Chapter 7854 of the Minnesota Rules for a site permit for its proposed up to 200.1 MW wind energy conversion system in Lincoln County (Project)?

SUMMARY OF CONCLUSIONS AND RECOMMENDATION

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

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

FINDINGS OF FACT[1]

I. The Applicant

1. Red Pine is a wholly owned subsidiary of EDF Renewable Energy (EDF).[2] EDF, has ownership or financial interests in several other large wind energy conversion systems (LWECS) in Minnesota.[3]

2. EDF is a U.S. independent power producer with more than 25 years of expertise in project development, operations, and maintenance services.[4] EDF is the U.S. subsidiary of EDF Energies Nouvelles.[5] The company currently operates and maintains 10,722.9 MW of renewable energy, including wind, solar, biomass, and biogas projects.[6] EDF has put into service 6.7 gigawatts of energy for projects across the country, including two wind projects in Minnesota (Fenton and Wapsipinicon), which combined provide over 310 MW of renewable wind energy to the state.[7]

II. Site Permit Application and Related Procedural Background

3. On September 16, 2016, Red Pine filed a site permit application for the Project with the Commission.[8]

4. On September 26, 2016, the Commission issued a Notice of Comment Period on Completeness of Certificate of Need and Site Permit Applications, seeking comments on whether the site permit application was complete according to the Commission's rules.[9]

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[1] A master exhibit list was filed by the court reporter on March 16, 2017. *See* eDocket No. 20173-129975-01).
[2] Revised Site Permit Application at 12 (Sept. 30, 2016) (eDocket No. 20169-125328-02).
[3] Initial Site Permit Application (Sept. 16, 2016) (eDocket No. 20169-124946-02).
[4] Revised Site Permit Application at 12 (Sept. 30, 2016) (eDocket No. 20169-125328-02).
[5] Revised Site Permit Application at 12-13 (Sept. 30, 2016) (eDocket No. 20169-125328-02).
[6] Revised Site Permit Application at 13 (Sept. 30, 2016) (eDocket No. 20169-125328-02).
[7] Revised Site Permit Application at 13 (Sept. 30, 2016) (eDocket No. 20169-125328-02).
[8] Initial Site Permit Application (Sept. 16, 2016) (eDocket No. 20169-124946-02).
[9] NOTICE OF COMMENT PERIOD (Sept. 26, 2016) (eDocket No. 20169-125166-03).

5. On September 30, 2016, Red Pine filed a revised site permit application (Revised Application) to incorporate changes resulting from the finalized offtake agreement for the Project.[10]

6. On October 6, 2016, the Commission filed a Notice of Extended Comment Period on Completeness of the Revised Site Permit Application.[11]

7. On October 17, 2016, Red Pine filed a request to withdraw its Application for a Certificate of Need (PUC Docket No. IP-6959/CN-16-140) based on the exemption that the power produced by Red Pine will not be sold to an entity that provides retail service in Minnesota or wholesale electric service to another entity in Minnesota other than Mid-Continent Independent System Operator (MISO).[12]

8. On October 20, 2016, DOC-EERA staff filed comments recommending the Commission accept the Revised Application as complete upon submission of additional information on turbine access roads.[13]

9. On October 27, 2016, Red Pine filed reply comments.[14]

10. On November 3, 2016, the Commission issued an order approving Red Pine's petition to withdraw its Application for a Certificate of Need.[15]

11. On November 21, 2016, the Commission met to consider the completeness of Red Pine's Revised Application. The Commission accepted the Revised Application as substantially complete.[16]

12. The Commission's decision was incorporated into its Order Accepting Application as Complete, dated November 29, 2016. In the order, the Commission also granted rule variances for notice requirements, the time frame for the Commission's decision on the draft site permit, and referred the case to the Office of Administrative Hearings.[17]

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[10] Revised Site Permit Application at 12 (Sept. 30, 2016) (eDocket No. 20169-125328-02).
[11] Notice of Extended Comment Period (Oct. 6, 2016) (eDocket No. 201610-125467-01).
[12] *In re Application of Red Pine Wind Project, LLC for a Certificate of Need for the 200 MW Red Pine Wind Project in Lincoln County, Minn.,* MPUC Docket No. IP-6959/CN-16-140, Request to Withdraw Application for Certificate of Need (Oct. 17, 2016).
[13] EERA Comments and Recommendations on Application Completeness (Oct. 20, 106) (eDocket No. 201610-125893-01).
[14] Red Pine Reply Comments on Application Completeness (Oct. 27, 2016.) (eDocket No. 201610-126043-01).
[15] *In re Application of Red Pine Wind Project, LLC for a Certificate of Need for the 200 MW Red Pine Wind Project in Lincoln County, Minn.,* MPUC Docket No. IP-6959/CN-16-140, NOTICE AND ORDER APPROVING PETITION TO WITHDRAW FILING (Nov. 3, 2016).
[16] ORDER FINDING APPLICATION COMPLETE, VARYING TIME LIMITS, AND ESTABLISHING PROCEDURAL FRAMEWORK FOR PROCEEDINGS (Nov. 29, 2016) (eDocket No. 201611-126840-01).
[17] ORDER FINDING APPLICATION COMPLETE, VARYING TIME LIMITS, AND ESTABLISHING PROCEDURAL FRAMEWORK FOR PROCEEDINGS (Nov. 29, 2016) (eDocket No. 201611-126840-01).

13. On November 23, 2016, Red Pine filed a Site Permit Application Addendum notifying the Commission of changes to the Project, including boundary line changes resulting from discovery of an eagle nest in the southwest portion of the Project and adding an additional turbine model for consideration.[18] Red Pine initially informed DOC-EERA staff and the Commission of these proposed changes during the November 21, 2016 meeting.[19]

14. On December 1, 2016, the DOC-EERA filed a Notice of Public Information Meeting for the December 13, 2016 public meeting in Ivanhoe, Minnesota.[20] The notice requested comments on issues and facts that should be considered in the development of a draft site permit. The notice also sought comments on the potential human and environmental impacts from the proposed Project and possible methods to minimize, mitigate, or avoid the potential impacts. The notice further informed the public of how to access the site permit and all documents filed in this matter, receive notices about the project, and submit comments.[21]

15. On December 8, 2016, Red Pine filed affidavits of distribution demonstrating compliance with Minn. R. 7854.0600, which requires distribution of copies of the site permit application and notice of the public meeting to the applicable local government officials and landowners.[22]

16. On December 13, 2016, the DOC-EERA held a public information meeting to discuss the Project and solicit comments.[23]

17. On January 3, 2017, the Minnesota Department of Transportation (MnDOT) filed comments regarding provisions in the Draft Site Permit that might impact the state transportation system and recommendations for the Draft Site Permit.[24]

18. On January 3, 2017, the Minnesota Department of Natural Resources (MnDNR) filed comments regarding alternative turbine locations and models to reduce potential bat and bird fatalities, proposed revisions to the Draft Avian and Bat Protection Plan (ABPP), and recommendations for the Draft Site Permit.[25]

19. On January 6, 2017, the Administrative Law Judge issued a Notice of Prehearing Conference setting the prehearing conference for January 13, 2017.[26]

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[18] Site Permit Application Addendum (Nov. 23, 2016) (eDocket No.201611-126770-01).
[19] ORDER FINDING APPLICATION COMPLETE, VARYING TIME LIMITS, AND ESTABLISHING PROCEDURAL FRAMEWORK FOR PROCEEDINGS at 2 (Nov. 29, 2016) (eDocket No.201611-126840-01).
[20] Notice of Public Information Meeting (Dec. 1, 2016) (eDocket No. 201612-126995-01).
[21] *Id.*
[22] Red Pine Affidavits of Distribution to Local Governments and Landowners (Dec. 8, 2016) (eDocket Nos. 201612-127132-01, 201612-127132-02, 201612-127132-03).
[23] Staff Briefing Papers on Draft Site Permit (Dec. 26, 2017) (eDocket No. 20171-128507-01).
[24] Comment by MnDOT (Jan. 3, 2017) (eDocket No. 20171-127793-01).
[25] MnDNR Comments, Preliminary Letter, and Avoidance Area Map (Jan. 3, 2017) (eDocket Nos. 20171-127777-01, 20171-127777002).
[26] NOTICE OF PREHEARING CONFERENCE (Jan. 6, 2017) (eDocket No. 20171-127901-01).

20. On January 18, 2017, the DOC-EERA filed comments along with a proposed Draft Site Permit, recommending the Commission issue the draft permit.[27] The DOC-EERA's proposed Draft Site Permit took into consideration comments provided during the public information meeting and associated comment period, as well as comments provided by other state and federal agencies.[28]

21. On January 25, 2017, the Administrative Law Judge issued a scheduling order setting the schedule for summary proceedings under Minn. R. 7850.3800 (2015).[29]

22. On January 25, 2017, Red Pine filed an updated project layout consistent with its November 23, 2016 Site Permit Addendum and provided additional detail for certain project facilities.[30]

23. On January 27, 2017, Red Pine filed maps showing additional detail for the Project area and turbine layout.[31]

24. On February 1, 2017, Red Pine filed a letter with updated turbine specification information on the Vestas V110 wind turbine.[32]

25. On February 2, 2017, the Commission met to consider the Draft Site Permit. The Commission determined the Draft Site Permit filed by the DOC-EERA was an adequate basis for further development of the record. The Commission issued the Draft Site Permit with modifications to the Notification and Site Plan provisions.[33]

26. The Commission's decision was incorporated into its Order Issuing Draft Site Permit dated February 10, 2017.[34]

27. On February 10, 2017, Red Pine filed the mailing lists for the relevant local governments and landowners as requested by Commission staff.[35]

28. On February 13, 2017, the Commission filed a Notice of Public Hearing and Draft Site Permit Issuance, publicizing the March 6, 2017 public hearing.[36]

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[27] DOC-EERA Comments and Recommendations re Preliminary Draft Site Permit (Jan. 18, 2017) (eDocket No. 20171-128214-01).
[28] *Id.*
[29] SCHEDULING ORDER (Jan. 25, 2017) (eDocket No. 20171-128488-01).
[30] Updated Project Layout (Jan. 25, 2017) (eDocket 20171-128470-01).
[31] Maps Showing Additional Detail of Project Area and Layout (Jan. 27, 2017) (eDocket No.20171-128542-01).
[32] Updated Turbine Specification Information (Feb. 1, 2017) (eDocket No. 20172-128751-01).
[33] ORDER ISSUING DRAFT SITE PERMIT (Feb. 10, 2017) (eDocket No. 20172-128976-01).
[34] *Id*.
[35] Mailing Lists (Feb. 10, 2017) (eDocket No. 20172-128971-01).
[36] NOTICE OF PUBLIC HEARING AND DRAFT SITE PERMIT ISSUANCE (Feb. 12, 2017) (eDocket No. 20172-128994-01).

29. On February 27, 2017, Red Pine filed additional information regarding calcareous fens as requested by the MnDNR.[37]

30. On February 27, 2017, Red Pine filed updated Sound and Shadow Flicker Reports reflecting the current project layout.[38]

31. On March 2, 2017, Red Pine filed an updated Avian and Bat Protection Plan.[39]

32. On March 6, 2017, Red Pine filed documentation of communications, primarily concerning a private airstrip, with landowners who own certain property in the vicinity of the Project.[40]

33. On March 16, 2017, the MnDNR filed a letter confirming certain changes made by Red Pine to the Project at MDNR's recommendation, and also recommending modification of the Avian and Bat Protection Plan.[41]

III. General Description of the Project

34. The Project consists of 58 to 100 wind turbines[42] yielding a total nameplate capacity of up to 200.1 MW in Lincoln County.[43] The Project also includes associated facilities necessary to operate and maintain the turbines.[44]

35. Two types of Vestas turbines will be used for the Project: the V110 wind turbine and the V100 wind turbine.[45] Half of the turbines will be the V110 and half will be the V100.[46] On January 25, 2017, Red Pine provided updated maps showing preliminary turbine locations and associated facilities.[47]

36. The wind turbines are three bladed, active yaw, and active aerodynamic control regulated wind turbine generators with power/torque control capabilities.[48] The rotors utilize blade pitch regulation and other technologies to achieve optimum power output under various site conditions and wind speeds.[49]

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[37] Calcareous Fen Evaluation (Feb. 27, 2017) (eDocket Nos. 20172-129394-03, 20172-129394-04).
[38] Updated Sound and Shadow Flicker Reports (Feb. 27, 2017) (eDocket No. 20172-129394-02).
[39] Avian and Bat Protection Plan (Mar. 2, 2017) (eDocket No. 20173-129601-01).
[40] Documentation of Communications with Mulder Family (Mar. 6, 2017) (eDocket No. 20173-129661-01).
[41] Comment by MnDNR (Mar. 16, 2017) (eDocket No. 20173-129967-01).
[42] Revised Site Permit Application at 14 (Sept. 30, 2016) (eDocket No. 20169-125328-02).
[43] *Id*. at 18.
[44] Revised Site Permit Application at 20 (Sept. 30, 2016) (eDocket No. 20169-125328-02).
[45] Updated Turbine Specification Information (Feb. 1, 2017) (eDocket No. 20172-128751-01).
[46] *Id.*
[47] Updated Project Layout (Jan. 25, 2017) (eDocket No. 20171-128507-01).
[48] Revised Site Permit Application at 17-18 (Sept. 30, 2016) (eDocket No.20169-125328-02).
[49] *Id.*

37. Both turbine models have a nameplate capacity of 2.0 MW, a hub height of 262.5 feet (80 meters), and a rotor diameter (RD) of 328.0 feet (100 meters), and 360.9 feet (110 meters) for the V100 and V110, respectively.[50]

38. In addition to the turbines, the Project requires the following facilities:

A. gravel access roads, totaling approximately 26 miles in length;[51]

B. step-up transformers installed at each turbine to increase the voltage to 34.5 kV for the collector system;[52]

C. 34.5 kV underground collection lines totaling approximately a maximum of 65 miles in length depending on the chosen turbines;[53]

D. installation of a Site Control and Data Acquisition (SCADA) system;[54]

E. construction by Northern States Power Company of a project substation, to be called the Hawks Nest Lake Substation (H081), in the northern portion of the Project Area, which is approximately six miles northeast of Ivanhoe, Minnesota;[55]

F. construction of an Operation and Maintenance (O&M) facility to either be operated and maintained by EDF-RE's own O&M group, or through maintenance and service agreements negotiated as part of the Turbine Supply Agreement with manufacturers, or to other pre-qualified service providers on or near the site to provide access and storage for project maintenance and operations;[56]

G. up to four permanent free standing meteorological towers made of galvanized steel with medium dual intensity day and night lights as required by the FAA.[57]

39. The SCADA system permits automatic, independent operation and remote supervision of each turbine and facility collectively, which allows for the simultaneous

[50] Revised Site Permit Application at 18 (Sept. 30, 2016) (eDocket No. 20169-125328-02); Updated Turbine Specification Information (Feb. 1, 2017) (eDocket No. 20172-128751-01).
[51] Red Pine Reply Comments on Application Completeness at 2 (Oct. 27, 2016) ((eDocket No. 201610-125893-01)
[52] Revised Site Permit Application at 20-21 (Sept. 30, 2016) (eDocket No. 20169-125328-02)
[53] *Id.*
[54] *Id.* at 106.
[55] *Id.* at 20.
[56] *Id.* at 21.
[57] *Id.*

control of the wind turbines. Error messages from the SCADA system are sent to the Operations Control Center, where staff will evaluate the nature of the error message and make a determination of the correct procedure needed to address the error.[58]

40. The Project has been designed to ensure consistency with setbacks and standards established by the Commission, and will meet or exceed the minimum setback requirements in the local ordinance. The design includes a wind access buffer of 5 RD in the prevailing wind direction and 3 RD in the non-prevailing wind direction; a noise setback meeting Minnesota Noise Standards, Minnesota Rules Chapter 7030 (2015); a minimum 1,000-foot setback from homes; 300 feet from road rights-of-way; and 3x5 RD from non-participating property lines.[59]

41. MISO has conditionally accepted a Generator Interconnection Agreement with Red Pine as of March 4, 2015.[60]

IV. Site Location and Characteristics

42. The Project is located in Lincoln County in southwest Minnesota, east of Ivanhoe and north of Arco.[61] Portions of the Project are located in Ash Lake, Lake Stay, Limestone, Marble, and Royal Townships in Lincoln County. The Project is located in a portion of the state that has seen extensive development of LWECS over the past ten years.[62]

43. The Project boundary encompasses approximately 44,657 acres, of which approximately 32,824 acres are currently leased by Red Pine.[63] The Project's above-ground facilities will occupy less than one percent of the area.[64]

44. The Project is located within a lightly populated rural, agricultural area. The population density of the Project area is approximately 4.2 people per square mile.[65]

45. The Project is located within five miles of 46 Wildlife Management Areas (WMAs) and ten Waterfowl Production Areas (WPAs), and is also located near the Lincoln County Drift Clipper snowmobile trail and King of Trails Scenic Byway.[66]

V. Wind Resource Considerations

46. Red Pine has collected wind speed data from four met towers in the Project area showing an average annual wind speed of approximately 8.6 meters/second (m/s)

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[58] *Id.* at 106.
[59] *Id.* at 17, 26-27.
[60] *Id.* at 20.
[61] *Id.* at 12.
[62] DOC-EERA Comments and Recommendations re Preliminary Draft Site Permit (Jan. 18, 2017) (eDocket No. 20171-128214-01).
[63] Updated Project Layout (Jan. 25, 2017) (eDocket No. 20171-128470-01).
[64] Revised Site Permit Application at 14 (Sept. 30, 2016) (eDocket No.20169-125328-02).
[65] *Id.* at 64.
[66] *Id.* at 37.

at an 80-meter hub height. Generally, the months of November through February are expected to have the highest wind speeds, while the months of June through August are expected to have the lowest wind speeds. Likewise, the daily wind pattern at the Project site has an increase in wind speeds during the evening and overnight hours as the atmosphere heats from the ground upward and convective mixing occurs.[67]

VI. Wind Rights and Easement/Lease Agreements

47. Red Pine has executed and recorded landowner agreements for approximately 32,824 acres of private land within the Project area, which is roughly 73.5 percent of the land within the boundaries for the Project.[68]

48. Red Pine has complied with the Commission's January 2008 Order Establishing General Wind Permit Standards by ensuring a Wind Access Buffer Setback of 3 RDs on the secondary wind axis and 5 RDs on the predominant axis to protect wind rights of adjacent property owners.[69]

VII. Project Schedule

49. Construction of the Project is scheduled to begin as early as the second quarter of 2017.[70]

VIII. Permittee

50. The permittee for the Project is Red Pine.

51. In its Revised Application, Red Pine reserved the right to sell or assign the Project to another qualified entity before, during, or after the Project's construction, provided it receives the proper Commission approvals.[71]

IX. Summary of Public Comments

52. DOC-EERA staff held a public information meeting to discuss the project and solicit comments in Ivanhoe on December 13, 2016.[72] Approximately 40 people attended the meeting, and there were eight verbal comments/questions. The verbal comments and questions covered a broad range of topics including turbine access road placement; changing the proposed project area due to eagle nest locations; the Mulder private airstrip and turbine locations; setbacks from nonparticipating landowners, setbacks from homes; discussion of the different easement types; wind easement transfer and potential conflicts with conservation programs; and building height restrictions on

[67] *Id.* at 94-95.
[68] Site Permit Application Addendum at 3 (Nov. 23, 2016) (eDocket No. 201611-126770-01).
[69] Revised Site Permit Application at 26 (Sept. 30, 2016) (eDocket No. 20169-125328-02).
[70] *Id.* at 12.
[71] *Id*.
[72] Order Issuing Draft Site Permit at 1 (Feb. 10, 2017) (eDocket. No. 20172-128976-01).

lands under easement.[73] DOC-EERA staff, Commission staff, and EDF staff provided responses and clarifications to the majority of comments and questions.[74]

53. Agency comment letters were provided by the Minnesota Pollution Control Agency (MPCA), MnDOT, and the MnDNR regarding the scope of the Draft Site Permit. At the time, the MPCA did not have any comments to provide regarding the Project.[75]

54. MnDOT indicated that roads in close proximity to the Project may have construction projects planned in the near future or may be impacted by project equipment delivery. State Trunk Highways 19 and 23 and U.S. Highway 75 could be impacted by plans to haul oversized loads and heavy equipment. On-going coordination with MnDOT staff is recommended to ensure efficient delivery of materials to the Project site. The Project is also adjacent to the King of Trails Scenic Byway (along U.S. Highway 75), and MnDOT recommended mitigation for unavoidable impacts to the intrinsic qualities within the scenic byway corridors. MnDOT recommended contacting the stakeholders group to discuss potential impacts to the King of Trails Scenic Byway.[76]

55. The MnDNR recommended that turbines not be located within the avoidance area identified near Hawk's Nest Lake. The MnDNR believes the turbine layout utilizing the V100 turbine model will be the most problematic with respect to avian and bat impacts, and prefers the Vestas 126 or 117 turbine models to be utilized as they will result in the construction of fewer turbines. The MnDNR recommended the Draft Site Permit include specific language requiring the wind turbines to be feathered below the manufacturer's operational cut-in speed from one-half hour prior to sunset to one-half hour after sunrise from July 1 to October 1 for the entire period covered by the permit. The MnDNR also indicated that all wetlands identified within the Project area need to be reviewed to determine if there are calcareous fens within the Project area. Additionally, the MnDNR recommended various edits be made to the Project's Avian and Bat Protection Plan.[77]

56. On January 3, 2017, the MnDNR conveyed appreciation for the level of avoidance of sensitive natural areas achieved by Red Pine, but also expressed concern about a high risk for bird and bat fatalities by turbines located near Hawk's Nest Lake, recommended turbine models that will result in the Project needing fewer turbines, noted that the Project site contains a significant amount of habitat for birds and bats when compared to other proposed and constructed wind farms in southern Minnesota, and

[73] DOC-EERA Comments and Recommendations re Preliminary Draft Site Permit at 4 (Jan. 18, 2017) (eDocket No. 20171-128214-01).
[74] *Id.*
[75] *Id.*
[76] *Id.*; Comment by MnDOT (Jan. 13, 2017) (eDocket No. 20171-127993-01).
[77] DOC-EERA Comments and Recommendations re Preliminary Draft Site Permit at 4-5 (Jan. 18, 2017) (eDocket No. 20171-128214-01).

made other recommendations related to reducing and monitoring potential consequences.[78]

57. The MnDNR noted that the 2015 field survey identified a rookery on Hawk's Nest Lake. The survey indicated the presence of 238 double-crested cormorant and 12 great egret nests. Also, a 2005 field survey recorded the presence of American white Pelican (a special concern species), black-crowned night heron, and great blue heron nests. Although recent surveys did not record the presence of pelican, black-crowned night heron, or great blue heron nests, the habitat may still be suitable for these species. Turbines located near Hawk's Nest Lake would pose a higher risk of collision to the adults flying in and out of the nests to forage and feed young. The MnDNR noted that its March 14, 2016 comment letter included a map indicating where turbines should not be located due to their proximity to lakes, streams, wetlands, and upland habitat that attracts higher numbers of birds and bats. One of the areas is located around Hawk's Nest Lake. The MnDNR also identified a WMA to the east of the project as an area in which placement of turbines should be avoided.[79]

58. The MnDNR requested more specificity in the post-construction section of the Draft Avian and Bat Protection Plan, noting that any potential calcareous fens require coordination with the state agency, and recommending modification to the turbine layout to avoid high risk areas.[80]

59. Additional questions and comments about the Project were raised by members of the public at the public hearing held at the Ivanhoe VFW Post 2980 in Ivanhoe, on March 6, 2017. Kevin Swanson thanked Red Pine for growing the town and its businesses.[81] Vince Robinson, Executive Director with Lincoln County Enterprise Development Corporation, spoke in favor of the Project because of its job creation, tax revenue, and revenue for landowners.[82] Mic VanDeVere, county commissioner from District 2, expressed support for the Project.[83] Dale Richmond asked whether there is potential for compensation or wind rights for a local cemetery.[84] Ruth Muldar asked about the potential for technology other than blinking lights to be used to warn airplanes approaching turbines.[85] Tim Jerzak asked whether there are plans in place to protect bald eagles in the event an eagle moves into a new location not currently included in the maps.[86] Faith Olson expressed concern about Red Pine staff leaving pasture gates open and allowing cattle to get out, and whether Red Pine will be available to receive calls about such concerns.[87]

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[78] MnDNR Comments, Preliminary Letter, and Avoidance Area Map (Jan. 3, 2016) (eDocket No. 20171-127777-01).
[79] *Id.*
[80] *Id.*
[81] Public Hearing Transcript (Tr.) at 24 (Mar. 6, 2017) (Swanson).
[82] *Id.* at 29-30 (Robinson).
[83] *Id.* at 37 (VanDeVere).
[84] *Id.* at 25-26 (Richmond).
[85] *Id.* at 27 (Mulder).
[86] *Id.* at 31 (Jerzak).
[87] *Id.* at 33-34 (Olsen).

60. Red Pine's representative, Shanelle Montana, responded to the question about the cemetery by noting that Red Pine has a setback from the cemetery, but invited a representative of the cemetery to contact Red Pine to further discuss their concerns.[88] Ms. Montana explained that Red Pine has worked with the Federal Aviation Administration (FAA), manufacturers of safety technology, and local communities to find technology options, but she does not believe there is a better technology available at this time.[89] Rich Davis, DOC-EERA staff, answered the question about the bald eagles and explained that should an eagle move in close to a turbine, the Project owner could apply to the U.S. Fish and Wildlife Service (USFWS) for nest removal or there might be a temporary shutdown or curtailment of a turbine.[90] Mr. Davis also addressed Ms. Olson's concerns by explaining the local landowner complaint process.[91] Ms. Montana addressed Ms. Olson's concerns by assuring everyone that Red Pine's staff will be part of the community and there will be staff available to respond to issues as they arise.[92]

61. On March 16, 2017, the MnDNR filed additional written comments concurring with the detailed investigation conducted by EDF's consultant showing that no impacts to calcareous fens are anticipated and a Calcareous Fen Management Plan is not required. The written comments also confirmed that the proximity of turbines 43, 59, and 73 to sensitive resources has been resolved. Turbines 43 and 59, originally sited close to a rookery on Hawk's Nest Lake, have been eliminated and Turbine 73 has been made an alternate and moved 200 feet further from the large wetland located within a permanent conservation easement. The MnDNR believes its concerns over the placement of three turbines have been properly resolved, and recommends that the Avian and Bat Protection Plan be modified to remove the characterization of certain measures as "voluntary."[93]

X. Site Permit Criteria

62. Wind energy developments are governed by Minn. Stat. ch. 216F (2016) and Minn. R. 7854, Minn. Stat. § 216F.01, subd. 2, defines a "large wind energy conversion system" (LWECS) as any combination of wind energy conversion systems with a combined nameplate capacity of 5 megawatts (5,000 kilowatts) or more.[94] 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.[95]

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[88] *Id.* at 26 (Montana).
[89] *Id*.
[90] *Id.* at 32 (Davis).
[91] *Id.*
[92] *Id.* at 35 (Olsen).
[93] Comment by MnDNR (Mar. 16, 2017) (eDocket No. 20173-129967-01).
[94] Minn. Stat. § 216F.01, subds. 2-3 (2016).
[95] Minn. Stat. § 216F.03 (2016); *see also* Minn. R. 7854.1000, subp. 3 (2015).

63. In deciding whether to issue an LWECS site permit, the Commission should be guided by, but not limited to, the following considerations set forth in Minn. Stat. § 216E.03, subd. 7(b) (2016):

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

B. environmental evaluation of sites . . . proposed for future development and expansion and their relationship to the land, water, air and human resources of the state;

C. evaluation of the effects of new electric power generation . . . systems related to power plants designed to minimize adverse environmental effects;

D. evaluation of the potential for beneficial uses of waste energy from proposed large electric power generating plants;

E. analysis of the direct and indirect economic impact of proposed sites . . . including, but not limited to, productive agricultural land lost or impaired;

F. evaluation of adverse direct and indirect environmental effects that cannot be avoided should the proposed site . . . be accepted;

G. evaluation of alternatives to the applicant's proposed site . . . ;

H. evaluation of governmental survey lines and other natural division lines of agricultural land so as to minimize interference with agricultural operations;

I. evaluation of irreversible and irretrievable commitments of resources should the proposed site . . . be approved; and

J. when appropriate, consideration of problems raised by other state and federal agencies and local entities.[96]

[96] Minn. Stat. § 216E.03, subd. 7(b) (2016).

64. The Commission must also consider whether the applicant has complied with all procedural requirements.[97]

65. 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. No separate environmental review is required for a LWECS project.[98]

XI. Application of the Statutory Siting Criteria to the Project

A. Human Settlement

66. The Project is located in the rural county of Lincoln. There are 122 dwelling units within the Project area.[99] The 2014 census population for Lincoln County was 5,788, and the U.S. Census 2010 American Community Survey (ACS) population estimate was 4,682. The estimated household size for Lincoln County based on the 2010-2014 ACS data was 2.28 people, with 3,113 housing units.[100] There are no population centers within the Project area. The City of Ivanhoe, with a population of approximately 500, is located on the west central border of the Project area; and the City of Arco, with a population of approximately 91, is located approximately 0.4 miles southwest of the Project area. The City of Russell is located approximately six miles southeast of the Project area and has a population of 404. The largest population center is the City of Marshall with a population of approximately 13,609. The western extent of Marshall is located approximately 12 miles east of the Project area. [101]

67. The Draft Site Permit provides for setbacks from residences to meet Commission requirements. Section 4.2 of the draft site permit requires Red Pine to maintain a setback distance of at least 1,000 feet from all residences. Section 4.1 of the Draft Site Permit requires Red Pine to maintain a setback of 5 RDs on the prevailing wind axis from non-participating landowners' property lines and 3 RDs on the non-prevailing wind axis.[102]

68. The Project is not expected to impact local demographics.[103]

B. Zoning and Land Use

69. Approximately 82 percent of Lincoln County is used for agriculture.[104] Within the Project area, 47.66 percent of the soil is considered prime farmland, 23.04 percent is prime farmland when drained, and 13.86 percent is considered farmland of

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[97] Minn. R. 7854.1000, subd. 3 (2015).
[98] Minn. R. 7854.0500, subd. 7 (2015).
[99] Revised Site Permit Application at 64 (Sept. 30, 2016) (eDocket No. 20169-125328-02).
[100] *Id*. at 23.
[101] *Id*. at 24.
[102] ORDER ISSUING DRAFT SITE PERMIT at Section 4.1 and 4.2 (Feb. 10, 2017) (eDocket. No. 20172-128976-01).
[103] Revised Site Permit Application at 23 (Sept. 30, 2016) (eDocket No. 20169-125328-02).
[104] *Id.* at 67.

statewide importance. Approximately 13.37 percent of the Project area is neither non-prime farmland nor farmland of statewide importance.[105]

70. According to the Lincoln County Environmental Office, the Project is situated entirely within the Rural Preservation Management District (AG) of Ash Lake, Lake Stay, Limestone, Marble, and Royal Townships as defined by the Lincoln County Comprehensive Development Ordinance.[106]

71. Lincoln County has established a Comprehensive Plan that describes goals to "sustain and continue to develop wind energy generation."[107]

72. Lincoln County also has a specific Windpower Management Ordinance for wind energy facilities with a rated capacity of less than 5 MW, and Lincoln County has assumed responsibility for permitting projects less than 5 MW as described in Minn. R. 216F.011.[108]

73. Because the Project is proposed to be up to 200.1 MW, it meets the definition of a LWECS and is subject to state regulation. Lincoln County ordinances are not applicable.[109]

74. Nonetheless, the Project will be designed to meet the minimum setback requirements identified by local ordinance.[110]

75. The Project is consistent with existing county zoning and land use plans.

C. Noise

76. Operation of wind turbines will contribute to sound levels in the area. The sound associated with the Project will vary based on wind speed, distance from turbines, the number of turbines in operation, weather and surface conditions, and the nature of obstacles and/or the topography between the wind turbines and the location where the sound is heard. Generally, turbines produce more sound on windier days, but the wind also produces more ambient noise. Therefore, perceived increases in sound levels within the Project area as modeled for this project are expected to be minimal.[111]

77. The MPCA has established, on the basis of present knowledge for the preservation of public health and welfare, noise standards designed to protect public health and minimize citizen exposure to inappropriate sounds.[112]

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[105] *Id.* at 68.
[106] *Id.* at 25.
[107] *Id.* at 28.
[108] *Id.* at 25.
[109] Minn. Stat. §§ 216F.01, .04 (2016).
[110] Revised Site Permit Application at 25 (Sept. 30, 2016) (eDocket No. 20169-125328-02).
[111] *Id.* at 31.
[112] Minn. R. 7030.0040 (2015).

78. Red Pine commissioned a study to model the potential noise impact on surrounding residences. The study modeled the noise impacts at 284 receptors, assumed the turbine operates 100 percent of the time, and ignored the effects of vegetative dampening. The results of the study revealed that 64 percent of the receptors would have sound emissions of 40 dB or below, and no sound levels would exceed 49.2 dB, which complies with noise-related rules.[113]

79. Section 7.4 of the Draft Site Permit requires Red Pine to file a proposed methodology for conducting a post-construction noise study at least 14 days prior to the pre-construction meeting and "develop the post-construction noise study methodology in consultation with the Department of Commerce." Furthermore, the Draft Site Permit requires Red Pine to "conduct the post-construction noise study and file with the Commission the completed post-construction noise study within 18 months of commencing commercial operation."[114]

80. The Project is maintaining a minimum setback distance of 1,000 feet to occupied dwellings. This distance facilitates the dissipation of sound waves before they reach homes in and around the Project area to minimize adverse impacts to ambient sound levels. Modeled sound levels at the occupied residences are anticipated to be below 50.0 dB(A) for all scenarios (i.e., all layouts, all turbines models, all ambient noise scenarios). Therefore, the Project will be in compliance with Minnesota's allowable sound levels as described in Minn. R. 7030.[115]

81. Red Pine also plans to conduct noise monitoring during operation of the turbines to validate and confirm pre-construction noise modeling.[116]

82. With the above mitigation measures and continued monitoring, the Project is not expected to have significant noise impacts.

D. Shadow Flicker

83. Shadow flicker caused by wind turbines is defined as alternating changes in light intensity at a given stationary location or receptor, such as the window of a home, caused by the shadow cast by moving turbine blades.[117] A number of conditions must be met in order for shadow flicker to occur, including, but not limited to: the sun must be shining with no cloud cover, the wind turbine must be located between the sun and the receptor facing the sun, and the receptor must be close enough for the shadow to reach it.[118] Shadow flicker can be diminished by visual screening such as trees, buildings, awnings, blinds, and drapes. Other conditions that may impact shadow flicker are the ambient light within a home, the time of day, the season, and cloud cover[119]

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[113] Updated Sound and Shadow Flicker Report (Feb. 27, 2017) (eDocket No. 20172-129394-02).
[114] Order Issuing Draft Site Permit at Section 7.4 (Feb. 10, 2017) (eDocket. No. 20172-128976-01).
[115] Revised Site Permit Application at 34 (Sept. 30, 2016) (eDocket No. 20169-125328-02).
[116] Revised Site Permit Application at 34 (Sept. 30, 2016) (eDocket No. 20169-125328-02).
[117] *Id.* at 38.
[118] *Id.* at 38-39.
[119] *Id*. at 39.

84. Red Pine commissioned modeling of shadow flicker using the shadow flicker module of OpenWind[120] to determine the potential for shadow flicker at receptors in and around the Project area. The shadow flicker study measured potential shadow flicker at 284 receptors in and around the Project area. Turbines are assumed to operate 100 percent of the time and sunshine probability was modeled from nearby meteorological stations. The default observer eye level was assumed to be 1.75 meters. Various effects known to reduce the impact of shadow flicker, such as vegetative dampening, were intentionally left out of the model to remain conservative.[121]

85. The study showed that 70 percent of the receptors experienced zero hours of shadow flicker during the year, and no receptor experienced more than 24.4 hours of shadow flicker annually.[122]

86. Red Pine has indicated that the potential for shadow flicker will continue to be considered during development, construction, and operation of the Project. Flicker mitigation will be addressed if unlikely situations arise where receptors are experiencing significantly more flicker than originally estimated during modeling efforts. Red Pine will also consider additional options such as exterior screening (trees or awnings) and interior screening (curtains) to help mitigate shadow flicker where appropriate. Red Pine has offered to provide education materials to help landowners minimize the effect of shadow flicker.[123]

87. Section 7.2 of the Draft Site Permit requires that data on shadow flicker for each residence of non-participating and participating landowners within and outside of the Project boundary subject to exposure to turbine shadow flicker be provided at least 14 days prior to the pre-construction meeting, including the results of the study and the assumptions made. Information must include the results of modeling used, assumptions made, and the anticipated levels of exposure from turbine shadow flicker for each residence. Red Pine shall provide documentation on its efforts to avoid, minimize, and mitigate shadow flicker exposure.[124]

88. With the adoption of the mitigation measures discussed above, the Project is not expected to result in significant impacts due to shadow flicker.

E. Visual Impacts

89. The Project area has a gently undulating topography interrupted only by a small number of public drainage ditches and a few larger lakes. Elevations range from 1,368 feet to 1,719 feet above sea level. The typical visual landscape within the Project

[120] OpenWind is a software package for wind project design. Revised Site Permit Application at 98 (Sept. 30, 2016) (eDocket No. 20169-125328-02).
[121] Updated Sound and Shadow Flicker Report at 1 (Jan. 16, 2017) (eDocket No. 20172-129394-02).
[122] Updated Sound and Shadow Flicker Report at 2, Table 2 (Jan. 16, 2017) (eDocket No. 20172-129394-02).
[123] Revised Site Permit Application at 41-42 (Sept. 30, 2016) (eDocket No. 20169-125328-02).
[124] ORDER ISSUING DRAFT SITE PERMIT at Section 7.2 (Feb. 10, 2017) (eDocket No. 20172-128976-01); Revisions to Applicant's Findings of Fact and Conclusions of Law and Draft Site Permit at Section 7.2 (Mar. 28, 2017) (eDocket No. 20173-130280-01).

area consists of agricultural fields, farmsteads with trees planted as windbreaks, and active or fallow fields, as well as residences and farm buildings.[125]

90. A number of existing wind farms and high voltage transmission lines are visible from within the Project area.[126] These other projects are not located in the immediate vicinity of the Project. Therefore, they are not expected to cumulatively contribute to the visual effect of the Project.[127]

91. Wind turbines will change the visual surroundings within and near the Project area. The visual effect of the Project will depend largely upon perceptions of observers and residents within several miles of the Project boundary. The visual contrast added by wind turbines may be perceived as a visual disruption to some, or as points of visual interest with their own aesthetic quality and appeal to others.[128]

92. The FAA requires obstruction lighting or marking of structures over 200 feet above sea level because they are considered obstructions to air navigation. To mitigate the visual impact of such lighting, Red Pine will use FAA guidance and standards when applying to the FAA for approval of a lighting plan for the Project, and will follow the approved plan to meet the minimum requirements of FAA regulations for obstruction lighting. Red Pine intends to provide details of its lighting plan to the Commission prior to construction, at the time Form 7460-1 is submitted to the FAA for final approval.[129]

93. Section 5.2.27 of the Draft Site Permit limits permitted lights on the towers to only those lights required by the FAA.[130]

94. Some of the Project's turbines will be located within the viewshed of MnDNR-managed WMAs, USFWS WPAs, and other local natural resources, and may be seen by people using the areas. Map 5 identifies recreation and wildlife areas within the Project's vicinity.[131]

95. Visual impacts will be noticeable for users of a state-funded snowmobile trail. The Lincoln County Drift Clipper runs north-south in the southwestern section of the Project paralleling County Road 7 and State Trunk Highway 19. Another section of the snowmobile trail parallels U.S. Highway 75 approximately two miles west of the Project boundary and meets the trail at State Trunk Highway 19 near City of Ivanhoe. No winter use information was available from the MnDNR or the county on the trail.[132]

96. Wind turbines will likely be partially visible from U.S. Highway 75, located approximately one mile west of the Project boundary. U.S. Highway 75 is designated as the King of Trails Scenic Byway. The road stretches 414 miles along the state's western

[125] Revised Site Permit Application at 34-35 (Sept. 30, 2016) (eDocket No. 20169-125328-02).
[126] *Id.* at 35.
[127] *Id.* at 35-36.
[128] *Id*. at 36.
[129] *Id.* at 36.
[130] ORDER ISSUING DRAFT SITE PERMIT at Section 5.2.27 (Feb. 10, 2017) (eDocket. No. 20172-128976-01).
[131] Revised Site Permit Application at 37 (Sept. 30, 2016) (eDocket No. 20169-125328-02).
[132] *Id.*

border. Scenic byways are designated for one or more of six intrinsic qualities including scenic, cultural, recreational, natural, cultural, or historical. The majority of the Project's turbines have been sited at least three miles east of the scenic byway to minimize visual impacts to the roadway and the experience of people traveling along the route. The nearest turbines are at least two miles away from the highway.[133]

97. Section 6.1 of the Draft Site Permit requires Red Pine to coordinate with MNDOT and Lincoln County Promotion and Tourism to mitigate Project-related impacts to the King of Trials Scenic Byway (U.S. Highway 75).[134]

98. In summary, the presence of turbines within the viewshed of natural areas may affect the aesthetic quality of the areas, although the degree of impact is largely dependent upon the individual perspectives of observers. Public lands and natural areas that exist within the viewshed of the Project are typical of other public lands in agricultural settings. Red Pine has offered several measures to mitigate the visual impact of the proposed Project. The measures include: siting the turbines at least one mile east of the King of Trails Scenic Byway; burying collector lines; siting turbines away from sensitive areas like public parks; WMAs, Scientific and Natural Area (SNA), WPAs, or wetlands; constructing access roads on gentle grades to minimize erosion and visible cuts; using existing roads where possible; making the turbines a uniform color; and converting temporarily disturbed areas back to cropland or otherwise reseeding with native vegetation.[135]

F. Public Services and Infrastructure

99. The Project is located in a lightly populated rural/agricultural area in southwest Minnesota. Public services to farmsteads and rural residences within the Project area include transportation/roadways, electric, and telephone. The nearest city to the Project area is the City of Ivanhoe located immediately adjacent to the western boundary. The city has its own fire department, and is routinely patrolled by the Lincoln County Sheriff's Office. Lincoln County Communications Center receives and dispatches all 911 calls for the county, including fire, medical, and police related emergencies.[136]

100. The Project is designed to have manageable temporary effects on the existing infrastructure during Project construction and operation. Because only minor impacts are expected, extensive mitigation measures are not anticipated. The following sections describe specific impacts that may occur to public services and infrastructure and how they will be mitigated.[137]

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[133] *Id.* at 38.
[134] ORDER ISSUING DRAFT SITE PERMIT at Section 6.1 (Feb. 10, 2017) (eDocket. No. 20172-128976-01).
[135] Revised Site Permit Application at 37-38 (Sept. 30, 2016) (eDocket No. 20169-125328-02).
[136] *Id.* at 42.
[137] *Id.*

1. Roads

101. Existing roadway infrastructure in and around the Project area consists of county and township roads that generally follow section lines, with private unpaved farmstead driveways and farming access roads. Minnesota State Trunk Highway 19 provides the main access to nearby communities and runs east-west through the center of the Project. Various county and township roads (two-lane paved and gravel roads) provide access to the proposed site.[138]

102. Section 5.2.12 of the Draft Site Permit requires Red Pine to notify the Commission and all governing bodies with jurisdiction over the roads that will be used for the Project at least 14 days prior to the pre-construction meeting to determine whether the roads need to be inspected.[139]

103. Prior to construction, Red Pine will coordinate with the applicable local and state road authorities to ensure that the weights being introduced to area roads are acceptable, and to obtain all relevant permits for access and utility installation. Red Pine will work with the City of Ivanhoe, townships in Lincoln County, and MnDOT, as necessary, regarding roadway concerns, right-of-way work (if any), and setbacks during construction of the Project. Red Pine will also work closely with the landowners in the placement of access roads to minimize land-use disruptions during construction and operation of the Project to the extent possible. Designated haul-roads will be reviewed with the local authority having jurisdiction and road use agreements will be executed where required. Road use agreements will be used to identify suitable travel routes, traffic control measures, methods for evaluating, monitoring and restoring roads, and mitigation measures to ensure roads used for oversize/overweight loads are properly identified, monitored, and stabilized.[140]

104. Impacted roadways will be restored and improved per a formalized Development Agreement between Red Pine and the relevant local governments. As recommended by the Southwest Regional Development Commission, Red Pine intends to comply with the Draft Site Permit by executing a single, cooperative Development Agreement with the relevant local governments to coordinate the restoration and improvement of impacted roadways.[141] Red Pine also agrees to coordinate with local governing bodies regarding construction road use through road use agreements, and will coordinate with landowners to minimize land-use disruptions during the construction process, particularly regarding the movement of equipment on roads, and operation of the Project.[142]

105. Red Pine proposes to construct up to approximately 26 miles of gravel access roads to connect the turbines with public roads, allowing for construction and

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[138] *Id.*
[139] ORDER ISSUING DRAFT SITE PERMIT at Section 5.2.12 (Feb. 10, 2017) (eDocket. No. 20172-128976-01).
[140] Revised Site Permit Application at 48 (Sept. 30, 2016) (eDocket No.20169-125328-02).
[141] *Id.*
[142] *Id.*

maintenance of the turbines.[143] Red Pine agrees to work closely with landowners in the placement of access roads to minimize land use disruptions during construction and operation of the Project to the extent possible.[144]

106. Section 5.2.13 of the Draft Site Permit restricts the construction of access roads to only those roads "necessary to safely and efficiently operate the project and satisfy landowner requests." Section 5.12.13 contains restrictions on the placement and design of access roads, and requires that all access roads "be constructed in accordance with all necessary township, county or state road requirements and permits."[145]

107. Section 4.4 of the Draft Site Permit requires all turbines and meteorological towers to be set back at least 250 feet from public road right-of-ways,[146] and Red Pine has indicated that it will observe a setback of 300 feet from public roadways.[147]

108. Construction and operation of the Project is not expected to cause significant impacts to roads or traffic.

2. Telecommunications

109. Wind projects can potentially interfere with telecommunication systems, such as telephone, microwave beam paths, AM/FM radio, fixed land mobile stations, and television.[148]

110. Red Pine commissioned studies, which were finalized in March of 2016, from Comsearch to measure the potential impact on telephone, microwave beam paths, AM/FM radio, fixed land mobile stations, and television systems in the surrounding area.[149]

111. Comsearch found one AM and six FM radio stations within a 30-kilometer radius of the Project. Comsearch determined that the Project should not impact the coverage of the AM station and should not cause distortion to FM reception.[150] Since no impact on the licensed and operational AM or FM broadcast stations was identified, Comsearch made no recommendations or mitigation techniques for the Project related to AM or FM radio.[151]

112. Microwave systems are the telecommunication backbone of the country, providing long-distance and local telephone service, backhaul for cellular and personal

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[143] Red Pine Reply Comments on Application Completeness at 2 (Oct. 27, 2016) (eDocket No. 201610-125893-01).
[144] Revised Site Permit Application at 48 (Sept. 30, 2016) (eDocket No.20169-125328-02).
[145] ORDER ISSUING DRAFT SITE PERMIT at Section 5.2.13 (Feb. 10, 2017) (eDocket. No. 20172-128976-01).
[146] *Id.* at Section 4.4.
[147] Revised Site Permit Application at 48 (Sept. 30, 2016) (eDocket No. 20169-125328-02).
[148] *Id.* at 46-47.
[149] Initial Filing, Appendix E, Telecommunications Studies (Sept. 16, 2016) (eDocket No. 20169-124947-07).
[150] *Id*. at 5.
[151] *Id.* at 1.

service, data interconnects for mainframe computers and the Internet, network controls for utilities and railroads, and various video services. Comsearch identified nine microwave paths intersecting the Project area. The microwave paths are calculated and mapped in order to assess the potential disruption from the turbines. Three sets of turbine layouts are considered in the analysis. Of those turbines, none were found to pose potential obstruction to the microwave systems in the area.[152]

113. Off-air television stations broadcast signals from terrestrially-based facilities directly to television receivers. Comsearch identified the off-air stations whose service could potentially be affected by the proposed Project in Lincoln and Lyon Counties, Minnesota. Comsearch then examined the coverage of the stations and the communities in the area that could potentially have degraded television reception due to the location of the proposed wind turbines.[153]

114. Comsearch determined that three full-power television stations may have their reception disrupted in and around the Project. After the wind turbines are installed, communities and homes with TV service locations within ten kilometers of the Project may have degraded reception for the television three stations.[154]

115. Improved TV receivers combined with a directional antenna make it unlikely that signal scattering from wind farms will cause interference with digital TV reception. In the event that interference is observed in any of the TV service areas, Comsearch recommended that a high-gain directional antenna be used, preferably outdoors, and oriented towards the signal origin to mitigate the interference. In addition, cable or direct broadcast satellite service may be offered to residents who have off-air TV reception disrupted.[155]

116. Red Pine has plans in place to prevent interfering with telecommunications services, including contacting utilities to coordinate collector line placement and siting turbines to avoid microwave beampaths and radio signals. Red Pine has also agreed to work with parties in the unlikely event that television service is disrupted, and has outlined a number of mitigation measures should that occur.[156]

117. The Draft Site Permit requires Red Pine to submit data to the Commission on the potential interference with telecommunications. If disruption to telecommunications occurs in the future, the data will be used to determine whether the Project is causing the disruption. Red Pine is responsible for correcting any disruption to telecommunication services caused by the Project. [157]

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[152] *Id*. at 7.
[153] *Id.*
[154] *Id.*
[155] *Id.*
[156] Revised Site Permit Application at 47-50 (Sept. 30, 2016) (eDocket No.20169-125328-02).
[157] ORDER ISSUING DRAFT SITE PERMIT at Section 5.2.16 (Feb. 10, 2017) (eDocket. No. 20172-128976-01).

118. Because Red Pine is committed to operating the Project in accordance with applicable law and the Draft Site Permit, no significant impacts to telecommunications are expected.

3. Installation of Cables

119. The Project will use approximately 50-65 miles of cables for collector lines within the Project area, which carry electrical power to the interconnection points.[158] Pursuant to the Draft Site Permit, the lines will be buried and placed within or adjacent to turbine access roads unless otherwise negotiated with the landowner. Feeder lines carry power from the interconnection point to the substation. Red Pine has voluntarily agreed to bury these lines in order to further mitigate potential impacts,[159] which is not required by the Draft Site Permit.[160]

120. Red Pine must also bury all SCADA cables within or adjacent to the land necessary for turbine access roads unless otherwise negotiated with the affected landowner.[161]

121. Red Pine's burying of cables is not expected to cause any significant impacts to existing infrastructure.

G. Cultural and Archaeological Resources

122. A consultant for Red Pine conducted a review of records at the Minnesota State Historic Preservation Office (SHPO) and Office of the State Archaeologist (OSA) for the Project area and a one mile buffer surrounding the area. The review identified six previously inventoried archaeological sites within one mile of the Project area, including one site within the Project area. There are also 22 historic architectural resources within one mile of the Project area, including five within the Project area.[162]

123. Based on the review, the SHPO recommended a Phase IA literature search and Phase I archaeological survey if that was recommended by the literature search. Red Pine has performed a literature review and a Phase I Archaeological Reconnaissance Survey within the proposed construction corridors of the Project. The field work identified no archaeological properties within the defined Area of Potential Affect (APE). Red Pine will be coordinating further with SHPO once project design work is finalized.[163]

124. Consistent with the Draft Site Permit, if Red Pine encounters an archaeological or historic resource, it will contact and consult with the SHPO and OSA. The resources will be assessed for eligibility on the National Register of Historic Places. Red Pine will examine the potential impact on the resource and avoid impacts by adjusting

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[158] Revised Site Permit Application at 21 (Sept. 30, 2016) (eDocket No. 20169-125328-02).
[159] *Id.* at 92.
[160] ORDER ISSUING DRAFT SITE PERMIT at Section 5.4 (Feb. 10, 2017) (eDocket. No. 20172-128976-01).
[161] *Id.* at 5.3.
[162] Cultural Literature Review (Sept. 16, 2016) (eDocket No. 20169-124947-08); Revised Site Permit Application at 51 (Sept. 30, 2016) (eDocket No.20169-125328-02).
[163] Revised Site Permit Application at 53 (Sept. 30, 2016) (eDocket No.20169-125328-02).

the layout whenever possible. If avoidance is not possible, Red Pine will work with the SHPO, OSA, and American Indian communities to determine appropriate mitigation measures. If human remains are uncovered, Red Pine will contact the OSA and appropriate authorities.[164]

125. With these avoidance and mitigation measures in place, impacts on cultural and archaeological resources are expected to be minimal.

H. Recreational Resources

126. Lincoln County provides a variety of recreational opportunities including boating and canoeing, fishing, camping, snowmobiling, hunting, snow shoeing, cross country skiing, bird and wildlife viewing, golfing, and hiking.[165]

127. The following public recreational resources are located near the Project area: several WMAs, WPAs, an Aquatic Management Area (AMA), an SNA, a National Wildlife Refuge (NWR), recreational lakes and trails, a state park, and snowmobile trails.[166]

128. WMAs are lands managed by the MnDNR to protect the high potential of the areas for wildlife production, public hunting, trapping, fishing, and other compatible recreational uses.[167] There are nine WMAs located within the Project area and 71 WMAs within ten miles of the Project boundary.[168]

129. One snowmobile trail, the Lincoln County Drift Clipper Trail, extends approximately three miles within the southwest part of the Project area.[169]

130. Other notable recreation sites within ten miles of the Project area include Northern Tallgrass Prairie lands adjacent to the east Project boundary; the Antelope Valley SNA nine miles north of the Project; and Camden State Park seven miles from the southeast Project boundary. There are also three Lincoln County parks within five to ten miles of the Project and several natural lakes within the Project area.[170]

131. The Project has been designed in a way that will avoid direct impacts to recreational resources. No turbines have been sited within public lands, or within the normal 3x5 RD setback of designated public lands including WMAs and WPAs. In addition, no turbine has been sited within one mile of Northern Tallgrass Prairie lands located along the eastern Project boundary. Recreational resources within the Project area also include approximately six miles of the Lincoln County Drift Clipper Snowmobile

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[164] Revised Site Permit Application at 54 (Sept. 30, 2016) (eDocket No.20169-125328-02).
[165] Revised Site Permit Application at 54 (Sept. 30, 2016) (eDocket No.20169-125328-02).
[166] *Id.*
[167] *Id.*
[168] *Id.*
[169] *Id.* at 58.
[170] *Id.* at 56-57.

Trail in the southwest part of the Project. This trail is provided a minimum 300-foot setback from the nearest turbine. [171]

132. Potential impacts to recreational resources within and around the Project are anticipated to be visual in nature by altering the viewshed from the public lands, trails, and open spaces within and around the Project.[172] Because all of the public lands identified within the Project area have a minimum setback of 1,000 feet from Project infrastructure, and recreational trails have a minimum 300-foot setback, no direct impacts to recreational resources are anticipated.[173]

133. While the Project may cause some visual impacts in certain recreational areas, the construction and operation of the proposed Project is not expected to have an adverse effect on existing recreational opportunities.

I. Public Health and Safety

1. EMFs and Stray Voltage

134. Electric and magnetic fields (EMFs) arise from the movement of electrical charge on a conductor such as transmission lines, power collection (feeder) lines, substation transformers, house wiring, and electrical appliances. EMFs are commonly associated with power lines, but occurs only at close range because the electric field rapidly dissipates as the distance from the line increases.[174]

135. Stray voltage is a natural phenomenon that is the result of low levels of electrical current flowing between two points that are not directly connected. Electrical systems, including farm systems and utility distribution systems, must be adequately grounded to ensure continuous safety and reliability, and to minimize this current flow. Potential impacts from stray voltage can result from a person or animal coming into contact with neutral-to-earth voltage. Stray voltage does not cause electrocution and is not related to ground current, EMFs, or earth currents.[175]

136. There is no conclusive evidence showing significant health impacts from EMFs associated with wind turbines or power lines.[176] The National Institute of Environmental Health Sciences (NIEHS) has conducted extensive research into the potential health impacts of EMFs and found only a "weak" correlation between EMFs and adverse health impacts.[177] EMFs from underground electrical connection and feeder lines dissipates very quickly and relatively close to the source because they are installed below ground to a depth of approximately 48 inches and heavily insulated and shielded. Consequently, the electrical fields that emanate from buried lines and transformers are

[171] *Id.* at 58.
[172] *Id.* at 58-59.
[173] *Id*. at 59.
[174] *Id.* at 59.
[175] *Id*. at 60.
[176] *Id.* at 59.
[177] "Electric & Magnetic Fields," NIEHS (Aug. 2, 2016) (available at https://www.niehs.nih.gov/health/topics/agents/emf/).

generally considered negligible, and magnetic fields often decrease significantly within three feet of stronger EMFs sources.[178]

137. Despite this lack of evidence, Red Pine will install the turbines beyond the minimum allowable distances from occupied residences where EMFs are expected to be at background levels unrelated to wind project proximity.[179]

138. Based upon current research regarding EMFs, and the separation distances being maintained between transformers, turbines, and collector lines from public access and occupied homes, EMFs associated with the Project are not expected to have an impact on public health and safety. Potential issues related to stray voltage and distribution lines can be readily managed by correctly connecting and grounding electrical equipment. No adverse impacts are expected from EMFs or stray voltage.

2. Aviation

139. There are no registered public airports located within the Project area. All registered airports are at least five miles away from the Project boundary, with most registered airports located at least 12 miles away.[180]

140. The nearest airport to the Project is Mulder Field. It is located one mile east of Ivanhoe, Minnesota. It is a private use airport with a turf runway which requires permission prior to landing.[181]

141. The FAA Central Regional Office was contacted for comments on the Project on February 11, 2016. To date, no response letter has been received from the FAA. However, the FAA generally recommends adding identified airports to any Project distribution list to allow the airports an opportunity to provide comment on a proposed wind facility.[182]

142. The Draft Site Permit prohibits Red Pine from placing turbines where they could obstruct navigable airspace of public or private airports, and requires compliance with relevant setback regulations and rules from MnDOT, the Department of Aviation, and the FAA. Red Pine is required to notify owners of all known airports within six miles of the Project prior to construction.[183]

143. A potential conflict exists between the Department of Defense's operations Common Air Route Surveillance Radar (CARSR) in Tyler, Minnesota. The Project is currently in negotiation with the Department of Defense and the Department of the Air

[178] Revised Site Permit Application at 59 (Sept. 30, 2016) (eDocket No. 20169-125328-02).
[179] *Id.*
[180] *Id.* at 61.
[181] *Id*.
[182] *Id.*
[183] ORDER ISSUING DRAFT SITE PERMIT at Section 4.12 (Feb. 10, 2017) (eDocket. No. 20172-128976-01).

Force for a Radar Mitigation Agreement to ensure the Project can be constructed and operated without having an adverse impact on military operations and readiness.[184]

144. Red Pine has indicated that it will work closely with relevant agencies to site turbines to avoid aviation impacts. Red Pine will also notify local airports, aerial applicators, and hospital heliports about the Project.[185]

145. The installation of wind turbines in active croplands increases the potential for conflict with crop-dusting aircraft.[186] Red Pine will mark and light turbines according to FAA standards, and work with local landowners on coordinating crop-dusting activities to reduce risk to local pilots.[187]

146. With the above mitigation and notification measures in place, the Project is not expected to have a significant impact on aviation.

3. Safety and Security

147. The Draft Site Plan contains conditions to protect public safety. Red Pine is required to prepare an Emergency Response Plan in consultation with local emergency responders and submit the plan to the Commission.[188]

148. Red Pine is required to provide educational materials to landowners adjacent to the site and, upon request, to interested persons about any restrictions or dangers associated with the Project. Red Pine shall also provide any necessary safety measures such as warning signs and gates for traffic control or to restrict public access. Red Pine shall submit the location of all underground facilities, as defined in Minn. Stat. § 126D.01, subd. 11 (2016), to Gopher State One Call following completion of the construction at the site.[189]

149. Red Pine has identified additional safety and security measures it will observe in order to further mitigate safety and security impacts from the Project, including registering turbine locations with local emergency responders, vegetation control and snow removal plans to provide access to emergency responders and reduce fire risk, educating landowners about wind project safety and security, and additional measures restricting access.[190]

150. The Project is not expected to significantly impact public safety.

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[184] Revised Site Permit Application at 62 (Sept. 30, 2016) (eDocket No. 20169-125328-02).
[185] *Id.*
[186] *Id.*
[187] *Id.*
[188] ORDER ISSUING DRAFT SITE PERMIT at Section 10.10 (Feb. 10, 2017) (eDocket. No. 20172-128976-01).
[189] *Id.* at Section 5.2.25.
[190] Revised Site Permit Application at 64-65 (Sept. 30, 2016) (eDocket No. 20169-125328-02)

J. Pollution and Hazardous Waste

151. The Project has the potential to generate pollution and hazardous waste during construction, operation, and decommissioning. Hazardous materials associated with agricultural use of the land may exist within the Project area.

152. The Draft Site Permit requires Red Pine to take precautions to protect against pollution and comply with all applicable laws regarding the generation, storage, transportation, and cleanup of all wastes associated with construction and restoration.[191]

153. Red Pine has plans in place to avoid existing hazardous materials at the site and properly handle and dispose of pollution and waste generated on the site.[192]

154. Significant impacts from hazardous waste or pollution associated with the Project are not expected.

K. Land-Based Economies

1. Agriculture

155. Agriculture is the primary economy in Lincoln County. In 2012, over 82 percent of the land in Lincoln County was used for agriculture, with 699 farms operating in the County.[193] The County's major crops include corn, soybeans, and forage land for growing hay. Cattle and pigs represent the predominant livestock in the county.[194]

156. Depending on the type of turbines chosen for the Project, up to approximately 95 acres of prime farmland could be permanently impacted from turbines and access roads. The combined total area of temporary and permanent disturbance to soils is not expected to exceed 350 acres, or less than 1 percent of the Project area.[195] Landowners whose land is permanently removed from production will receive lease payments.[196]

157. The Draft Site Permit contains a number of provisions protecting agricultural production. Red Pine is required to protect and segregate topsoil from subsoil on all lands unless otherwise negotiated with the affected landowner.[197] Red Pine must also minimize soil compaction of all lands during all phases of the Project's life and confine compaction to as small an area as practicable.[198] Red Pine must replace or repair fences and gates

[191] ORDER ISSUING DRAFT SITE PERMIT at Section 5.2.23 (Feb. 10, 2017) (eDocket. No. 20172-128976-01).
[192] Revised Site Permit Application at 66-67 (Sept. 30, 2016) (eDocket No. 20169-125328-02)
[193] Revised Site Permit Application at 67 (Sept. 30, 2016) (eDocket No. 20169-125328-02).
[194] *Id.* at 67-68.
[195] *Id*. at 75.
[196] *Id*. at 24.
[197] ORDER ISSUING DRAFT SITE PERMIT at Section 5.2.4 (Feb. 10, 2017) (eDocket. No. 20172-128976-01).
[198] *Id.* at Section 5.2.5

damaged or removed during the life of the Project, and repair or replace damaged drainage tiles, unless otherwise negotiated with the landowner.[199]

158. Red Pine has offered to work with landowners in the Project area to site turbines and access roads to minimize impacts to high quality farmland to the extent practicable.[200] Red Pine plans to place staging areas in previously disturbed locations when feasible to avoid impacts to farmland. Red Pine has also begun coordinating with U.S. Department of Agriculture (USDA) staff to determine if the Farmland Policy Protection Act applies to the Project and comply with the law if it does apply.[201]

159. The Project is not expected to significantly impact agricultural production within the Project area.

2. Mining

160. Mining activity in Lincoln County involves extracting crushed rock, sand, and gravel, otherwise known as aggregate, for the purpose of building roads. There are nine gravel pits located within the Project area and 11 gravel pits within seven miles of the Project boundary.[202]

161. The Draft Site Permit prohibits wind turbines and associated facilities from being located within active sand and gravel operations unless otherwise negotiated with the landowner.[203]

162. Red Pine has indicated that some of the identified aggregate resources may be used for access road construction, which would positively impact these businesses.[204] No impacts to mining resources or operations are otherwise anticipated.

L. Tourism

163. Lincoln County offers community-centered tourism and recreational opportunities throughout the year. In addition to community events, county outdoor recreational opportunities include biking, camping, wildlife watching, hunting, fishing, and snowmobiling in the 61 WMAs. The King of Trails Scenic Byway (U.S. Highway 75) and the Lincoln County Drift Clipper snowmobile trail offer further draws for tourists.[205]

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[199] *Id.* at Sections 5.2.18, 5.2.19.
[200] Revised Site Permit Application at 75-76 (Sept. 30, 2016) (eDocket No. 20169-125328-02); ORDER ISSUING DRAFT SITE PERMIT at Section 5.2.16 (Feb. 10, 2017) (eDocket. No. 20172-128976-01).
[201] Revised Site Permit Application at 69 (Sept. 30, 2016) (eDocket No. 20169-125328-02).
[202] *Id.* at 71.
[203] ORDER ISSUING DRAFT SITE PERMIT at Section 4.8 (Feb. 10, 2017) (eDocket. No. 20172-128976-01).
[204] Revised Site Permit Application at 71 (Sept. 30, 2016) (eDocket No. 20169-125328-02).
[205] *Id.*

164. As stated above, the Draft Site Permit requires Red Pine to coordinate with MnDOT and Lincoln County Promotion and Tourism to identify Project related impacts to the King of Trails Scenic Byway and work to avoid and mitigate potential impacts.[206]

165. With these mitigation measures in place, the Project is not expected to cause significant impacts to local tourism activities.

M. Local Economy

166. The Project would have positive impacts on the local economy. Construction and operation of the project will increase Lincoln County's tax base, offer short- and long-term employment opportunities, support local suppliers, and provide lease payments to landowners that will circulate in the local economy.[207]

167. Red Pine will pay a production tax of $0.0012 per kWh produced to local units of government. The Project is expected to create numerous temporary construction jobs and more than ten permanent operational jobs. To the extent possible, Red Pine plans to use local contractors and suppliers for portions of the construction.[208]

N. Topography

168. The Project area has an undulating topography of rolling hills, stream networks, a few lakes, and numerous wetlands. Elevations range from a high elevation of 1,719 feet above sea level to a low of 1,368 feet above sea level.[209]

169. Potential impacts to topographic and physiographic resources from the Project include visual changes to the local landscape and the potential for decreased slope stability. Some minor but long-term changes to the topographic character of the area would result from excavation for the construction of the Project facilities. Significant impacts to existing topography are not anticipated because steep slopes (greater than 10 percent) only comprise a small percentage of the site area.[210]

170. The Draft Site Permit requires Red Pine to restore and reclaim the site's topography to the extent feasible. All access roads shall be removed after the Project is decommissioned unless written approval is given by the affected landowner requesting that one or more roads, or portions thereof, be retained.[211]

171. Red Pine will implement construction Best Management Practices (BMPs) to mitigate impacts to topography, including avoiding areas with slopes greater than 10 percent.[212]

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[206] ORDER ISSUING DRAFT SITE PERMIT at Section 6.1 (Feb. 10, 2017) (eDocket. No. 20172-128976-01).
[207] Revised Site Permit Application at 72-73 (Sept. 30, 2016) (eDocket No. 20169-125328-02).
[208] *Id.*
[209] *Id.* at 73.
[210] *Id.* at 74.
[211] ORDER ISSUING DRAFT SITE PERMIT at Section 11.2 (Feb. 10, 2017) (eDocket. No. 20172-128976-01).
[212] Revised Site Permit Application at 74 (Sept. 30, 2016) (eDocket No. 20169-125328-02)

172. With these mitigation measures in place, no significant impact to topographic resources is anticipated.

O. Soils

173. The Project area consists of deep, well-drained to poorly drained soil formed in loamy glacial till. As with most of the soils in southern and western Minnesota, the majority of soils within the Project area have a combination of physical and chemical characteristics of either Prime Farmland or Farmland of Statewide Importance as determined by the USDA Natural Resource Conservation Service (NRCS).[213]

174. Construction and operation of the Project will impact soil through excavation, clearing vegetation, salvage, stockpiling, and redistributing soils. The combined total area of temporary and permanent disturbance to soils within the Project area is not expected to exceed 350 acres or less than 1 percent of the overall Project area.[214]

175. The Draft Site Permit requires Red Pine to implement erosion prevention and sediment control practices recommended by the MPCA Construction Stormwater Program. It also requires Red Pine to "obtain a National Pollutant Discharge Elimination System (NPDES)/State Disposal System (SDS) Construction Stormwater permit from the MPCA that provides for the development of a Stormwater Pollution Prevention Plan (SWPPP) that describes methods to control erosion and runoff."[215]

176. Red Pine will minimize the potential for construction-related soil erosion by avoiding siting turbines and access roads on highly erodible soils on steep slopes, implementing erosion and sedimentation control BMPs, and will work with landowners to avoid impacts to high quality farmland to the extent practicable.[216] Red Pine will also work with landowners to take appropriate corrective action measures if excessive soil compaction occurs as a result of Project activities.[217]

177. With these mitigation measures in place, no significant impacts to soil resources are anticipated.

P. Geologic and Groundwater Resources

178. The basement rocks in the Project area and surrounding region consist largely of Precambrian granite and quartzite. These are overlain locally by flat-lying Upper Cretaceous strata composed of thick sections of soft dark-bluish-gray shale and some thin beds of loosely consolidated sandstone. Glacial drift overlies the Precambrian and

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[213] *Id.* at 75.
[214] *Id.*
[215] ORDER ISSUING DRAFT SITE PERMIT at Section 5.2.6 (Feb. 10, 2017) (eDocket. No. 20172-128976-01).
[216] Revised Site Permit Application at 75 (Sept. 30, 2016) (eDocket No. 20169-125328-02).
[217] *Id.* at 69.

Cretaceous rocks and forms the surface of the Project area and surrounding region. The drift consists largely of till and range in thickness from about 200 to 600 feet.[218]

179. The principal aquifers in the Project area and surrounding region are glacial-melt-water deposits of sand and gravel, and sandstone of Cretaceous age. Large quantities of ground water are available from melt-water channels in the region. Moderate quantities of ground water, adequate for domestic and small industrial needs, are available from many of the small isolated deposits of sand and gravel in the till. Small quantities of ground water, adequate only for domestic supply, generally can be obtained from Cretaceous sandstone.[219]

180. A new water supply well may be required for the O&M facility. Water usage from the new well is expected to be similar to the average household volume of less than five gallons per minute. Potential water-related needs will be minimal and can be accommodated locally.[220]

181. No impacts to geologic and groundwater resources are expected from construction and operation of the proposed Project.

Q. Surface Water and Wetland Resources

182. The Project area contains a variety of surface water resources, including 3,531 acres of wetlands covering 8 percent of the Project area. There are nine mapped MnDNR public water lakes and wetlands within the Project area totaling approximately 760 acres. Intermittent and perennial MnDNR public watercourses cover approximately 41 linear miles within the Project area and include South Branch of the Yellow River, Three Mile Creek, Coon Creek, and Yellow Medicine River. There are three areas within the Project mapped within FEMA Flood Zone A.[221]

183. There are no MnDNR designated wildlife lakes, outstanding resource value waters, sensitive lakeshore, trout streams, or lakes within the Project area. Red Pine prepared a calcareous fen analysis report demonstrating avoidance of fens within the Project area. The MnDNR staff agrees with the analysis of the report which has been filed in the Project docket.[222]

184. The Draft Site Permit prohibits siting any Project facilities in any MnDNR public water lakes and wetlands, except collector or feeder lines may cross or be placed in public waters or public waters wetlands subject to applicable permits under the Minnesota Wetlands Conservation Act.[223]

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[218] *Id.* at 76.
[219] *Id.*
[220] *Id.* at 77.
[221] *Id.* at 78-79.
[222] *Id.* at 79; Calcareous Fen Analysis (Feb. 27, 2017) (eDocket No. 20172-129394-03); MnDNR Comment (Mar.16, 2017) (eDocket No. 20173-129967-01).
[223] ORDER ISSUING DRAFT SITE PERMIT at Section 4.6 (Feb. 10, 2017) (eDocket. No. 20172-128976-01).

185. Ideally, turbines will be sited on elevated uplands where they are not expected to affect streams or surface water bodies. Furthermore, given the isolated nature of the wetlands found within the Project area, the wetlands should be relatively avoidable. It is the goal of Red Pine to maintain access road and collector line wetland impacts below levels that would require mitigation in the form of replacement.[224]

186. If wetlands are unavoidable, Red Pine will work with the applicable agencies, such as the U.S. Army Corps of Engineers, the Lincoln Soil and Water Conservation District, and the Board of Water and Soil Resources, to complete wetland delineations and a wetland replacement plan.[225]

187. By following the SWPPP, Red Pine should be able to avoid adverse construction-related stormwater impacts to streams and surface waters. Red Pine has expressed its commitment to addressing the existing and potential water issues identified in the Lincoln County Comprehensive Management Plan.[226]

188. The Project is not expected to significantly impact surface water or wetland resources.

R. Vegetation

189. The majority of vegetation covering the Project area is cultivated crops (71 percent), followed by grassland (11 percent) and hay/pasture (9.5 percent). Prior to settlement of the area, the vegetation consisted of tallgrass prairie, wet prairie, and woodlands. For the most part, pasture and grassland areas are fragmented across the Project. However, several larger tracts of grassland and pasture occur in the northwest and east-central areas. Forested areas appear limited to stream corridors, near lentic water features, and around homesteads.[227]

190. There are 53 Minnesota Biological Survey (MBS) sites of biodiversity significance within the Project area. Of those sites, 39 are classified as below minimum biodiversity significance but offer conservation value at the local level, and 12 are sites with moderate biodiversity significance. The MnDNR has also identified 91 Native Plant Communities within the Project area, accounting for approximately 504 acres, primarily in the northwest corner and eastern border of the Project. Red Pine commissioned an evaluation of the presence of native and non-native grassland within the Project area, which identified 5,850 acres of grassland, or 8 percent of the Project area, and of which 72 percent is native and 27 percent is non-native.[228]

191. The Draft Site Permit contains several conditions related to vegetation. It requires Red Pine to only disturb the Project area and remove trees to the extent

[224] Revised Site Permit Application at 79-80 (Sept. 30, 2016) (eDocket No. 20169-125328-02).
[225] *Id.* at 80.
[226] *Id.* at 81.
[227] *Id.* at 82.
[228] *Id.* at 82-83.

necessary to assure suitable access.[229] Red Pine must also develop an Invasive Species Prevention Plan and take all reasonable precautions against the spread of noxious weeds during construction, including the selection of appropriate seed for vegetative cover. The Draft Site Permit also provides any construction impacts to native prairie to be addressed in a Prairie Protection and Management Plan.[230]

192. Red Pine plans to minimize impacts to non-cultivated and native plant communities. Red Pine will prepare and submit a Native Prairie Protection Plan to document avoidance of the resources. Red Pine will take care to site turbines and associated facilities to avoid woodlands, shrub land, grasslands, and water resources to the extent practicable. Given the ecological significance of some of the MBS locations within the Project area, the MnDNR has recommended that MBS sites rated moderate or above be considered avoidance areas within the permitting boundary (NHIS 2016). Should it become necessary to disturb native plant communities or areas identified as native prairie, Red Pine agrees to coordinate with the MnDNR and DOC-EERA accordingly.[231]

193. Red Pine's coordination with the MnDNR and DOC-EERA and the mitigation measures in the draft permit are reasonably designed to protect against significant impacts to vegetation.

S. Wildlife Resources

194. Red Pine has conducted an extensive analysis of the wildlife resources in the Project area, including eight bat and avian use studies, in accordance with the USFWS Land-Based Wind Energy Guidelines.[232]

195. Mammals likely to be found in the Project area include white-tailed deer, red and gray fox, raccoon, opossum, coyote, squirrel, short-tailed weasel, and striped skunk.[233]

196. Reptiles and amphibians likely to be found in the Project area include frogs, toads, salamanders, snakes, and turtles.[234]

197. Bat species likely to utilize the Project area include the big brown bat (Eptesicus fuscus), hoary bat (Lasiurus cinereus), eastern red bat (Lasiurus borealis),

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[229] ORDER ISSUING DRAFT SITE PERMIT at Section 5.2.8 (Feb. 10, 2017) (eDocket. No. 20172-128976-01).
[230] *Id.* at Sections 5.2.10, 5.2.11. The Invasive Species Prevention Plan can be included in the Soil Erosion and Sediment Control Plan.
[231] Revised Site Permit Application at 84 (Sept. 30, 2016) (eDocket No. 20169-125328-02).
[232] Revised Site Permit Application at 84 (Sept. 30, 2016) (eDocket No. 20169-125328-02); U.S. Fish and Wildlife Service Land-Based Wind Energy Guidelines (Mar. 23, 2012) (available at https://www.fws.gov/ecological-services/es-library/pdfs/WEG_final.pdf).
[233] Revised Site Permit Application at 85 (Sept. 30, 2016) (eDocket No.20169-125328-02).
[234] *Id.* at 87.

little brown myotis (Myotis lucifugus), and silver-haired bat (Lasionycteris noctivagans); all of which are common within the state.[235]

198. The relatively flat to gently undulating topography of the Project area and vicinity does not appear to contain topographic features that would funnel bat movements during migration.[236]

199. Bat monitoring study results indicate bat activity at Red Pine is greatest near areas of wetland and woodland, suggesting bats are using water features and woodland areas for foraging and roosting. Results also suggest bat activity is relatively low in areas of agriculture and, therefore, there may be lower potential risk of collision with turbines sited in agricultural fields and away from woodland and water features.[237]

200. The prominent proximate causes of bat deaths at previously developed wind projects are barotrauma (Grodsky et al. 2011) and direct collision (i.e., blunt-force trauma) (NREL 2013). Most documented bat fatalities at wind projects have been associated with migratory species that conduct long migrations between summer roosts and winter hibernacula. Three species of migratory tree bats (i.e., hoary bat, eastern red bat and silver-haired bat) compose the majority of fatalities, and hoary bats alone comprise about half of all documented bat fatalities in North America.[238]

201. Based on post-construction bat fatality modeling from other wind facilities with similar habitats and features, it is likely that bat fatality rates at the Project will fall between 3.09 - 20.2 bat/MW/year.[239]

202. Data from four previously developed wind projects in southern Minnesota have estimated bird fatality rates between 0.40 - 1.07 birds/MW/study periods.[240] Regional data suggests raptor fatalities at wind projects in Minnesota are typically low and therefore wind projects are unlikely to cause significant adverse impacts to raptor populations.[241]

203. Red Pine has commissioned an Avian and Bat Protection Plan (ABPP), which Red Pine filed on March 2, 2017.[242] Consistent with the Draft Site Permit, the ABPP specifies how Red Pine will "identify and mitigate impacts to avian and bat species during the construction phase and the operation phase of the project."[243] The ABPP includes formal and incidental post-construction fatality monitoring, training, wildlife handling, documentation (e.g., photographs), and reporting protocols for each phase of the Project. Red Pine must file with the Commission and provide to the MnDNR and USFWS an annual report with the findings of its annual audit of ABPP practices, quarterly

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[235] *Id.* at 85.
[236] *Id.*
[237] *Id.* at 86.
[238] *Id.* at 90-91.
[239] *Id.*
[240] *Id.* at 91.
[241] *Id.*
[242] Avian Bat Protection Plan (Mar. 2, 2017) (eDocket No, 20173-129601-01).
[243] ORDER ISSUING DRAFT SITE PERMIT at Section 7.5.1 (Feb. 10, 2017) (eDocket. No. 20172-128976-01).

reports detailing incidents of dead or injured avian and bat species, and immediate incident reports for more serious fatality incidents.[244]

204. The Draft Site Permit requires the turbines for the Project to have speed adjustability at certain times of the day and year.[245] For the first two years of the Project's operation, the Draft Site Permit requires Red Pine to have a qualified third party conduct avian and bat fatality monitoring.[246] The ABPP meets these requirements and, according to Red Pine, is consistent with USFWS Wind Energy Guidance post-construction fatality monitoring protocol and use of adaptive management techniques.[247]

205. The MnDNR filed comments on March 16, 2017, expressing appreciation for EDF's "responsiveness to the DNR's recommendations regarding turbine siting." Specifically, Turbines 43 and 59, originally sited close to a rookery on Hawk's Nest Lake, have been eliminated and Turbine 73 has been made an alternate and moved 200 feet farther from the large wetland located within a permanent Reinvest in Minnesota (RIM) conservation easement.[248]

206. The comments also noted that two years of avian and bat fatality monitoring are required "due to the high risk nature of the site," and that EDF continue to coordinate with the MnDNR for the protocol of the second year of monitoring and other ABPP details. Lastly, the MnDNR recommended the ABPP be modified to remove the characterization of curtailing, or "feathering," turbine blades as "voluntary."[249] Red Pine has agreed to the removal of the word "voluntary" from the ABPP with respect to the feathering of turbine blades as a bat protection measure and has agreed to file an updated version of the ABPP reflecting that change.[250]

207. In the ABPP, Red Pine agreed to move turbines 43 and 59 to avoid high risk habitats at the MnDNR's request, as well as designate turbine 73 as an alternate and move it 200 feet north (away from the wetland).[251] Red Pine also committed to mitigate impacts to wildlife by: siting facilities on agricultural land to the extent practicable; avoiding habitats such as wetlands, native plant communities, and forested areas; burying electrical collection/feeder lines; implementing a Wildlife Response Reporting System (WRRS) once construction is complete (which includes protocols for field technicians to report wildlife mortalities during maintenance operations); minimally lighting towers to comply with FAA requirements; using tubular monopole towers to minimize perching; and minimizing other Project infrastructure.[252]

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[244] Avian Bat Protection Plan at 48 (Mar. 2, 2017) (eDocket No, 20173-129601-01).
[245] ORDER ISSUING DRAFT SITE PERMIT at Section 7.5.1 (Feb. 10, 2017) (eDocket. No. 20172-128976-01).
[246] *Id.*at 6.2.
[247] Revised Site Permit Application at 92-93 (Sept. 30, 2016) (eDocket No. 20169-125328-02).
[248] Comment by MnDNR (Mar. 16, 2017) (eDocket No. 20173-129967-01).
[249] *Id*.
[250] Comment by Red Pine at 2 (Mar. 20, 2017) (eDocket No. 20173-130280-01).
[251] Avian and Bat Protection Plan at 31 (Mar. 2, 2017) (eDocket No. 20173-129601-01);(ABPP); ORDER ISSUING DRAFT SITE PERMIT at 2 (Feb. 10, 2017) (eDocket. No. 20172-128976-01).
[252] Revised Site Permit Application at 92 (Sept. 30, 2016) (eDocket No. 20169-125328-02)

208. The MnDNR had recommended that the ABPP require that "further coordination with the PUC and other state agencies is required if the bat fatality rate exceeds 5 bats/MW/study period." MnDNR explained that it has used 5 bats/MW/study period because the majority of projects in southern Minnesota generate estimates below this number. Bat fatality estimates above 5 bats/MW/study period are at a higher level than normal and additional coordination is needed to attempt to understand the higher fatalities and to determine if any additional operational mitigation is needed.[253] The Draft Site Permit addresses the MnDNR request at Section 7.5.3. by requiring an immediate incident report when five or more dead or injured bats or birds are found. However, there is a typographical error in Section 7.5.3(a) in some versions of the Draft Site Permit.[254] This provision regarding the reporting of bird and bat deaths should be revised to add clarity.

209. The USFWS has recommended the Project pursue a programmatic eagle take permit due to the known bald eagle fatalities in the region, which the USFWS recommends for all wind projects that have the potential to take an eagle during the life of the project. Red Pine has developed an Eagle Conservation Plan in consultation with the USFWS (included as Appendix C to the ABPP) and will apply for a programmatic eagle take permit.[255] Red Pine has indicated its commitment to coordinating with wildlife agencies to mitigate impacts to wildlife.

210. The Project will have some unavoidable adverse impacts on bats and birds, but the impacts will be carefully monitored and mitigated through the measures described above.

T. Rare and Unique Natural Resources

211. Red Pine has evaluated the Project area for the presence of federal and state endangered or threatened species by reviewing publicly available information regarding listed species and submitting a formal Natural Heritage Information System (NHIS) data request to the MnDNR in January 2016. Red Pine received a formal response in April 2016 indicating that the MnDNR identified rare features within an approximate one-mile radius of the Project. However, the Project area has been modified since the response, and two MBS sites of high and outstanding biodiversity significance are no longer located within the Project boundary.[256]

212. An analysis of the current Project area shows ten records of rare plants and animals within the Project area: two animal assemblages; five records of vertebrate animals; one record of invertebrate animals; and two records of plants. Within one mile

[253] Comment by MnDNR (Jan. 3, 2017) (eDocket No. 20171-127777-01).
[254] ORDER ISSUING DRAFT SITE PERMIT at 7.5.3 (Feb. 10, 2017) (eDocket. No. 20172-128976-01);Red Pine Comments (Mar. 20, 2017) (eDocket No. 20173-130067-01).

[255] *Id.* at 93.
[256] *Id.* at 88.

of the site, an additional five NHIS occurrences are mapped, including one additional animal assemblage, two vertebrates, and two additional plants occurrences.[257]

213. Three federally threatened or endangered species potentially occur within the Project area: the northern long-eared bat; the Dakota skipper; and the Topeka shiner. Because only minimal impacts to drainage ditches and wetlands are anticipated, the Project will most likely not impact the Topeka shiner.[258]

214. Red Pine requested the USFWS comment on the Project in February 2016, but has not received a formal response. Red Pine has been actively engaged with USFWS staff on avian issues and plans to follow up with the USFWS to coordinate potential concerns it may have regarding threatened or endangered species in the Project area.[259]

215. According to a site characterization study conducted in 2016, there are eight state or federally listed species highly likely to be found in the Project area, including the northern grasshopper mouse, prairie vole, Richardson's ground squirrel, American white pelican, bald eagle (delisted), Henslow's sparrow, Poweshiek skipperling, and the regal fritillary. Ten of the reviewed species are identified as having moderate likelihood of occurring within the Project, including the Bell's vireo, Forester's tern, loggerhead shrike, trumpeter swan, Wilson's phalarope, Blanding's turtle, Topeka shiner, phlox moth, Dakota skipper, and the western white prairie-clover. By refining the Project area to exclude sensitive or native habitat, Red Pine mitigated the risk of impact to significant wildlife or sensitive species.[260]

216. The Draft Site Permit requires Red Pine to "conduct desktop and field inventories of existing wildlife management areas, scientific and natural areas, recreation areas, native prairies and forests, wetlands, and any other biologically sensitive areas within the project site and assess the presence of state- or federally-listed or threatened species" in consultation with the MnDNR prior to the pre-construction meeting, and requires the filing of any biological surveys or studies associated with the Project.[261]

217. Due to Red Pine's refinement of the Project area and commitment to avoid special resource areas and impacts to water resources and quality habitat, the Project is not expected to have a significant impact on rare or unique natural resources.

U. Future Development and Expansion

218. The Project will be located in southwest Minnesota, which is already home to numerous wind projects.

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[257] *Id.*
[258] *Id.* at 88-89.
[259] *Id.* at 89.
[260] *Id.*
[261] ORDER ISSUING DRAFT SITE PERMIT at Section 7.1 (Feb. 10, 2017) (eDocket. No. 20172-128976-01).

219. The Commission is responsible for the siting of LWECS "in an orderly manner compatible with environmental preservation, sustainable development, and the efficient use of resources."[262]

220. The Draft Site Permit requires buffers from the perimeter of the property where Red Pine does not hold the wind rights.[263]

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

V. Decommissioning, Turbine Abandonment and Restoration

222. Red Pine anticipates the life of the Project will be approximately 30 years based on EDF-RE's extensive experience in the ownership and operation of this type of facility.[264]

223. The exact decommissioning cost has not been determined, but Red Pine has stated that "adequate funds will be set-aside with oversight of an independent administrator of such funds on behalf of the Project."[265] Red Pine believes "the salvage value of the turbines and other components should ensure that sufficient funds will be available to pay for decommissioning and restoration costs."[266]

224. The Draft Site Permit requires Red Pine to submit a decommissioning plan to the Commission prior to the pre-operation meeting with updates every five years. The decommissioning plan will describe how Red Pine will provide for the resources that are necessary to properly decommission the Project at the appropriate time. This plan must also be submitted to the local unit of government with direct zoning authority over the Project.[267]

225. Upon expiration of the permit or earlier termination of the Project, Red Pine must "dismantle and remove from the site all towers, turbine generators, transformers, overhead and underground cables and lines, foundations, buildings, and ancillary equipment to a depth of four feet" unless otherwise agreed. Red Pine must restore and reclaim the site to its pre-project topography and topsoil quality to the extent feasible, and remove all access roads unless a different agreement is reached with the landowner. The site must be restored within 18 months of termination.[268]

226. Red Pine must advise the Commission of any turbines abandoned prior to termination of the Project. A turbine is considered abandoned after one year without

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[262] Minn. Stat. § 216F.03 (2016).
[263] ORDER ISSUING DRAFT SITE PERMIT at Section 4.1 (Feb. 10, 2017) (eDocket. No. 20172-128976-01).
[264] Revised Site Permit Application at 107 (Sept. 30, 2016) (eDocket No. 20169-125328-02)
[265] *Id.*
[266] *Id.*
[267] ORDER ISSUING DRAFT SITE PERMIT at Section 11.1 (Feb. 10, 2017) (eDocket. No. 20172-128976-01).
[268] *Id.* at Section 11.2.

energy production and the land restored pursuant to the Draft Site Permit, unless another plan is developed and submitted to the Commission.[269]

227. In addition to the permit requirements, Red Pine has a contractual obligation with landowners for remediation of the properties back to a condition comparable to the condition of the property prior to installation of the wind project. Red Pine has outlined its approach to decommissioning and restoration, which will meet or exceed the provisions of the Draft Site Permit, including use of an independent administrator for decommissioning funds.[270]

228. The Draft Site Permit contains appropriate conditions to ensure proper decommissioning of the Project, and Red Pine has demonstrated that it will comply with the conditions.

W. Permit Conditions

229. The Draft Site Permit issued on February 10, 2017, contains numerous conditions and requirements that Red Pine must adhere to in the design, preparation, construction, operation, decommissioning, and restoration of the Project and surrounding area.[271] Many of the conditions are discussed above.

230. In addition, the Commission's modifications to the Draft Site Permit provide additional requirements to ensure the public is adequately informed about certain events and potential occurrences. In particular, Section 5.1 requires Red Pine to send a copy of complaint procedures in addition to the permit to relevant government agencies, and adds the Lincoln County Environmental Office (LCEO) to the mailing list.[272] Section 10.3 adds the DOC-EERA and the LCEO to the list of agencies that receive the site plan prior to the pre-construction meeting, requires notification of the affected landowners and city and town clerks when the site plan is on file with the Commission and the LCEO, and requires that all agencies and individuals be notified in the event of a significant change to the site plan or if a turbine is to be relocated.[273]

231. On March 20, 2017, Red Pine provided suggested changes to the Draft Site Permit. The changes include: (1) several typographical and factual corrections, (2) proposed edits to Section 7.1 (Biological and Natural Resources Inventories), and (3) proposed edits to Section 10.3 (Site Plan).[274]

232. On March 28, 2017, the DOC-EERA filed its response to the Applicant's Proposed Findings of Fact and Conclusions of Law and Proposed Revisions of the Draft Site Permit. DOC-EERA agreed with some of the Applicant's proposed revisions,

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[269] *Id.* at Section 11.3.
[270] Revised Site Permit Application at 108 (Sept. 30, 2016) (eDocket No. 20169-125328-02)
[271] ORDER ISSUING DRAFT SITE PERMIT at Section 5.2.16 (Feb. 10, 2017) (eDocket. No. 20172-128976-01).
[272] *Id.* at 3.
[273] *Id.* at 2-4.
[274] Comment by Red Pine (Mar. 20, 2017) (eDocket No. 20173-130280-01).

disagreed with some revisions and suggested some additions. Specifically, DOC-EERA recommended edits to Sections 7.1, 7.5.1, 7.5.3, and 10.3 of the Draft Site Permit.[275]

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

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

CONCLUSIONS OF LAW

1. The Commission and the Administrative Law Judge have jurisdiction over the site permit applied for by Red Pine for the 200.1 MW Project pursuant to Minn. Stat. § 216F.04.

2. Red Pine has complied with the procedural requirements of Minn. Stat. ch. 216F and Minn. R. 7854.

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

4. A public hearing was conducted in a community near the Project. Proper notice of the public hearing was provided, and the public was given the opportunity to speak at the hearing and submit written comments.

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

6. It is reasonable and appropriate to amend the Draft Site Permit to include the: (1) typographical and factual corrections, revisions and revisions and deletions agreed upon by Red Pine and the DOC-EERA; (2) revisions to Section 7.5.1 (Avian and Bat Protection Plan) proposed by the DOC-EERA; (3) revisions to Section 7.5.3 (Immediate Incident Reporting) proposed by the DOC-EERA; (4) deletion in Section 7.1 (Biological and Natural Resource Inventories) by the DOC-EERA of the words “construction corridor”, and; revision to Section 10.3 (Site Plan) by DOC-EERA related to the commencement of construction. In addition, Section 7.5.3 (a) which states that “five or more dead or injured birds or bats within a five (5) reporting period” should be revised in consultation with the Commission, MnDNR, DOC-EERA and Red Pine.

7. The Draft Site Permit contains a number of important mitigation measures and other reasonable conditions.

[275] DOC-EERA Revisions to Red Pine’s Proposed Findings of Fact and Draft Site Permit (Mar. 28, 2017) (eDocket No. 20173-130280-01).

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

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

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

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

RECOMMENDATION

Based upon these Findings of Fact and Conclusions of Law, the Administrative Law Judge recommends the Commission issue a site permit to Red Pine to construct and operate the up to 200.1 megawatt Project in Lincoln County, and the permit include the conditions amended as set forth in paragraph 6 of the Conclusions of Law above.

Dated: April 27, 2017

BARBARA J. CASE
Administrative Law Judge

NOTICE

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

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

MINNESOTA
OFFICE OF
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April 27, 2017

See Attached Service List

Re: In the Matter of the Red Pine Wind Project Site Permit Application

OAH 82-2500-34034
MPUC IP-6646/WS-16-618

To All Persons on the Attached Service List:

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

If you have any questions, please contact my legal assistant Kendra McCausland at (651) 361-7870 or kendra.mccausland@state.mn.us, or facsimile at (651) 539-0310.

Sincerely,

BARBARA J. CASE
Administrative Law Judge

BJC:klm
Enclosure
cc: Docket Coordinator

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

CERTIFICATE OF SERVICE

In the Matter of the Red Pine Wind Project Site Permit Application IP6646/WS-16-618	OAH Docket No.: 82-2500-34034

Kendra McCausland, certifies that on April 27, 2017 she served the true and correct **SUMMARY OF PUBLIC TESTIMONY, FINDINGS OF FACT, CONCLUSIONS OF LAW, AND RECOMMENDATION** by eService, and U.S. Mail, (in the manner indicated below) to the following individuals:

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