BEFORE THE MINNESOTA OFFICE OF ADMINISTRATIVE HEARINGS
600 NORTH ROBERT STREET
ST. PAUL, MINNESOTA 55101

FOR THE MINNESOTA PUBLIC UTILITIES COMMISSION

In the Matter of the Site Permit Application for a 200.1 MW Large Wind Energy Conversion System for the Red Pine Wind Project in Lincoln County.

ENERGY ENVIRONMENTAL REVIEW AND ANALYSIS STAFF

COMMENTS and ANALYSIS

The Minnesota Department of Commerce (DOC) submits these comments of the Energy Environmental Review and Analysis (EERA) staff on the proposed up to 200.1 MW Red Pine Wind Project. In her Scheduling Order, Administrative Law Judge (ALJ) Barbara J. Case noted her expectations from the EERA.[1] In keeping with Item 9 of the Scheduling Order, EERA is providing these recommended revisions to the Proposed Findings of Fact and Conclusions of Law, and Proposed Revisions to the Draft Site Permit (FOF) filed by Red Pine Wind Project, LLC (Applicant).[2] EERA also makes recommendations for appropriate permit conditions.

I. EDITS AND AMENDMENTS TO THE APPLICANT'S PROPOSED FOF

EERA has reviewed the Applicant's proposed FOF to verify that all parties have complied with the procedural requirements of Large Wind Energy Conversion System (LWECS) permitting in the State of Minnesota and that the proposed Red Pine Wind Project is compatible with the policy of the state to site LWECS in an orderly manner compatible with environmental preservation, sustainable development, and the efficient use of resources under Minnesota Statute 216F.03.

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EERA submits the following recommended revisions to the Applicant's proposed FOF. EERA has made additions of new findings, which has resulted in changes to the numbering of all findings from the point of addition. Comments and recommendations that follow include the revised numbering with EERA additions (underlined blue text) and deletions (strike-through red text) to

[1] Scheduling Order, OAH - ALJ Case, January 25, 2017, eDocket # 20171-128488-01
[2] Proposed Findings of Fact and Conclusions of Law and Proposed Revisions to the Draft Site Permit (FOF), Red Pine Wind Project, LLC, March 20, 2017, eDocket # 20173-130067-01

maintain consistency and in hopes that the comments and recommendations can be more easily followed.

Site Permit Application and Related Procedural Background

EERA makes the addition of FOFs 7 and 10 to reflect the Applicant's request to withdrawal their Application for Certificate of Need (CN) for the proposed Red Pine Wind Project, and the Commission Order approving the Application for CN withdrawal. Although the Red Pine Wind Project CN was administered under a separate docket (CN-16-140), EERA staff believes the addition of FOFs 7 and 10 are relevant and provide closure of the CN discussion as the Applicant's proposed FOF 4 references the CN Application. Additionally, the appropriate footnotes have been added.

~~6.~~ 7. On October 17, 2016, Red Pine filed a request to withdrawal their Application for Certificate of Need (Docket #16-140), based on the exemption that the power produced at Red Pine Wind Project 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).[3]

~~8.~~ 10. On November 3, 2016, the Commission issued their order approving Red Pine Wind Project, LLC's petition to withdraw the Application of Certificate of Need.[4]

EERA recommends editing FOF 13 to remove the word "minor," as the qualifier is not necessary, nor is it reflected in the Commission's Order regarding Application Completeness.[5] EERA recommends the addition of the final sentence to FOF 13, as it provides detail to the Application Addendum history.

~~11.~~ 13. On November 23, 2016, Red Pine filed a Site Permit Application Addendum notifying the Commission of ~~minor~~ 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

3 Request to Withdraw Application for Certificate of Need, Red Pine Wind Project, LLC, October 17, 2016, eDocket #201610-125780-02
4 Notice and Order Approving Petition to Withdraw Filing, Commission, November 3, 2016, eDocket #201611-126251-01
5 Order Finding the Application Complete, Commission, November 29, 2016, eDocket # 201611-126840-01

additional turbine model for consideration. Red Pine initially informed EERA staff and the Commission of these proposed changes at the November 21, 2016 meeting.

EERA recommends editing FOF 19, as indicated below, to provide additional detail and clarity as to the factors EERA took into consideration in developing the Draft Site Permit.

~~17.~~ 19. On January 18, 2017, EERA filed comments along with a proposed Draft Site Permit, and recommending that the Commission issue the draft permit.[6] The EERA's proposed Draft Site Permit took comments provided during the public information meeting and associated comment period, as well as comments provided by other state and federal agencies, into consideration.

General Description of the Project

EERA recommends additions to FOF 35, which will provide metric dimensions for the proposed turbine models. The addition also provides clarity with respect to rotor diameter, as the two turbine models are not identical as the Applicant's FOF originally stated.

~~33.~~ 35. 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 Vestas 100 and Vestas 110, respectively.[7]

Application of Statutory Siting Criterial to the Proposed Project

C. Noise

EERA recommends the following edits to FOF 68 to provide accuracy and clarity. The original FOF indicated that the Applicant's noise study would have measured noise impacts of the proposed Project at receptor locations, which is not possible as the Project has not been constructed. The Applicant's noise study is a modeling effort, which helps to calculate and identify potential noise impacts of the proposed Project.

~~66.~~ 68. Red Pine commissioned a study to ~~measure~~ model the potential noise impact on surrounding residences. The study ~~measured~~ modeled the noise impacts at 284 receptors, assumed the turbine operates 100% of the time, and ignored the effects of vegetative dampening. The results of the study revealed that 64% of the receptors ~~had~~ would have sound emissions of 40 dB or below, and no sound levels would exceed~~ed~~ 49.2 dB, which complies with noise-related rules.[8]

[6] Ex. 16 (EERA Comments and Recommendations re Preliminary Draft Site Permit.)
[7] Ex. 3 at 18 (Application); Ex. 22 (Updated Turbine Specification Information)..
[8] Ex. 27 (Updated Sound and Shadow Flicker Report).

D. Shadow Flicker

EERA recommends editing FOF 72 and 74, as follows, to provide clarity.

~~70.~~ 72. 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.[9] 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 that is facing the sun, and the receptor must be close enough for the shadow to reach it.[10] Shadow flicker can be diminished by increasing the ambient light within a home, the time of day, the season, and visual screening.

~~72.~~ 74. The study showed that 70% 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.[11]

EERA revised FOF 196 to provide detail on our March 27, 2017 filing.

~~193.~~ 196. ~~[Insert any EERA comments]~~ On March 27, 2017, EERA provided its suggested changes to the Applicant's Proposed FOF and Conclusions of Law, and Proposed Revisions of the Draft Site Permit. Additionally, EERA recommended suggested edits to Section 7.5.1 and Section 7.5.3 of the Draft Site Permit.

Conclusions of Law

EERA has revised Conclusion of Law 1 to clarify the Red Pine Wind Project megawatt production potential.

1. The Commission and the Administrative Law Judge have jurisdiction over the site permit applied for by Red Pine for the ~~105~~ 200.1 MW proposed Project pursuant to Minn. Stat. § 216F.04.

EERA has revised Conclusion of Law 6 to reflect the incorporation of Draft Site Permit edits agreed upon by both the Applicant and EERA and proposed EERA revisions to the Draft Site Permit.

6. It is reasonable and appropriate to amend the Draft Site Permit to include the (1) typographical and factual corrections agreed upon by the Applicant and EERA, (2) ~~clarification to Section 7.1 (Biological and Natural Resources Inventories)~~ revisions to Section 7.5.1 (Avian and Bat Protection Plan) proposed by EERA, and (3) ~~clarification and~~ revision to Section 7.5.3 (Immediate Incident Reporting) ~~(Site Plan) proposed by Red Pine~~ proposed by EERA.

[9] Ex. 3 at 38.
[10] *Id.* at 38-39.
[11] Ex. 27 (Updated Sound and Shadow Flicker Report).

II. RECOMMENDATIONS FOR PERMIT CONDITIONS

The schedule anticipates EERA will identify appropriate permit conditions for the site permit. Having reviewed the proposed findings and EERA comments on the Draft Site Permit, the ALJ may want to consider the following items in conclusions or recommendations. Red Pine Wind Project, LLC filed Proposed Revisions to the Draft Site Permit. Red Pine Wind Project, LLC included some revisions, which have been included in the attached Draft Site Permit and EERA is in agreement with. Other than the revisions noted above and exceptions noted below, EERA continues to support the original Draft Site Permit conditions for inclusion in the final permit. EERA has utilized the Applicant's proposed Revisions to the Draft Site Permit as the base document.[12]

The attached Revisions to the Draft Site Permit include the Applicant's proposed revisions which EERA agrees with (underlined and blue text), the Applicant's proposed deletions that the EERA agrees with (strike-through and red text), the Applicant's proposed additions which EERA does not agree with (strike-through, red text, and blue underlined), and EERA suggested inclusions (underlined and green text)

Below EERA addresses the substantial Draft Site Permit changes identified by Red Pine Wind Project, LLC in FOF 195:

> ~~192.~~ 195. On March 20, 2017, Red Pine provided its suggested changes to the Draft Site Permit. Those changes include: (1) several minor typographical and factual corrections, (2) a clarification to Section 7.1 (Biological and Natural Resources Inventories), and (3) a clarification and revision to Section 10.3 (Site Plan).

EERA does not agree with the revised language proposed by the Applicant in Section 7.1, and the attached Draft Site Permit reflects the original Draft Site Permit language. The addition of construction corridor language here would contradict the Application review process to this point. The Site Permit Application addressed the areas and other natural resources identified in condition 7.1, throughout the entire Project area. Additionally, Project component setbacks from

[12] Proposed Findings of Fact and Conclusions of Law and Proposed Revisions to the Draft Site Permit (FOF), Red Pine Wind Project, LLC, March 20, 2017, eDocket # 20173-130067-01

some of these areas may extend past the construction limits, and identifying the presence of these areas and natural resources is necessary for conducting compliance review of the Project.

7.1 Biological and Natural Resource Inventories

The Permittee, in consultation with the Commission and Minnesota Department of Natural Resources, shall design and conduct pre-construction 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 ~~construction corridors~~ and assess the presence of state- or federally-listed or threatened species. The results of the inventories shall be filed with the Commission at least 30 days prior to the pre-construction meeting to confirm compliance of conditions in this permit.

EERA does not agree with the revised language proposed by the Applicant in Section 10.3, and the attached Draft Site Permit Application reflects the original Draft Site Permit language. Should the Commission issue a Site Permit to Red Pine Wind Project, LLC, EERA will work with the Applicant to expedite the review of Site Plans to allow for commencement of construction. However, to reduce that review period from 30 days to 7 days is not a realistic request. The pre-construction meeting may be scheduled to immediately follow the Commission Meeting in which the final permit decision is made, so if a 7 day period is used it could result in commencement of construction before the written Commission Order issuing the Site Permit is even released. Construction cannot commence before the Site Permit is issued.

10.3 Site Plan

The Permittee may not commence construction until the 30 days has expired or until ~~the earlier of 7 days following the pre-construction meeting or~~ the ~~date on which~~ the Commission has advised the Permittee in writing that it has completed its review of the documents and determined that the planned construction is consistent with this permit. If the Permittee intends to make any significant changes to its site plan or the specifications and drawings after submission to the Commission, the Permittee shall notify the Commission, the Department of Commerce, the Lincoln County Environmental Office and the affected landowners, city and town clerks at least five days before implementing the changes. No changes shall be made that would be in violation of any of the terms of this permit.

The Applicant suggested some edits to the language in Section 7.5.1 of the Draft Site Permit. EERA agrees with the Applicant's suggested deletion of "final" for the language in Section 7.5.1 as indicated below. EERA recommends the Applicant's proposed language of "updated" be

deleted and replaced with the "most recent version of the," as indicated below. The Applicant's suggested date of March 2, 2017 will need to be updated once a revised ABPP is filed with the Commission.

7.5.1 Avian and Bat Protection Plan

The Permittee shall comply with the provisions of their ~~final updated~~ most recent version of the avian and bat protection plan (ABPP) submitted for this project on [date to be determined] ~~March 2, 2017~~, and revisions resulting from the annual audit of ABPP implementation. The ABPP must address steps to be taken to identify and mitigate impacts to avian and bat species during the construction phase and the operation phase of the project. The ABPP shall also include formal and incidental post-construction fatality monitoring, training, wildlife handling, documentation (e.g., photographs), and reporting protocols for each phase of the project.

EERA recommends the following language be added to Section 7.5.3 of the Draft Site Permit. The addition of this language will allow for more complete and thorough compliance filing by the Applicant, and more complete compliance review by EERA.

7.5.3 Immediate Incident Reports

In the event that one of the four discoveries listed above, should be made, the Permittee must file, within seven (7) days, with the Commission a compliance report identifying the details of what was discovered, the turbine where the discovery was made, a detailed log of agencies and individuals contacted, and current plans being undertaken to address the issue.

Recommendations

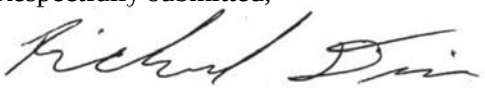
As described in the FOF, and with the conditions listed above, Red Pine Wind Project is a feasible LWECS Project.

With the conditions of the Draft Site Permit, and as discussed above, a Site Permit should be issued to Red Pine Wind Project, LLC for the up to 200.1 MW Red Pine Wind Project in Lincoln County, Minnesota.

EERA staff appreciates the opportunity to submit these comments.

Dated: March 27, 2017

Respectfully submitted,



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III. RED-LINE EDITS AND AMENDMENTS TO THE APPLICANT'S PROPOSED FOF

(Attached)

BEFORE THE MINNESOTA OFFICE OF ADMINISTRATIVE HEARINGS
100 Washington Square, Suite 1700
Minneapolis, MN 55401-2138

FOR THE PUBLIC UTILITIES COMMISSION OF THE STATE OF MINNESOTA
121 Seventh Plaza East, Suite 350
St. Paul, MN 55101-2147

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	PUC Docket No. IP-6646/WS-16-618

PROPOSED FINDINGS OF FACT, CONCLUSIONS AND RECOMMENDATION SUBMITTED BY RED PINE WIND PROJECT, LLC

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This matter was assigned to Administrative Law Judge Barbara J. Case (ALJ) to conduct a public hearing and provide a summary of public testimony on the site permit application of Red Pine Wind Project, LLC (Red Pine or Applicant) for an up to 200.1 MW wind energy conversion system in Lincoln County. The Public Utilities Commission (Commission) also requested that the ALJ 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 of the Minnesota Statutes and Chapter 7854 of the Minnesota Rules.

A public hearing on the site permit application for the proposed Project 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 ALJ. The Office of Administrative Hearings' (OAH) record closed on [_____], with the filing of the last post-hearing submission by the Department of Commerce.

Shanelle Montana and Hank Koegel, EDF Renewable Energy, appeared at the public hearing on behalf of the Applicant.

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

Michael Kaluzniak and Kevin George, appeared on behalf of the Commission staff.

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 CONCLUSION AND RECOMMENDATION

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

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

FINDINGS OF FACT

I. The Applicant

1. Red Pine Wind Project, LLC ("Red Pine") is a wholly owned subsidiary of EDF Renewable Energy, which was formerly enXco Development Corporation. Red Pine does not have any ownership or financial interests in any other large wind energy conversion systems ("LWECS") in Minnesota. Its parent company, EDF, has ownership or financial interests in several LWECS in Minnesota.

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

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.[1]

4. On September 26, 2016, the Commission issued a Notice of Comment Period on Completeness of Certificate of Need[2] and Site Permit Applications, seeking comment on whether the site permit application was complete according to the Commission's rules.[3]

5. On September 30, 2016, Red Pine filed a revised site permit application ("Application") to incorporate changes resulting from the finalized offtake agreement for the Project.[4]

6. On October 6, 2016, the Commission filed a Notice of Extended Comment Period on Completeness of the Revised Site Permit Application.[5]

~~6.~~7. On October 17, 2016, Red Pine filed a request to withdrawal their Application for Certificate of Need (Docket #16-140), based on the exemption that the power produced at Red Pine Wind Project 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).[6]

~~7.~~8. On October 20, 2016, the Department of Commerce – Energy Environmental Review and Analysis ("EERA") staff filed comments recommending that the Commission accept the Application as complete upon the submittal of additional information on turbine access roads as requested by EERA.[7]

9. On October 27, 2016, Red Pine filed reply comments submitting the additional information requested by EERA.[8]

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1 Exhibit ("Ex.") 1 (Initial Site Permit Application).
2 Red Pine requested to withdraw its Certificate of Need application on October 17, 2016 and the Commission approved that request in an order dated November 3, 2016. See PUC Docket No. IP 6959/CN-16-460.
3 Ex. 2 (Notice of Comment Period).
4 Ex. 3 (Revised Site Permit Application ("Application")).
5 Ex. 4 (Notice of Extended Comment Period).
6 Request to Withdraw Application for Certificate of Need, Red Pine Wind Project, LLC, October 17, 2016, eDocket **#201610-125780-02**
7 Ex. 5 (EERA Comments and Recommendations on Application Completeness).
8 Ex. 6 (Red Pine Reply Comments on Application Completeness).

~~8.~~10. On November 3, 2016, the Commission issued their order approving Red Pine Wind Project, LLC's petition to withdraw the Application of Certificate of Need.[9]

~~9.~~11. On November 21, 2016, the Commission met to consider the completeness of Red Pine's application. The Commission voted to accept the Application as complete.

~~10.~~12. The Commission's decision was incorporated into its Order Accepting Application as Complete dated November 29, 2016. In that Order, the Commission also granted rule variances regarding 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.[10]

~~11.~~13. On November 23, 2016, Red Pine filed a Site Permit Application Addendum notifying the Commission of ~~minor~~ 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.[11] Red Pine initially informed EERA staff and the Commission of these proposed changes at the November 21, 2016 meeting.

~~12.~~14. On December 1, 2016, EERA filed a Notice of Public Information Meeting for the December 13, 2016 public meeting in Ivanhoe, Minnesota.[12] 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 environmental impacts from the proposed Project.

~~13.~~15. On December 8, 2016, Red Pine filed affidavits of distribution demonstrating that it had complied with Minn. R. 7854.0600 to distribute copies of the site permit application and notice of public meeting to the applicable local government officials and landowners.[13]

~~14.~~ On December 13, 2016, EERA held a public information meeting to discuss the Project and solicit comments.

16.

~~15.~~17. On January 3, 2017, the Minnesota Department of Transportation ("MNDOT") and the Minnesota Department of Natural Resources ("MDNR") filed comments with recommendations for the Draft Site Permit.[14]

~~16.~~18. On January 6, 2017, the ALJ issued a Notice of Prehearing Conference, setting the prehearing conference for January 13, 2017.[15]

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[9] Notice and Order Approving Petition to Withdraw Filing, Commission, November 3, 2016, eDocket #**201611-126251-01**

[10] Ex. 10 (Order Finding Application Complete, Varying Time Limits, and Establishing Procedural Framework for Proceedings).

[11] Ex. 9 (Site Permit Application Addendum).

[12] Ex. 11 (Notice of Public Information Meeting).

[13] Ex. 12 (Red Pine Affidavits of Distribution to Local Governments and Landowners).

[14] Ex. 13 (Comments of MN Dept. of Transportation); Ex. 14 (MN Dept. of Natural Resources Comments and Preliminary Letter and Avoidance Area Map).

[15] Ex. 15 (Notice of Prehearing Conference).

~~17.~~19. On January 18, 2017, EERA filed comments along with a proposed Draft Site Permit, and recommending that the Commission issue the draft permit.[16] The EERA's proposed Draft Site Permit took comments provided during the public information meeting and associated comment period, as well as comments provided by other state and federal agencies, into consideration.

~~18.~~20. On January 25, 2017 the ALJ entered a Scheduling Order setting the schedule for the contested case.[17]

~~19.~~21. On January 25, 2017, Red Pine filed an updated project layout consistent with its November 23, 2016 Site Permit Addendum.[18]

~~20.~~22. On January 27, 2017, Red Pine filed maps showing additional detail of the Project area and turbine layout.[19]

~~21.~~23. On February 1, 2017, Red Pine filed a letter with updated turbine specification information on the Vestas V110 wind turbine.[20]

~~22.~~24. On February 2, 2017, the Commission met to consider the Draft Site Permit. The Commission voted to issue the Draft Site Permit with modifications.[21]

~~23.~~25. The Commission's decision was incorporated into its Order Issuing Draft Site Permit dated February 10, 2017.[22]

~~24.~~26. On February 10, 2017, Red Pine filed the mailing lists for the relevant local governments and landowners as requested by Commission staff.[23]

~~25.~~27. On February 13, 2017, the Commission issued a Notice of Public Hearing and Draft Site Permit Issuance, publicizing the March 6, 2017 public hearing on the site permit application.[24]

~~26.~~28. On February 27, 2017, Red Pine filed updated Sound and Shadow Flicker Reports reflecting the current project layout and a Calcareous Fen Analysis.[25]

~~27.~~29. On March 2, 2017, Red Pine filed an updated Avian Bat Protection Plan.[26]

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[16] Ex. 16 (EERA Comments and Recommendations re Preliminary Draft Site Permit.)
[17] Ex. 18 (Scheduling Order).
[18] Ex. 19 (Updated Project Layout).
[19] Ex. 21 (Maps Showing Additional Detail of Project Area and Layout).
[20] Ex. 22 (Updated Turbine Specification Information).
[21] Ex. 24 (Order Issuing Draft Site Permit).
[22] *Id.*
[23] Ex. 25 (Mailing Lists).
[24] Ex. 26 (Notice of Public Hearing and Draft Site Permit Issuance).
[25] Ex. 27 (Updated Sound and Shadow Flicker Reports and Calcareous Fen Analysis).
[26] Ex. 28 (Avian Bat Protection Plan).

~~28.~~30. On March 6, 2017, Red Pine filed documentation of communications with landowners who own certain property in the vicinity of the Project.[27]

~~29.~~31. On March 16, 2017, MDNR filed a letter confirming certain changes that Red Pine had made to the Project at MDNR's recommendation, and also recommending modification of the Avian Bat Protection Plan.[28]

III. General Description of the Project

~~30.~~32. The proposed Project consists of up to 100 wind turbines yielding a total nameplate capacity of up to 200.1 MW in Lincoln County. The Project would also include associated facilities.[29]

~~31.~~33. Two types of Vestas turbines will be used for the Project: the V110 wind turbine and the V100 wind turbine.[30] Half of the turbines will be the V110 and half will be the V100.[31] On January 25, 2017, Red Pine provided updated maps showing preliminary turbine locations and associated facilities.[32]

~~32.~~34. The wind turbines are three bladed, active yaw, and active aerodynamic control regulated wind turbine generators with power/torque control capabilities.[33] The rotors utilize blade pitch regulation and other technologies to achieve optimum power output under various site conditions and wind speeds.[34]

~~33.~~35. 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 Vestas 100 and Vestas 110, respectively.[35]

~~34.~~36. In addition to the turbines, the Project would require the following facilities:

i. Gravel access roads, totaling approximately 26 miles in length;[36]

ii. Step-up transformers installed at each turbine to increase the voltage to 34.5 kV for the collector system;[37]

iii. 34.5 kV underground collection lines totaling approximately 65 miles in length;[38]

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27 Ex. 29 (Documentation of Communications with Mulder Family).
28 MDNR Comment (March 16, 2017) (eDocket No. 20173-129967-01).
29 Ex. 3 at 14 (Application).
30 Ex. 22 (Updated Turbine Specification Information).
31 *Id.*
32 Ex. 19 (Updated Project Layout).
33 Ex. 3 at 17-18 (Application).
34 *Id.*
35 Ex. 3 at 18 (Application); Ex. 22 (Updated Turbine Specification Information)..
36 Ex. 6 at 2 (Red Pine Reply Comments on Application Completeness).
37 Ex. 3 at 20-21 (Application).
38 *Id.*

iv. Installation of a Site Control and Data Acquisition ("SCADA") system;[39]

v. 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, approximately six miles northeast of Ivanhoe, Minnesota;[40]

vi. Construction of an Operation and Maintenance ("O&M") facility on or near the site to provide access and storage for project maintenance and operations;[41]

vii. Up to four permanent free standing meteorological towers;[42]

~~35.~~37. The SCADA system permits automatic, independent operation and remote supervision of each turbine and facility collectively, which allows for the simultaneous 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.[43]

~~36.~~38. The Project has been designed to ensure consistency with setbacks and standards established by the Commission and previous PUC actions, and will meet or exceed the minimum setback requirements in the local ordinance. This 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; a minimum 1,000-foot setback from homes; 300 feet from road rights-of-way; and 3x5 RD from non-participating property lines.[44]

~~37.~~39. The Midcontinent Independent System Operator ("MISO") has conditionally accepted a Generator Interconnection Agreement with Red Pine, effective March 4, 2015.[45]

IV. Site Location and Characteristics

~~38.~~40. The Project is located in Lincoln County in southwest Minnesota, immediately east of Ivanhoe and north of Arco.[46]

~~39.~~41. The Project boundary encompasses approximately 44,657 acres, of which approximately 32,824 acres are currently leased for the project.[47] The Project's above-ground facilities will occupy less than one percent of that area.[48]

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[39] *Id.* at 106.
[40] *Id.* at 20.
[41] *Id.* at 21.
[42] *Id.*
[43] *Id.* at 106.
[44] *Id.* at 17, 26.
[45] *Id.* at 20.
[46] *Id.* at 12.
[47] Ex. 19 (Updated Project Layout).
[48] Ex. 3 at 14 (Application)

~~40.~~42. 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.[49]

~~41.~~43. The Project is located within 5 miles of 46 Wildlife Management Areas ("WMAs") and 10 Waterfowl Production Areas ("WPAs"), and is also located near the Lincoln County Drift Clipper snowmobile trail and King of Trails Scenic Byway.[50]

V. Wind Resource Considerations

~~42.~~44. Red Pine has collected wind speed data from 4 met towers in the Project area showing an average annual wind speed of approximately 8.6 meters/second (m/s) 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 Red Pine Wind 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.[51]

VI. Wind Rights and Easement/Lease Agreements

~~43.~~45. 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% of the land within the overall project boundary.[52]

~~44.~~46. 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.[53]

VII. Project Schedule

~~45.~~47. Red Pine stated in its Application that construction of the Project is scheduled to begin as early as the second quarter of 2017.[54]

VIII. Permittee

~~46.~~48. The permittee for the Project would be the Applicant, Red Pine Wind Project, LLC.

IX. Summary of Public Comments

~~47.~~49. The EERA staff held a public meeting in Ivanhoe on December 13, 2016.[55] Approximately 40 people attended the meeting, and there were eight verbal comments/questions.

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[49] *Id.* at 64.
[50] *Id.* at 37.
[51] *Id.* at 94-95.
[52] Ex. 9 at 3 (Site Permit Application Addendum).
[53] Ex. 3 at 26 (Application).
[54] *Id.*at 12.
[55] Ex. 24 at 3 (Order Issuing Draft Site Permit).

These 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 lands under easement.[56] EERA staff, Commission staff, and EDF staff provided responses and clarifications to the majority of comments and questions.[57]

~~48.~~50. Written comments were received from MNDOT and MDNR regarding the scope of the Draft Site Permit. MNDOT stated that the Draft Site Permit should specify that the Permittee must obtain all relevant permits or authorizations from road authorities relating to any electric cables and/or feeder lines that may be placed in the public right-of-way, the Applicant will need to coordinate with MNDOT to plan and coordinate oversize or overweight hauling of wind turbines and equipment and other construction work that may affect MNDOT rights-of- way, and there should be analysis of the physical and visual impact of the Project on the King of Trails Scenic Byway.[58] MDNR conveyed appreciation for the level of avoidance of sensitive natural areas achieved by Red Pine, but also expressed concern about turbines located near Hawk's Nest Lake for collisions with various bird species, requested more specificity in the post-construction section of the Draft Avian and Bat Protection Plan, noted that any potential calcareous fens required coordination with MDNR, and recommended modifying the turbine layout to avoid high risk areas.[59]

~~49.~~51. MDNR filed additional written comments confirming that no impacts to calcareous fens are anticipated, that its concerns over the placement of three turbines had been properly resolved, and recommending that the Avian and Bat Protection Plan be modified to remove the characterization of certain measures as "voluntary."[60]

X. Site Permit Criteria

~~50.~~52. Wind energy developments are governed by Minn. Stat. ch. 216F and Minn. R. ch. 7854. Minnesota Statutes section 216F.01, subdivision 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.[61] Minnesota Statutes section 216F.03 requires that a LWECS be sited in an orderly manner compatible with environmental preservation, sustainable development, and the efficient use of resources.[62]

~~51.~~53. The Commission should also consider the following factors set forth in Minn. Stat. § 216E.03, subd. 7(b) when deciding whether to issue a LWECS site permit:

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[56] *Id.* at 4.
[57] *Id.*
[58] Ex. 13 (Comments of MN Dept. of Transportation).
[59] Ex. 14 (MN Dept. of Natural Resources Comments and Preliminary Letter and Avoidance Area Map).
[60] MDNR Comment (March 16, 2017) (eDocket No. 20173-129967-01).
[61] Minn. Stat. § 216F.01, subds. 2-3.
[62] Minn. Stat. § 216F.03; *see also*, Minn. R. 7854.1000, subp. 3.

i. "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;

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

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

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

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

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

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

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

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

x. when appropriate, consideration of problems raised by other state and federal agencies and local entities."[63]

~~52.~~54. The Commission must also consider whether the applicant has complied with all procedural requirements.[64]

~~53.~~55. 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.[65]

XI. Application of the Statutory Siting Criterial to the Proposed Project

[63] Minn. Stat. § 216E.03, subd. 7(b).
[64] Minn. R. 7854.1000, subd. 3.
[65] Minn. R. 7854.0500, subp. 7.

A. Human Settlement

~~54.~~56. The Project is located in the rural county of Lincoln. There are 122 dwelling units within the Project area.[66] 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.

~~55.~~57. The Draft Site Permit provides for set-backs 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.[67]

~~56.~~58. The Project is not expected to impact local demographics.[68]

B. Zoning and Land Use

~~57.~~59. Approximately 82% of Lincoln County is used for agriculture.[69] Within the Project area, 47.66% of the soil is considered prime farmland, 23.04% is prime farmland when drained and 13.86% is considered farmland of statewide importance. Approximately 13.37% of the Project Area is neither non-prime farmland nor farmland of statewide importance.[70]

~~58.~~60. According to the Lincoln County Environmental Office, the Red Pine 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.[71]

~~59.~~61. Lincoln County has established a Comprehensive Plan that aims to "sustain and continue to develop wind energy generation."[72]

~~60.~~62. Lincoln County also has a specific Windpower Management Ordinance for wind energy facilities with a rated capacity of less than 5 MW and the County has assumed responsibility for permitting projects less than 5 MW as described in Minnesota Rules Chapter 216F.011.[73]

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[66] Ex. 3 at 64 (Application).
[67] Ex. 24 at 3 (Order Issuing Draft Site Permit).
[68] Ex. 3 at 23 (Application).
[69] *Id.* at 67.
[70] *Id.* at 68.
[71] *Id.* at 25.
[72] *Id.* at 28.
[73] *Id.* at 25.

~~61.~~63. 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, so the County ordinances are not applicable.[74]

~~62.~~64. Nonetheless, the Project will be designed to meet the minimum setback requirements identified by the local ordinance.[75]

~~63.~~65. The Project, as proposed, is consistent with existing county zoning and land use plans.

C. Noise

~~64.~~66. Operation of wind turbines will contribute to sound levels in the area. The sound associated with the wind 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.[76]

~~65.~~67. The MPCA has adopted noise standards designed to protect public health and minimize citizen exposure to inappropriate sounds.[77]

~~66.~~68. Red Pine commissioned a study to ~~measure~~ model the potential noise impact on surrounding residences. The study ~~measured~~ modeled the noise impacts at 284 receptors, assumed the turbine operates 100% of the time, and ignored the effects of vegetative dampening. The results of the study revealed that 64% of the receptors ~~had~~ would have sound emissions of 40 dB or below, and no sound levels would exceed~~ed~~ 49.2 dB, which complies with noise-related rules.[78]

~~67.~~69. Section 7.4 of the Draft Site Permit requires Red Pine to file a proposed methodology conducting a post-construction noise study at least 14 days prior to the pre-construction meeting and to "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."[79]

~~68.~~70. Red Pine also plans to conduct noise monitoring during operation to validate and confirm this pre-construction noise modeling.[80]

~~69.~~71. With the above mitigation measures and continued monitoring, the Project is not expected to have significant noise impacts.

D. Shadow Flicker

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74 Minn. Stat. §§ 216F.01, 216F.04.
75 Ex. 3 at 25 (Application).
76 *Id.* at 31.
77 Minn. R. 7030.0040.
78 Ex. 27 (Updated Sound and Shadow Flicker Report).
79 Ex. 24 at Section 7.4 of Draft Site Permit (Order Issuing Draft Site Permit).
80 Ex. 3 at 34 (Application).

~~70.~~72. 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.[81] 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 that is facing the sun, and the receptor must be close enough for the shadow to reach it.[82] Shadow flicker can be diminished by increasing the ambient light within a home, the time of day, the season, and visual screening.

~~71.~~73. Red Pine commissioned modeling using the shadow flicker module of OpenWind to determine the potential for shadow flicker at receptors in and around the Project area. Like the noise study, the shadow flicker study measured potential shadow flicker at 284 receptors. Turbines are assumed to operate 100% 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 that are known to reduce the impact of shadow flicker have been intentionally left out of the model to remain conservative.[83]

~~72.~~74. The study showed that 70% 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.[84]

~~73.~~75. 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 has also expressed that it would consider additional options such as exterior screening (trees or awnings) and interior screening (curtains) to help mitigate shadow flicker where appropriate. Red Pine has also offered to provide education materials to help landowners minimize the effect of shadow flicker.[85]

~~74.~~76. Section 7.2 of the Draft Site Permit requires that data on shadow flicker be provided prior to the pre-construction meeting, including the results of the study and the assumptions made.[86]

~~75.~~77. 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

~~76.~~78. The Project area has a gently undulating topography interrupted only by a small number of public drainage ditches and a few larger lakes. The typical visual landscape within the

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[81] *Id.* at 38.
[82] *Id.* at 38-39.
[83] Ex. 27 (Updated Sound and Shadow Flicker Report).
[84] Ex. 27 (Updated Sound and Shadow Flicker Report).

[85] Ex. 3 at 41-42 (Application).
[86] Ex. 24 at Section 7.2 of Draft Site Permit (Order Issuing Draft Site Permit).

Project area consists of agricultural fields, farmsteads with trees planted as windbreaks, and active or fallow fields, as well as residences and farm buildings.[87]

~~77.~~79. The area also has a number of existing wind farms and high voltage transmission lines that are visible from within the Project area.[88] But because these other projects are not located in the immediate vicinity of the Project, they are not expected to cumulatively contribute to the visual effect of the Project. The turbines are also compatible with the rural agricultural heritage of the area, which includes windmills, silos, and grain elevators.[89]

~~78.~~80. The Federal Aviation Administration ("FAA") requires the wind turbines that will be used for the Project to have obstruction lighting. Red Pine will use FAA guidance and standards when seeking FAA approval of its lighting plan in order to mitigate the visual impact of lighting.[90] Section 5.2.27 of the Draft Site Permit limits permitted lights on the towers to only those lights required by the FAA.[91] 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).[92]

~~79.~~81. Red Pine has offered several measures to mitigate the visual impact of the proposed Project. These measures include siting the turbines at least 1 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, and converting temporarily disturbed areas back to cropland or otherwise reseeding with native vegetation.[93]

~~80.~~82. With these mitigation measures, the Project is not expected to have a significant visual impact on the landscape.

F. Public Services and Infrastructure

~~81.~~83. Public services provided within the Project area include transportation/roadways, electricity, and telephone, which is typical of lightly populated rural areas.[94]

i. Roads

~~82.~~84. 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 Highway 19 provides the main access to nearby

[87] Ex. 3 at 34-35 (Application).
[88] *Id.*
[89] *Id.* at 35-36.
[90] *Id.* at 36.
[91] Ex. 24 at Section 5.2.27 of Draft Site Permit (Order Issuing Draft Site Permit).
[92] *Id.* at Section 6.1.
[93] Ex. 3 at 38 (Application); Ex. 9 at 3 (Site Permit Application Addendum).
[94] *Id.* at 42.

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.[95]

~~83.~~85. 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 those roads need to be inspected.[96]

~~84.~~86. 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.[97] 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 construction and operation of the Project to the extent possible.[98]

~~85.~~87. Red Pine proposes to construct approximately 26 miles of gravel access roads to connect the turbines with public roads, allowing for construction and maintenance of the turbines.[99] 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.[100] Section 5.2.13 restricts the construction of access roads to only those roads that are "necessary to safely and efficiently operate the project and satisfy landowner requests." Section 5.12.13 of the Draft Site Permit 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."[101]

~~86.~~88. 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,[102] and Red Pine has indicated that it will observe a setback of 300 feet from public roadways.[103]

~~87.~~89. Construction and operation of the Project is not expected to cause significant impacts to roads or traffic.

ii. Telecommunications

~~88.~~90. Wind projects can potentially interfere with telecommunication systems, such as telephone, microwave beam paths, AM/FM radio, fixed land mobile stations, and television.[104]

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95 *Id.*
96 Ex. 24 at Section 5.2.12 of Draft Site Permit (Order Issuing Draft Site Permit).
97 *Id.*; Ex. 3 at 48 (Application).
98 Ex. 3 at 48 (Application).
99 Ex. 6 at 2 (Red Pine Reply Comments on Application Completeness).
100 Ex. 3 at 48 (Application).
101 Ex. 24 at Section 5.2.13 (Order Issuing Draft Site Permit).
102 *Id.*at Section 4.4.
103 Ex. 3 at 48 (Application).
104 *Id.* at 46-47.

~~89.~~91. 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.[105]

~~90.~~92. Red Pine commissioned studies to measure the potential impact on telephone, microwave beam paths, AM/FM radio, fixed land mobile stations, and television systems in the surrounding area. The studies indicated that the Project is not expected to impact these services.[106]

~~91.~~93. 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, this data will be used to determine whether the Project is causing the disruption.[107] Red Pine is responsible for correcting any disruption to these services caused by the Project.

~~92.~~94. 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 from the proposed Project.

iii. Installation of Cables

~~93.~~95. The proposed Project will use approximately 50-65 miles of cables for collector lines within the Project area, which carry electrical power to the interconnection points.[108] Pursuant to the Draft Site Permit, these 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 also bury these lines in order to further mitigate potential impacts,[109] which is not required by the Draft Site Permit.[110]

~~94.~~96. 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.[111]

~~95.~~97. Red Pine's burying of cables is not expected to cause any significant impacts to existing infrastructure.

G. Cultural and Archaeological Resources

~~96.~~98. 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. This review identified six previously inventoried archaeological sites within one mile of the Project area, including one site within the

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105 *Id.* at 47-50.
106 *Id.*
107 Ex. 24 at Section 5.2.16 of Draft Site Permit (Order Issuing Draft Site Permit).
108 Ex. at 21 (Application).
109 *Id.* at 92.
110 Ex. 24 at Section 5.4 of Draft Site Permit (Order Issuing Draft Site Permit).
111 *Id.* at 5.3.

Project area. There are also 22 historic architectural resources within one mile of the Project area, including five within the Project area.[112]

~~97.~~99. Based on that 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.

~~98.~~100.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 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.[113]

~~99.~~101.With these avoidance and mitigation measures in place, impacts on cultural and archaeological resources are expected to be minimal.

H. Recreational Resources

~~100.~~102. 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.[114]

~~101.~~103. The following public recreational resources are located near the Project area: several Wildlife Management Areas (WMAs), Waterfowl Production Areas (WPAs), an Aquatic Management Area (AMA), a Scientific and Natural Area (SNA), a National Wildlife Refuge (NWR), recreational lakes and trails, a state park, and snowmobile trails.[115]

~~102.~~104. WMAs are lands managed by the MDNR to protect these lands' high potential for wildlife production, public hunting, trapping, fishing, and other compatible recreational uses.[116] There are nine WMAs located within the Project area and 71 WMAs within 10 miles of the Project boundary.[117]

~~103.~~105. One snowmobile trail, the Lincoln County Drift Clipper Trail, extends approximately three miles within the southwest part of the Project area.

~~104.~~106. Other notable recreation sites within ten miles of the proposed Project area include Northern Tallgrass Prairie lands adjacent to the east Project boundary, the Antelope Valley

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112 Ex. 3 at 51 (Application).
113 *Id.*at 53-54.
114 *Id.* at 54.
115 *Id.* at 54.
116 "More About Wildlife Management Areas," MDNR, http://www.dnr.state.mn.us/wmas/description.html.
117 Ex. 3 at 54 (Application).

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 5-10 miles of the Project and several natural lakes within the Project area.[118]

~~105.~~107. 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

i. EMF and Stray Voltage

~~106.~~108. Electromagnetic Fields (EMF) and stray voltage represent potential public health impacts caused by wind projects.

~~107.~~109. EMF 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. EMF is commonly associated with power lines, but they occur only at close range because the electric field rapidly dissipates as the distance from the line increases.[119]

~~108.~~110. There is no conclusive evidence showing significant health impacts from EMF associated with wind turbines or power lines.[120] The National Institute of Environmental Health Sciences ("NIEHS") has conducted extensive research into the potential health impacts of EMF and found only a "weak" correlation between EMF and health impacts.[121]

~~109.~~111. Despite this lack of evidence, Red Pine will install the turbines beyond the minimum allowable distances from occupied residences, where EMF is expected to be at background levels unrelated to wind project proximity.[122]

~~110.~~112. 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. Potential effects can result from a person or animal coming in contact with stray voltage. These effects are mitigated when electrical systems are adequately grounded to ensure continuous safety and reliability.

~~111.~~113. No adverse impacts are expected from EMF or stray voltage.

ii. Aviation

~~112.~~114. Nearby airports can represent public safety concerns for the Project. There are no registered public airports located within the Project Area. All registered airports are at least

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118 *Id.* at 56-57.
119 *Id.* at 59 (citing US EPA 2011).
120 *Id.* at 59.
121 "Electric & Magnetic Fields," NIEHS (August 2, 2016) https://www.niehs.nih.gov/health/topics/agents/emf/.
122 Ex. 3 at 59 (Application).

5 miles away from the project boundary, with most registered airports located at least 12 miles away.[123]

~~113.~~115. 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.[124]

~~114.~~116. A potential conflict exists between the Department of Defense's operations at the Tyler, Minnesota Common Air Route Surveillance Radar ("CARSR"). The Project is currently in negotiation with the Department of Defense and the Department of the Air Force for a Radar Mitigation Agreement to ensure that the Project can be constructed and operated without having an adverse impact on military operations and readiness.[125]

~~115.~~117. Red Pine has indicated that it will work closely with relevant agencies to site its turbines to avoid aviation impacts. Red Pine will also notify local airports, aerial applicators, and hospital heliports about the Project.[126]

~~116.~~118. With the above mitigation and notification measures in place, the Project is not expected to have a significant impact on aviation.

iii. Safety and Security

~~117.~~119. 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 that plan to the Commission, restrict public access through signs and gates, provide educational materials to adjacent landowners about restrictions and dangers associated with the Project, and submit the location of all underground facilities to Gopher State One Call upon completion of construction.[127]

~~118.~~120. 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 to the public.[128]

~~119.~~121. The Project is not expected to significantly impact public safety.

J. Pollution and Hazardous Waste

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123 *Id.* at 61.
124 Ex. 24 at Section 4.12 of Draft Site Permit (Order Issuing Draft Site Permit).
125 Ex. 24 at 62 (Application).
126 *Id.* at 62.
127 Ex. 24 at Section 5.2.25, 10.10 of Draft Site Permit (Order Issuing Draft Site Permit).
128 Ex. 3 at 64-65 (Application).

~~120.~~122. 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.

~~121.~~123. 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. [129]

~~122.~~124. 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.[130]

~~123.~~125. Significant impacts from hazardous waste or pollution associated with the Project are not expected.

K. Land-Based Economies

i. Agriculture

~~124.~~126. Agriculture is the primary economy in Lincoln County. In 2012, over 82% of the land in Lincoln County was used for agriculture, divided among 699 farms.[131] The County's major crops include corn, soybeans, and forage land for growing hay. Cattle and pigs represent the predominant livestock in the County.[132]

~~125.~~127. Up to 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% of the Project area. Landowners whose land is permanently removed from production will receive lease payments.

~~126.~~128. The Draft Site Permit contains a number of provisions protecting agricultural production. Red Pine is required to protect and segregate topsoil during construction, minimize soil compaction, replace or repair fences and gates damaged or removed during the life of the Project, and repair or replace damaged drainage tiles, unless otherwise negotiated with the landowner.[133]

~~127.~~129. Red Pine has offered work with landowners in the Project Area to site turbines and access roads so as to minimize impacts to high quality farmland to the extent practicable.[134] 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 that law if it does.[135]

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[129] Ex. 24 at Section 5.2.23 of Draft Site Permit (Order Issuing Draft Site Permit.
[130] Ex. 3 at 66-67 (Application).
[131] Ex. 3 at 67 (Application) (citing USDA 2012 Census Report)
[132] *Id.* at 67-68.
[133] Ex. 24 at Sections 5.2.4, 5.2.5, 5.2.18, 5.2.19 of Draft Site Permit (Order Issuing Draft Site Permit).
[134] Ex. 3 at 75-76 (Application).
[135] *Id.* at 69.

~~128.~~130. The Project is not expected to significantly impact agricultural production within the Project area.

ii. Mining

~~129.~~131. Mining activity in Lincoln County involves extracting crushed rock, sand, and gravel, otherwise known as aggregate, for the purpose of building roads. There are 9 gravel pits located within the Project area and 11 within 7 miles of the Project boundary.[136]

~~130.~~132. 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.[137]

~~131.~~133. Red Pine has indicated that some of the identified aggregate resources may be used for access road construction, which would positively impact these businesses.[138] No impacts to mining resources or operations are otherwise anticipated.

L. Tourism

~~132.~~134. 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 and hunting, fishing and snowmobiling in the 61 wildlife management areas. The King of Trails Scenic Byway (U.S. Highway 75) and the Lincoln County Drift Clipper snowmobile trail offer further draws for tourists.[139]

~~133.~~135. 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.[140]

~~134.~~136. With these mitigation measures in place, the Project is not expected to cause significant impacts to local tourism activities.

M. Local Economy

~~135.~~137. 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.[141]

~~136.~~138. 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

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136 *Id.* at 71.
137 Ex. 24 at Section 4.8 of Draft Site Permit (Order Issuing Draft Site Permit).
138 Ex. 3 at 71 (Application).
139 Ex. at 71 (Application).
140 Ex. 24 at Section 6.1 of Draft Site Permit (Order Issuing Draft Site Permit).
141 Ex. 3 at 72-73 (Application).

over 10 permanent jobs during operation of the project. To the extent possible, Red Pine Wind plans to use local contractors and suppliers for portions of the construction.[142]

N. Topography

~~137.~~139. 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 mean sea level ("amsl") to a low of 1,368 feet amsl.[143]

~~138.~~140. Potential impacts to topographic and physiographic resources from the proposed 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.

~~139.~~141. The Draft Site Permit requires Red Pine to restore and reclaim the site to its pre-project topography "to the extent feasible."[144]

~~140.~~142. Red Pine will implement construction Best Management Practices ("BMPs") to mitigate impacts to topography, including avoiding areas with slopes greater than 10 percent.[145]

~~141.~~143. With these mitigation measures in place, no significant impact to topographic resources is anticipated.

O. Soils

~~142.~~144. 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").[146]

~~143.~~145. Construction and operation of the Project would 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; less than 1% of the overall Project area.[147]

~~144.~~146. 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

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142 *Id.*
143 *Id.* at 74.
144 Ex. 24 at Section 11.2 of Draft Site Permit (Order Issuing Draft Site Permit).
145 Ex. 3 at 74 (Application).
146 Ex. 3 at 75 (Application).
147 *Id.*

(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."[148]

~~145.~~147. 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.[149] Red Pine will also work with landowners to take appropriate corrective action measures if excessive soil compaction occurs as a result of Project activities.[150]

~~146.~~148. With these mitigation measures in place, no significant impacts to soil resources are anticipated.

P. Geologic and Groundwater Resources

~~147.~~149. 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 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.[151]

~~148.~~150. 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, 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.[152]

~~149.~~151. 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.[153]

~~150.~~152. No impacts to geologic and groundwater resources are expected from construction and operation of the proposed project.

Q. Surface Water and Wetland Resources

~~151.~~153. The Project area contains a variety of surface water resources. The Project area contains 3,531 acres of wetlands, covering 8% of the Project area. There are nine mapped

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148 Ex. 24 at Section 5.2.6 of Draft Site Permit (Order Issuing Draft Site Permit).
149 Ex. 3 at 75 (Application).
150 *Id.* at 69.
151 Ex. 3 at 76 (Application).
152 *Id.*
153 *Id.* at 77.

MDNR Public Water Lakes and Wetlands within the Project area totaling approximately 760 acres. Intermittent and perennial MDNR Public Watercourses cover approximately 41 linear miles within the Project area and include South Branch of the Yellow River, Three Mile Creek, Coon Creek, the Yellow Medicine River. There are three areas within the Project mapped within FEMA Flood Zone A.[154]

~~152.~~154. There are no MDNR 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; DNR staff is in concurrence and the report has been filed to the Project docket.[155]

~~153.~~155. The Draft Site Permit prohibits siting any Project facilities in any MDNR Public Water Lakes and Wetlands, except that 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.[156]

~~154.~~156. Ideally, turbines are 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, 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.

157. 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.

~~155.~~158. 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 as they apply to the project.[157]

~~156.~~159. The Project is not expected to significantly impact surface water or wetland resources.

R. Vegetation

~~157.~~160. The majority of vegetation covering the Project area is cultivated crops (71%), followed by grassland (11%) and hay/pasture (9.5%). Prior to settlement, 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

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154 *Id.*at 78-79.
155 *Id.* at 79; Ex. 27 (Calcareous Fen Analysis).
156 Ex. 24 at Section 4.6 of Draft Site Permit (Order Issuing Draft Site Permit).
157 Ex. 3 at 81 (Application).

occur in the northwest and east-central areas of the project. Forested areas appear limited to stream corridors, near lentic water features, and around homesteads.[158]

~~158.~~161. 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, 12 are sites with moderate biodiversity significance. MDNR 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% of the Project area, and of which 72% is native and 27% is non-native.[159]

~~159.~~162. 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 necessary to assure suitable access.[160] 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 requires any construction impacts to native prairie to be addressed in a prairie protection and management plan.[161]

~~160.~~163. Red Pine has indicated that its goal is to minimize impacts to non-cultivated and native plant communities. To that end, Red Pine will prepare and submit a Native Prairie Protection Plan to document avoidance of these resources. Red Pine will take care to site turbines and associated facilities to avoid woodlands, shrubland, grasslands and water resources to the extent practicable. Should it become necessary to disturb native plant communities or areas identified as native prairie, Red Pine agrees to coordinate with the MDNR and DOC accordingly.[162]

~~161.~~164. With these mitigation measures in place, significant vegetation impacts are not expected.

S. Wildlife Resources

~~162.~~165. Red Pine has conducted extensive analysis of the wildlife resources in the Project area, including 8 bat and avian use studies, in accordance with the U.S. Fish and Wildlife Service Land-Based Wind Energy Guidelines.[163]

~~163.~~166. 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. Reptiles and amphibians include frogs, toads, salamanders, snakes, and turtles. Several bird and

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158 *Id.* at 82.
159 *Id.* at 82-83.
160 Ex. 24 at Section 5.2.8 of Draft Site Permit (Order Issuing Draft Site Permit).
161 *Id.* at Sections 5.2.10, 5.2.11, 4.7. The Invasive Species Prevention Plan can be included as an element of the Soil Erosion and Sediment Control Plan.
162 Ex. 3 at 84 (Application).
163 U.S. Fish and Wildlife Service Land-Based Wind Energy Guidelines (March 23, 2012) https://www.fws.gov/ecological-services/es-library/pdfs/WEG_final.pdf.

bat species are known to occur in the area, including raptors, red-winged blackbirds, big brown bat, and hoary bat.[164]

~~164.~~167. Wind projects have the potential to cause bird and bat fatalities. Most documented bat fatalities at wind projects have been associated with migratory species, with hoary boats composing about half of all documented fatalities in North America. 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. Regional data suggest raptor fatalities at wind projects in Minnesota are typically low and therefore wind projects are unlikely to cause significant adverse impacts to raptor populations.[165]

~~165.~~168. 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 proposed Red Pine Project will fall between 3.09 - 20.2 bat/MW/year. Data from four previously developed wind projects in southern Minnesota have estimated bird fatality rates between 0.40 - 1.07 birds/MW/study periods.[166]

~~166.~~169. Red Pine has commissioned an Avian and Bat Protection Plan ("ABPP"), which Red Pine filed on March 2, 2017.[167] 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."[168] 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 an annual report with the findings of its annual audit of ABPP practices, quarterly reports detailing incidents of dead or injured avian and bat species, and immediate incident reports for more serious fatality incidents. The Draft Site Permit also requires the turbines for the Project to be able to adjust the speed at certain times of the day and year.[169] 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.[170] The ABPP meets these requirements and, according to Red Pine, is consistent with U.S. Fish and Wildlife Service ("USFWS") Wind Energy Guidance post construction fatality monitoring protocol and use of adaptive management techniques.[171]

~~167.~~170. MDNR filed comments on March 16, 2017, expressing appreciation for EDF's "responsiveness to the DNR's recommendations regarding turbine siting." 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 will continue to coordinate with DNR for the protocol of the second year of monitoring and other ABPP details. Lastly, MDNR recommended that the ABPP

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164 Ex. 3 at 85-87 (Application).
165 *Id.*at 90.
166 *Id.*at 91.
167 Ex. 28 (Avian Bat Protection Plan ("ABPP")).
168 Ex. 24 at Section 7.5.1 of Draft Site Permit (Order Issuing Draft Site Permit).
169 Ex. 24 at Section 7.5 of Draft Site Permit (Order Issuing Draft Site Permit).
170 *Id.* at Section 6.2.
171 Ex. 3 at 92-93 (Application).

be modified to remove the characterization of curtailing, or "feathering," turbine blades as "voluntary."[172]

~~168.~~171. In the ABPP, Red Pine confirmed its agreement to move turbines 43 and 59 to avoid high risk habitats at MDNR's request and to designate turbine 73 as an alternate and move it 200 feet north (away from the wetland).[173] Red Pine has 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.[174]

~~169.~~172. The USFWS has recommended that the Project pursue a programmatic eagle take permit due to the known bald eagle fatalities in the region, which it expects to do for all wind projects that have the potential to take an eagle during the life of the project. Red Pine also has developed an Eagle Conservation Plan in consultation with USFWS (included as Appendix C to the ABPP) and will apply for a programmatic eagle take permit.[175] Red Pine has indicated its commitment to coordinating with wildlife agencies to mitigate impacts to wildlife.

~~170.~~173. The Project is not expected to have significant impacts to wildlife, and impacts to avian and bat species will be carefully monitored and mitigated through the measures described above.

T. Rare and Unique Natural Resources

~~171.~~174. 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 by submitting a formal Natural Heritage Information System ("NHIS") data request to MDNR in January 2016. Red Pine received a formal response in April 2016 indicating that MDNR identified rare features within an approximate one-mile radius of the Project. However, the Project area has been modified since that response and Red Pine notes that two MBS sites of high and outstanding biodiversity significance are no longer located within the Project boundary.[176]

~~172.~~175. An analysis of the current Project area shows 10 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 of the site an additional five NHIS occurrences are mapped and include one additional animal assemblage, two vertebrates, and two additional plants occurrences.[177]

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172 MDNR Comment (March 16, 2017) (eDocket No. 20173-129967-01).
173 Ex. 24 at 2 (Order Issuing Draft Site Permit); Ex. 28 at 31 (ABPP).
174 Ex. 3 at 92 (Application).
175 *Id.* at 93.
176 *Id.* at 88.
177 *Id.*

~~173.~~176. 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.[178]

~~174.~~177. Red Pine requested USFWS comment on the Project in February 2016, but has not received a formal response. Red Pine has indicated that it has been actively engaged with USFWS staff on avian issues and plans to follow up with USFWS to coordinate potential concerns it may have regarding threatened or endangered species and the Project.[179]

~~175.~~178. According to a site characterization study conducted in 2016, there were eight state or federally listed species that were 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 were identified as having moderate likelihood of occurring within the Project and include 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.

~~176.~~179. 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 MDNR prior to the pre-construction meeting, and requires the filing of any biological surveys or studies associated with the Project.

~~177.~~180. Due to Red Pine's refinement of the Project Area and commitment to avoid special resources 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

~~178.~~181. The Project will be located in southwest Minnesota, which is already home to numerous wind projects.

~~179.~~182. The Commission is responsible for siting of LWECS "in an orderly manner compatible with environmental preservation, sustainable development, and the efficient use of resources."[180]

~~180.~~183. Section 4.1 requires buffers from the perimeter of the property where Red Pine does not hold the wind rights.[181]

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[178] *Id.*at 88-89.
[179] *Id.* at 89.
[180] Minn. Stat. § 216F.03.
[181] Ex. 24 at Section 4.1 of Draft Site Permit (Order Issuing Draft Site Permit).

~~181.~~184. 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

~~182.~~185. Red Pine anticipates that 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.[182]

~~183.~~186. 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."[183] Red Pine believes that "the salvage value of the turbines and other components should ensure that sufficient funds will be available to pay for decommissioning and restoration costs."[184]

~~184.~~187. The Draft Site Permit contains several provisions relating to decommissioning and site restoration.

~~185.~~188. Section 11.1 of the Draft Site Permit requires Red Pine to submit a decommissioning plan to the Commission prior to the pre-operation meeting with updates every 5 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.[185]

~~186.~~189. 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, which agreement must be recorded showing all such foundations. 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, which agreement must be submitted to the Commission. The site must be restored within 18 months of termination.[186]

~~187.~~190. Red Pine must advise the Commission of any turbines abandoned prior to termination of Project operation. A turbine is considered abandoned after 1 year without energy production and the land restored pursuant to the Draft Site Permit, unless another plan is developed and submitted to the Commission.[187]

~~188.~~191. In addition to the requirements of the Draft Site Permit, Red Pine has a contractual obligation with landowners for remediation of the properties back to a condition comparable to that of the property prior to the installation of the wind project. Red Pine has outlined its approach to decommissioning and restoration, which will meet or exceed the

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182 Ex. 3 at 107 (Application).
183 *Id.*
184 *Id.*
185 Ex. 24 at Section 11.1 (Order Issuing Draft Site Permit).
186 *Id.* at Section 11.2.
187 *Id.* at Section 11.3.

requirements of the Draft Site Permit, including use of an independent administrator for decommissioning funds.[188]

~~189.~~192. The Draft Site Permit contains appropriate conditions to ensure proper decommissioning of the Project, and Red Pine has demonstrated that it will comply with these conditions.

W. Permit Conditions

~~190.~~193. 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 Project area.[189] Many of these conditions are discussed above.

~~191.~~194. The Order issuing the Draft Site Permit added additional requirements to the notice provisions of the Draft Site Permit. In particular, the Order amends Section 5.1 to require that Red Pine send a copy of complaint procedures in addition to the permit to the relevant government agencies, and adds the Lincoln County Environmental Office ("LCEO") to that list.[190] The Order also modifies Section 10.3 of the Draft Site Permit by adding the Department of Commerce 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 that the site plan is on file with the Commission and the LCEO, and requires that all of these agencies and individuals be notified in the event of a significant change to the site plan or if a turbine is to be relocated.[191]

~~192.~~195. On March 20, 2017, Red Pine provided its suggested changes to the Draft Site Permit. Those changes include: (1) several minor typographical and factual corrections, (2) a clarification to Section 7.1 (Biological and Natural Resources Inventories), and (3) a clarification and revision to Section 10.3 (Site Plan).

~~193.~~196. ~~[Insert any EERA comments]~~On March 27, 2017, EERA provided its suggested changes to the Applicant's Proposed FOF and Conclusions of Law, and Proposed Revisions of the Draft Site Permit. Additionally, EERA recommended suggested edits to Section 7.5.1 and Section 7.5.3 of the Draft Site Permit.

~~194.~~197. Any of the above Findings more properly designated as Conclusions of Law are hereby adopted as such.

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

CONCLUSIONS OF LAW

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188 Ex. 3 at 108 (Application).
189 Ex. 24 at 2 (Order Issuing Draft Site Permit).
190 *Id.*at 3.
191 *Id.* at 4.

1. The Commission and the Administrative Law Judge have jurisdiction over the site permit applied for by Red Pine for the ~~105~~200.1 MW proposed Project pursuant to Minn. Stat. § 216F.04.

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

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

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

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

6. It is reasonable and appropriate to amend the Draft Site Permit to include the (1) typographical and factual corrections agreed upon by the Applicant and EERA, (2) ~~clarification to Section 7.1 (Biological and Natural Resources Inventories)~~revisions to Section 7.5.1 (Avian and Bat Protection Plan) proposed by EERA, and (3) ~~clarification and~~ revision to Section ~~10.3~~7.5.3 (Immediate Incident Reporting) ~~(Site Plan) proposed by Red Pine~~ proposed by EERA.

7. The draft site permit contains a number of important mitigation measures and other reasonable conditions.

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, does not present a potential for significant adverse environmental effects pursuant to the Minnesota Environmental Rights Act and the Minnesota Environmental Policy Act.

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

RECOMMENDATION

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

IV. RED-LINE EDITS AND AMENDMENTS TO THE APPLICANT'S PROPOSED REVISIONS TO THE DRAFT SITE PERMIT

(Attached)

STATE OF MINNESOTA PUBLIC UTILITIES COMMISSION

SITE PERMIT FOR A
LARGE WIND ENERGY CONVERSION SYSTEM

IN
LINCOLN COUNTY, MINNESOTA

ISSUED TO
RED PINE WIND PROJECT, LLC

PUC DOCKET NO. IP-6646/WS-16-618

In accordance with the requirements of Minnesota Statutes Chapter 216F and Minnesota Rules Chapter 7854, this site permit is hereby issued to:

RED PINE WIND PROJECT, LLC

The Permittee is authorized by this site permit to construct and operate up to 200.1-megawatt nameplate capacity Large Wind Energy Conversion System in Lincoln County, Minnesota. The Large Wind Energy Conversion System and associated facilities shall be built within the site identified in this permit and as portrayed on the official site maps, and in compliance with the conditions specified in this permit.

This site permit shall expire thirty (30) years from the date of this approval.

Approved and adopted this _____ day of _____

BY ORDER OF THE COMMISSION

_____

Daniel P. Wolf,
Executive Secretary

CONTENTS

FIGURES

ATTACHMENTS

1.0 SITE PERMIT

The Minnesota Public Utilities Commission (Commission) hereby issues this site permit to -Red Pine Wind Project, LLC ~~Blazing Star Wind Farm, LLC~~ (Permittee) pursuant to Minnesota Statutes Chapter 216F and Minnesota Rules Chapter 7854. This permit authorizes ~~Blazing Star Wind Farm, LLC~~Red Pine Wind Project, LLC to construct and operate the Red Pine Wind Project (Project), a 200.1-megawatt (MW) nameplate capacity Large Wind Energy Conversion System (LWECS) and associated facilities in Lincoln County, Minnesota. The LWECS and associated facilities shall be built within the site identified in this permit and as identified in the attached site permit map(s), hereby incorporated into this document.

1.1 Preemption

Pursuant to Minn. Stat. § 216F.07, this permit shall be the sole site approval required for the location, construction, and operation of this project and this permit shall supersede and preempt all zoning, building, and land use rules, regulations, and ordinances adopted by regional, county, local, and special purpose governments.

2.0 PROJECT DESCRIPTION

The Red Pine Wind Project will be up to 200.1 MW LWECS, consisting of 58 to 100 wind turbines ranging in size from 2.0 to 3.45 MW. The LWECS will consist of the following turbine models: Vestas V100-2.0 MW and the Vestas V110-2.0 MW~~, Vestas, V117-3.3, Vestas V126-3.45 and Siemens SWT-2.3~~ as identified in the Permittee's Site Permit Application ~~as amended~~addendum filed February 1, 2017.

The initial project area included approximately 44,657 acres of land, of which the Project currently holds leases on 32,824 acres. Upon completion, the project site will include no more than 100 acres of land converted to wind turbines and associated facilities.

2.1 Associated Facilities

Associated facilities for the Project will include a project substation, an operation and maintenance building, turbine access roads, meteorological towers, underground communication and electrical collection lines, and a temporary staging/laydown construction area.

2.2 Project Location

The project is located in the following:

County	Township Name	Township	Range	Section
Lincoln	Ash Lake	111N	45W	5, 6, 12
Lincoln	Lake Stay	111N	44W	2-19, 21-28, 35, 36
Lincoln	Limestone	112N	44W	3-10, 13-36
Lincoln	Marble	113N	45W	36

Lincoln	Royal	112N	45W	1-3, ~~12, 13~~11-14, 23-24, ~~25, 35, 36~~26

3.0 DESIGNATED SITE

The site designated by the Commission in this permit is the site described below and shown on the site permit maps attached to this permit. Within the site permit boundary, the project and associated facilities shall be located on lands for which the permittee has obtained wind rights.

Upon completion, the total project site would be converted to wind turbine and associated infrastructure locations for a total of up to approximately 100 acres.

3.1 Turbine Layout

The preliminary wind turbine and associated facility layouts are shown on the official site maps attached to this permit. The preliminary layout represents the approximate location of wind turbines and associated facilities within the project boundary and identifies a layout that seeks to minimize the overall potential human and environmental impacts of the project, which were evaluated in the permitting process.

The final layout depicting the location of each wind turbine and associated facility shall be located within the project boundary. The project boundary serves to provide the Permittee with the flexibility to make minor adjustments to the preliminary layout to accommodate requests by landowners, local government units, federal and state agency requirements, and unforeseen conditions encountered during the detailed engineering and design process. Any modification to the location of a wind turbine and associated facility depicted in the preliminary layout shall be done in such a manner to have comparable overall human and environmental impacts and shall be specifically identified in the site plan pursuant to Section 10.3.

4.0 SETBACKS AND SITE LAYOUT RESTRICTIONS

4.1 Wind Access Buffer

Wind turbine towers shall not be placed less than five rotor diameters on the prevailing wind directions and three rotor diameters on the non-prevailing wind directions from the perimeter of the property where the Permittee does not hold the wind rights, without the approval of the Commission. This section does not apply to public roads and trails.

4.2 Residences

Wind turbine towers shall not be located closer than 1,000 feet from all residences or the distance required to comply with the noise standards pursuant to Minn. R. 7030.0040, established by the Minnesota Pollution Control Agency, whichever is greater.

4.3 Noise

The wind turbine towers shall be placed such that the Permittee shall, at all times, comply with noise standards established by the Minnesota Pollution Control Agency as of the date of this permit and at all appropriate locations. The noise standards are found in Minnesota Rules Chapter 7030. Turbine operation shall be modified or turbines shall be removed from service if necessary to comply with these noise standards. The Permittee or its contractor may install and operate turbines as close as the minimum setback required in this permit, but in all cases shall comply with Minnesota Pollution Control Agency noise standards. The Permittee shall be required to comply with this condition with respect to all homes or other receptors in place as of the time of construction, but not with respect to such receptors built after construction of the towers.

4.4 Roads

Wind turbines and meteorological towers shall not be located closer than 250 feet from the edge of the nearest public road right-of-way.

4.5 Public Lands

Wind turbines and associated facilities including foundations, access roads, underground cable, and transformers, shall not be located in public lands, including, but not limited to, Waterfowl Production Areas, State Wildlife Management Areas, Scientific and Natural Areas or county parks. Wind turbines towers shall also comply with the setbacks of Section 4.1.

4.6 Wetlands

Wind turbines and associated facilities including foundations, access roads, underground cable and transformers, shall not be placed in public waters wetlands, as shown on the public water inventory maps prescribed by Minnesota Statutes Chapter 103G, except that electric collector or feeder lines may cross or be placed in public waters or public waters wetlands subject to permits and approvals by the Minnesota Department of Natural Resources and the United States Army Corps of Engineers, and local units of government as implementers of the Minnesota Wetlands Conservation Act.

4.6.1 Calcearous Fens

Should any calcareous fens be identified within the project area, the Permittee must work with MN DNR to determine if any impacts will occur during any phase of the Project. If the project is anticipated to impact any calcareous fens, the Permittee must develop a Calcareous Fen Management Plan in coordination with the MN DNR, as specified in Minn. Stat. 103G.223. Should a Calcareous Fen Management Plan be required, the approved plan must be submitted to the Commission 30 days prior to submittal of the site plan required in Section 10.3 of this Permit.

4.7 Native Prairie

Wind turbines and associated facilities including foundations, access roads, collector and feeder lines, underground cable, and transformers shall not be placed in native prairie, as defined in Minn. Stat. § 84.02, subd. 5, unless addressed in a prairie protection and management plan and shall not be located in areas enrolled in the Native Prairie Bank Program. Construction activities, as defined in Minn. Stat. § 216E.01, shall not impact native prairie unless addressed in a prairie protection and management plan.

The Permittee shall prepare a prairie protection and management plan in consultation with the Minnesota Department of Natural Resources if native prairie, as defined in Minn. Stat. § 84.02, subd. 5, is identified within the site boundaries. The Permittee shall file the plan 30 days prior to submitting the site plan required by Section 10.3 of this permit. The plan shall address steps that will be taken to avoid impacts to native prairie and mitigation to unavoidable impacts to native prairie by restoration or management of other native prairie areas that are in degraded condition, by conveyance of conservation easements, or by other means agreed to by the Permittee, the Minnesota Department of Natural Resources, and the Commission.

4.8 Sand and Gravel Operations

Wind turbines and all associated facilities, including foundations, access roads, underground cable, and transformers shall not be located within active sand and gravel operations, unless otherwise negotiated with the landowner.

4.9 Wind Turbine Towers

Structures for wind turbines shall be self-supporting tubular towers. The towers may be up to 95 meters (312 feet) above grade measured at hub height.

4.10 Turbine Spacing

The turbine towers shall be constructed within the site boundary as shown in the official site maps. The turbine towers shall be spaced no closer than three rotor diameters in the non-prevailing wind directions and five rotor diameters on the prevailing wind directions. If required during final micro-siting of the turbine towers to account for topographic conditions, up to 20 percent of the towers may be sited closer than the above spacing but the Permittee shall minimize the need to site the turbine towers closer.

4.11 Meteorological Towers

Permanent towers for meteorological equipment shall be free standing. Permanent meteorological towers shall not be placed less than 250 feet from the edge of the nearest public road right-of-way and from the boundary of the Permittee's site control, or in compliance with the county ordinance regulating meteorological towers in the county the tower is built, whichever is more restrictive. Meteorological towers shall be placed on property the Permittee holds the wind or other development rights.

Meteorological towers shall be marked as required by the Federal Aviation Administration. There shall be no lights on the meteorological towers other than what is required by the Federal Aviation Administration. This restriction shall not apply to infrared heating devices used to protect the wind monitoring equipment.

All meteorological towers shall be fitted with the necessary equipment to install or attach acoustic recording devices to monitor wildlife activity.

4.12 Aviation

The Permittee shall not place wind turbines or associated facilities in a location that could create an obstruction to navigable airspace of public and private airports (as defined in Minn. R. 8800.0100, subp. 24(a) and 24(b)) in Minnesota, adjacent states, or provinces. The Permittee shall apply the minimum obstruction clearance for private airports pursuant to Minn. R. 8800.1900, subp. 5. Setbacks or other limitations shall be followed in accordance with the Minnesota Department of Transportation, Department of Aviation, and the Federal Aviation Administration. The Permittee shall notify owners of all known airports within six miles of the project prior to construction.

4.13 Footprint Minimization

The Permittee shall design and construct the project so as to minimize the amount of land that is impacted by the LWECS. Associated facilities located near turbines such as electrical/electronic boxes, transformers, and monitoring systems must, to the extent feasible, be mounted on the foundations used for turbine towers or inside the towers unless otherwise negotiated with the affected landowner.

5.0 GENERAL CONDITIONS

The Permittee shall comply with the following conditions during construction and operation of the LWECS and associated facilities over the life of this permit.

5.1 Notification

Within 14 days of permit issuance, the Permittee shall send a copy of the permit and the complaint procedures to any regional development commission, the Lincoln County Auditor, the Lincoln County Environmental Office, and city and township clerk in which any part of the site is located. Within 30 days of permit issuance, the Permittee shall provide all affected landowners with a copy of this permit and the complaint procedures. In no case shall the landowner receive this site permit and complaint procedures less than five days prior to the start of construction on their property. The Permittee shall contact landowners prior to entering the property or conducting maintenance within the site, unless otherwise negotiated with the affected landowner.

5.2 Construction and Operation Practices

The Permittee shall follow those specific construction practices, operation and maintenance practices, and material specifications described in the September 16, 2016 Site Permit Application as amended for a LWECS to the Commission ~~for a site permit for the Red Pine~~

~~Wind Project, dated September 16, 2016~~, and the record of the proceedings unless this permit establishes a different requirement.

5.2.1 Field Representative

The Permittee shall designate a field representative responsible for overseeing compliance with the conditions of this permit during construction of the project. This person shall be accessible by telephone or other means during normal business hours throughout site preparation, construction, cleanup, and restoration.

The Permittee shall file with the Commission the name, address, email, phone number, and emergency phone number of the field representative at least 14 days prior to commencing construction.

The Permittee shall provide the field representative's contact information to affected landowners, residents, local government units and other interested persons 14 days prior to commencing construction. The Permittee may change the field representative at any time upon notice to the Commission, affected landowners, residents, local government units and other interested persons.

5.2.2 Site Manager

The Permittee shall designate a site manager responsible for overseeing compliance with the conditions of this permit during the commercial operation and decommissioning phases of the project. This person shall be accessible by telephone or other means during normal business hours for the life of this permit.

The Permittee shall file with the Commission the name, address, email, phone number, and emergency phone number of the site manager at least 14 days prior to commercial operation of the facility. The Permittee shall provide the site manager's contact information to affected landowners, residents, local government units and other interested persons 14 days prior to commercial operation of the facility. The Permittee may change the site manager at any time upon notice to the Commission, affected landowners, residents, local government units and other interested persons.

5.2.3 Employee Training and Education of Permit Terms and Conditions

The Permittee shall inform all employees, contractors, and other persons involved in the construction and ongoing operation of the LWECS of the terms and conditions of this permit.

5.2.4 Topsoil Protection

The Permittee shall implement measures to protect and segregate topsoil from subsoil on all lands unless otherwise negotiated with the affected landowner.

5.2.5 Soil Compaction

The Permittee shall implement measures to minimize soil compaction of all lands during all phases of the project's life and shall confine compaction to as small an area as practicable.

5.2.6 Soil Erosion and Sediment Control

The Permittee shall implement those erosion prevention and sediment control practices recommended by the Minnesota Pollution Control Agency (MPCA) Construction Stormwater Program.

The Permittee shall implement reasonable measures to minimize erosion and sedimentation during construction and shall employ perimeter sediment controls, protect exposed soil by promptly planting, seeding, using erosion control blankets and turf reinforcement mats, stabilizing slopes, protecting storm drain inlets, protecting soil stockpiles, and controlling vehicle tracking. Contours must be graded as required such that all surfaces provide for proper drainage, blend with the natural terrain, and are left in a condition that will facilitate re-vegetation and prevent erosion. All areas disturbed during construction of the facilities shall be returned to pre-construction conditions.

If construction of the facility disturbs more than one acre of land, or is sited in an area designated by the MPCA as having potential for impacts to water resources, the Permittee shall 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.

5.2.7 Wetlands

Construction in wetland areas shall occur during frozen ground conditions to minimize impacts, to the extent feasible. When construction during winter is not possible, wooden or composite mats shall be used to protect wetland vegetation. Soil excavated from the wetlands and riparian areas shall be contained and managed in accordance with all applicable wetland permits. Wetlands and riparian areas shall be accessed using the shortest route possible in order to minimize travel through wetland areas and prevent unnecessary impacts.

Wetland and water resource areas disturbed by construction activities shall be restored to pre-construction conditions. Restoration of the wetlands will be performed by Permittee in accordance with the requirements of applicable state and federal permits or laws and landowner agreements.

5.2.8 Vegetation Management

The Permittee shall disturb or clear the site only to the extent necessary to assure suitable access for construction, safe operation and maintenance of the project.

The Permittee shall minimize the number of trees to be removed in selecting the site layout specifically preserving to the maximum extent practicable windbreaks, shelterbelts, living snow

fences, and vegetation, to the extent that such actions do not violate sound engineering principles.

5.2.9 Application of Pesticides

The Permittee shall restrict pesticide use to those pesticides and methods of application approved by the Minnesota Department of Agriculture, Minnesota Department of Natural Resources, and the U.S. Environmental Protection Agency. Selective foliage or basal application shall be used when practicable. All pesticides shall be applied in a safe and cautious manner so as not to damage adjacent properties including crops, orchards, tree farms, apiaries, or gardens. The Permittee shall contact the landowner or designee to obtain approval for the use of pesticide at least 14 days prior to any application on their property. The landowner may request that there be no application of pesticides on any part of the site within the landowner's property. The Permittee shall provide notice of pesticide application to affected landowners, and known beekeepers operating apiaries within three miles of the project site at least 14 days prior to such application.

5.2.10 Invasive Species

The Permittee shall develop an Invasive Species Prevention Plan to prevent the introduction or spread of invasive species on lands disturbed by Project construction activities. This requirement may be included as an element of the Soil Erosion and Sediment Control Plan.

5.2.11 Noxious Weeds

The Permittee shall take all reasonable precautions against the spread of noxious weeds during all phases of construction. When utilizing seed to establish temporary and permanent vegetative cover on exposed soil the Permittee shall select site appropriate seed certified to be free of noxious weeds. The Permittee shall consult with landowners on the selection and use of seed for replanting.

5.2.12 Public Roads

At least 14 days prior to the pre-construction meeting, the Permittee shall identify all state, county, or township roads that will be used for the project and shall notify the Commission and the state, county, or township governing body having jurisdiction over the roads to determine if the governmental body needs to inspect the roads prior to use of these roads. Where practical, existing roadways shall be used for all activities associated with the project. Where practical, all-weather roads shall be used to deliver cement, turbines, towers, assembled nacelles, and all other heavy components to and from the turbine sites.

The Permittee shall prior to the use of such roads, make satisfactory arrangements with the appropriate state, county, or township governmental body having jurisdiction over roads to be used for construction of the project, for maintenance and repair of roads that may be subject to increased impacts due to transportation of equipment and project components. The Permittee shall notify the Commission of such arrangements upon request.

5.2.13 Turbine Access Roads

The Permittee shall construct the least number of turbine access roads necessary to safely and efficiently operate the project and satisfy landowner requests. Access roads shall be low profile roads so that farming equipment can cross them and shall be covered with Class 5 gravel or similar material. Access roads shall not be constructed across streams and drainage ways without required permits and approvals. When access roads are constructed across streams and drainage ways, the access roads shall be designed and constructed in a manner so runoff from the upper portions of the watershed can readily flow to the lower portion of the watershed. Any access roads that are constructed across streams shall be designed and constructed in a manner that maintains existing fish passage. Access roads shall be constructed in accordance with all necessary township, county or state road requirements and permits.

5.2.14 Private Roads

The Permittee shall promptly repair private roads or lanes damaged when moving equipment or when obtaining access to the site, unless otherwise negotiated with the affected landowner.

5.2.15 Archaeological and Historic Resources

The Permittee shall make every effort to avoid impacts to identified archaeological and historic resources when constructing the LWECS. In the event that a resource is encountered, the Permittee shall contact and consult with the State Historic Preservation Office and the State Archaeologist. Where feasible, avoidance of the resource is required. Where not feasible, mitigation must include an effort to minimize project impacts on the resource consistent with State Historic Preservation Office and State Archaeologist requirements.

Prior to construction, workers shall be trained about the need to avoid cultural properties, how to identify cultural properties, and procedures to follow if undocumented cultural properties, including gravesites, are found during construction. If human remains are encountered during construction, the Permittee shall immediately halt construction at such location, and promptly notify local law enforcement and the State Archaeologist. Construction at such location shall not proceed until authorized by local law enforcement or the State Archaeologist.

5.2.16 Interference

At least 14 days prior to the pre-construction meeting, the Permittee shall submit to the Commission, an assessment of television and radio signal reception, microwave signal patterns, and telecommunications in the project area. The assessment shall be designed to provide data that can be used in the future to determine whether the turbines and associated facilities are the cause of disruption or interference of television or radio reception, microwave patterns, or telecommunications in the event residents should complain about such disruption or interference after the turbines are placed in operation. The Permittee shall be responsible for alleviating any disruption or interference of these services caused by the turbines or any associated facilities.

The Permittee shall not operate the project so as to cause microwave, television, radio, telecommunications, or navigation interference in violation of Federal Communications

Commission regulations or other law. In the event the project or its operations cause such interference, the Permittee shall take timely measures necessary to correct the problem.

5.2.17 Livestock Protection

The Permittee shall take precautions to protect livestock during all phases of the project's life.

5.2.18 Fences

The Permittee shall promptly replace or repair all fences and gates removed or damaged during all phases of the project's life unless otherwise negotiated with the affected landowner. When the Permittee installs a gate where electric fences are present, the Permittee shall provide for continuity in the electric fence circuit.

5.2.19 Drainage Tiles

The Permittee shall take into account, avoid, promptly repair or replace all drainage tiles broken or damaged during all phases of project's life unless otherwise negotiated with affected landowners. The Permittee shall notify the Commission of such arrangements upon request.

5.2.20 Equipment Storage

The Permittee shall not locate temporary equipment staging areas on lands under its control unless negotiated with affected landowner. Temporary equipment staging areas shall not be located in wetlands or native prairie as defined in Sections 4.6 and 4.7.

5.2.21 Restoration

The Permittee shall, as soon as practical following construction of each turbine, restore the areas temporarily affected by construction to the condition that existed immediately before construction began to the extent possible. The time period to complete restoration may be no longer than 12 months after completion of the construction, unless otherwise negotiated with the affected landowner. Restoration shall be compatible with the safe operation, maintenance and inspection of the project. Within 60 days after completion of all restoration activities, the Permittee shall advise the Commission in writing of the completion of such activities.

5.2.22 Cleanup

All waste and scrap that is the product of construction shall be removed from the site and all premises on which construction activities were conducted and properly disposed of upon completion of each task. Personal litter, including bottles, cans, and paper from construction activities shall be removed on a daily basis.

5.2.23 Pollution and Hazardous Waste

All appropriate precautions to protect against pollution of the environment shall be taken by the Permittee. The Permittee shall be responsible for compliance with all laws applicable to the

generation, storage, transportation, clean up and disposal of all wastes generated during construction and restoration of the site.

5.2.24 Damages

The Permittee shall fairly restore or compensate landowners for damage to crops, fences, private roads and lanes, landscaping, drain tile, or other damages sustained during construction.

5.2.25 Public Safety

The Permittee shall provide educational materials to landowners adjacent to the site and, upon request, to interested persons about the project and any restrictions or dangers associated with the project. The Permittee shall also provide any necessary safety measures such as warning signs and gates for traffic control or to restrict public access. The Permittee shall submit the location of all underground facilities, as defined in Minn. Stat. § 216D.01, subd. 11, to Gopher State One Call following the completion of construction at the site.

5.2.26 Tower Identification

All turbine towers shall be marked with a visible identification number. 5.2.27 Federal Aviation Administration Lighting

Towers shall be marked as required by the Federal Aviation Administration. There shall be no lights on the towers other than what is required by the Federal Aviation Administration. This restriction shall not apply to infrared heating devices used to protect the wind monitoring equipment.

5.3 Communication Cables

The Permittee shall place all communication and supervisory control and data acquisition cables underground and within or adjacent to the land necessary for turbine access roads unless otherwise negotiated with the affected landowner.

5.4 Electrical Collector and Feeder Lines

Collector lines that carry electrical power from each individual transformer associated with a wind turbine to an internal project interconnection point shall be buried underground. Collector lines shall be placed within or adjacent to the land necessary for turbine access roads unless otherwise negotiated with the affected landowner.

Feeder lines that carry power from an internal project interconnection point to the project substation or interconnection point on the electrical grid may be overhead or underground. Feeder line locations shall be negotiated with the affected landowner. Any overhead or underground feeder lines that parallel public roads shall be placed within the public rights-of-way or on private land immediately adjacent to public roads. If overhead feeder lines are located within public rights-of-way, the Permittee shall obtain approval from the governmental unit responsible for the affected right-of-way.

Collector and feeder line locations shall be located in such a manner as to minimize interference with agricultural operations including, but not limited, to existing drainage patterns, drain tile, future tiling plans, and ditches. Safety shields shall be placed on all guy wires associated with overhead feeder lines. The Permittee shall submit the engineering drawings of all collector and feeder lines in the site plan pursuant to Section 10.3.

5.5 Other Requirements

5.5.1 Safety Codes and Design Requirements

The LWECS and associated facilities shall be designed to meet or exceed all relevant local and state codes, Institute of Electrical and Electronics Engineers, Inc. standards, the National Electric Safety Code, and North American Electric Reliability Corporation requirements. The Permittee shall report to the Commission on compliance with these standards upon request.

5.5.2 Other Permits and Regulations

The Permittee shall comply with all applicable state rules and statutes. The Permittee shall obtain all required permits for the project and comply with the conditions of those permits unless those permits conflict with or are preempted by federal or state permits and regulations. A list of the permits known to be required is included in the permit application. The Permittee shall file documentation showing approval or issuance of such permits to the Commission.

The Permittee shall comply with all terms and conditions of permits or licenses issued by federal or state authorities including, but not limited to, the requirements of the MPCA (Section 401 Water Quality Certification, NPDES/ SDS stormwater permit for construction activity, and other site specific discharge approvals), DNR (License to Cross Public Lands and Water, Public Water Works Permit, and state protected species consultation), SHPO (Section 106 Historic Consultation Act), FAA determinations, and Mn/DOT (Utility Access Permit, Highway Access Permit, Oversize and Overweight Permit, and Aeronautics Airspace Obstruction Permit).

The Permittee shall consult with the United States Fish and Wildlife Service (USFWS) to determine if an Eagle Incidental Take Permit under the Bald and Golden Eagle Protection Act (BGEPA) is appropriate for the construction and operation of the wind energy facility. The Permittee shall consult with the USFWS to determine if an Incidental Take Permit under the Endangered Species Act (ESA) is appropriate for the construction and operation of the wind energy facility. All consultation with, and recommendations provided by the USFWS, shall be included in the ABBP filed with the Commission.

The Permittee shall comply with all terms and conditions of permits or licenses issued by the counties, cities, and municipalities affected by the project that do not conflict with or are not pre-empted by federal or state permits and regulations.

6.0 6.0 SPECIAL CONDITIONS

Special conditions shall take precedence over other conditions of this permit should there be a conflict.

6.1 Scenic Byways

The Permittee shall coordinate with Mn/DOT and Lincoln County Promotion and Tourism, or another designated local stakeholder, to identify project related impacts to The King of Trails Scenic Byway (U.S. Highway 75). The Permittee will work to avoid impacts to the Scenic Byway; and mitigation strategies for unavoidable impacts must be developed in coordination with Mn/DOT, the local stakeholder group, and Department of Commerce.

6.2 Operational Phase Fatality Monitoring

The Permittee shall utilize a qualified third party to conduct two full years of avian and bat fatality monitoring following the commencement of the operational phase of the project. Monitoring activities and results will be coordinated directly with MN DNR, USFWS, and the Commission. Detailed monitoring protocols, agency coordination, and any avoidance and minimization measures will be detailed in the project's ABPP.

7.0 SURVEYS AND REPORTING

7.1 Biological and Natural Resource Inventories

The Permittee, in consultation with the Commission and Minnesota Department of Natural Resources, shall design and conduct pre-construction 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 ~~construction corridors~~ and assess the presence of state- or federally-listed or threatened species. The results of the inventories shall be filed with the Commission at least 30 days prior to the pre-construction meeting to confirm compliance of conditions in this permit.

The Permittee shall file with the Commission, any biological surveys or studies conducted on this project, including those not required under this permit.

7.2 Shadow Flicker

At least 14 days prior to the pre-construction meeting, the Permittee shall provide data on shadow flicker for each residence of non-participating landowners and participating landowners within and outside of the project boundary subject to exposure to turbine shadow flicker.

Information shall include the results of modeling used, assumptions made, and the anticipated levels of exposure from turbine shadow flicker for each residence. The Permittee shall provide documentation on its efforts to avoid, minimize and mitigate shadow flicker exposure. The results of any modeling shall be filed with the Commission at least 14 days prior to the pre-construction meeting to confirm compliance with conditions of this permit.

7.3 Wake Loss Studies

At least 14 days prior to the pre-construction meeting, the Permittee shall file with the

Commission the pre-construction micro-siting analysis leading to the final tower locations and an estimate of total project wake losses. As part of the annual report on project energy production required under Section 10.8 of the permit the Permittee shall file with the Commission any operational wake loss studies conducted on this project during the calendar year preceding the report.

7.4 Noise

The Permittee must file a proposed methodology for the conduct of a post-construction noise study at least 14 days prior to the pre-construction meeting. The Permittee shall develop the post-construction noise study methodology in consultation with the Department of Commerce. The study must incorporate the Department of Commerce Noise Study Protocol to determine the operating LWECS noise levels at different frequencies and at various distances from the turbines at various wind directions and speeds. The Permittee must conduct the post-construction noise study and file with the Commission the completed post-construction noise study within 18 months of commencing commercial operation.

7.5 Avian and Bat Protection

7.5.1 Avian and Bat Protection Plan

The Permittee shall comply with the provisions of their ~~final updated~~ most recent version of the avian and bat protection plan (ABPP) submitted for this project on [date to be determined] ~~March 2, 2017~~, and revisions resulting from the annual audit of ABPP implementation. The ABPP must address steps to be taken to identify and mitigate impacts to avian and bat species during the construction phase and the operation phase of the project. The ABPP shall also include formal and incidental post-construction fatality monitoring, training, wildlife handling, documentation (e.g., photographs), and reporting protocols for each phase of the project.

The Permittee shall, by the 15th of March following each complete or partial calendar year of operation, file with the Commission an annual report detailing findings of its annual audit of ABPP practices. The annual report shall include summarized and raw data of bird and bat fatalities and injuries and shall include bird and bat fatality estimates for the project using agreed upon estimators from the prior calendar year. The annual report shall also identify any deficiencies or recommended changes in the operation of the project or in the ABPP to reduce avian and bat fatalities and shall provide a schedule for implementing the corrective or modified actions. The Permittee shall provide a copy of the report to the Minnesota Department of Natural Resources and to the U.S. Fish and Wildlife Service at the time of filing with the Commission.

7.5.2 Quarterly Incident Reports

The Permittee shall submit quarterly avian and bat reports to the Commission. Quarterly reports are due by the 15th of January, April, July, and October commencing the day following commercial operation and terminating upon the expiration of this permit. Each report shall identify any dead or injured avian and bat species, location of find by turbine number, and date of find for the reporting period in accordance with the reporting protocols. If a dead or injured avian or bat species is found, the report shall describe the potential cause of the occurrence (if known) and the steps taken to address future occurrences. The Permittee shall provide a copy of

the report to the Minnesota Department of Natural Resources and to the U.S. Fish and Wildlife Service at the time of filing with the Commission.

7.5.3 Immediate Incident Reports

The Permittee shall notify the Commission, U.S. Fish and Wildlife Service, and the Minnesota Department of Natural Resources within 24 hours of the discovery of any of the following:

(a) five or more dead or injured birds or bats within a five (5) reporting period;

(b) one or more dead or injured state threatened, endangered, or species of special concern;

(c) one or more dead or injured federally listed species, including species proposed for listings; or

(d) one or more dead or injured bald or golden eagle(s).

In the event that one of the four discoveries listed above, should be made, the Permittee must file, within seven (7) days, with the Commission a compliance report identifying the details of what was discovered, the turbine where the discovery was made, a detailed log of agencies and individuals contacted, and current plans being undertaken to address the issue.

7.5.4 Turbine Operation Curtailment Requirements

All operating turbines at the facility must be equipped and operated with software enabling adjustment of turbine cut-in speeds. The Permittee shall operate all facility turbines so that all turbines are programmed to be locked or feathered at wind speeds up to the manufacturer's standard cut-in speed, from one-half hour before sunset to one-half hour after sunrise, from April 1 to October 31 of each year of operation through the life of the project.

8.0 AUTHORITY TO CONSTRUCT LWECS

8.1 Wind Rights

At least 14 days prior to the pre-construction meeting, the Permittee shall demonstrate that it has obtained the wind rights and any other rights necessary to construct and operate the project within the boundaries authorized by this permit.

Nothing in this permit shall be construed to preclude any other person from seeking a permit to construct a wind energy conversion system in any area within the boundaries of the project covered by this permit if the Permittee does not hold exclusive wind rights for such areas.

8.2 Power Purchase Agreement

In the event the Permittee does not have a power purchase agreement or some other enforceable mechanism for sale of the electricity to be generated by the project at the time this permit is issued, the Permittee shall provide notice to the Commission when it obtains a commitment for

purchase of the power. This permit does not authorize construction of the project until the Permittee has obtained a power purchase agreement or some other enforceable mechanism for sale of the electricity to be generated by the project. In the event the Permittee does not obtain a power purchase agreement or some other enforceable mechanism for sale of the electricity to be generated by the project within two years of the issuance of this permit, the Permittee must advise the Commission of the reason for not having such commitment. In such event, the Commission may determine whether this permit should be amended or revoked. No amendment or revocation of this permit may be undertaken except in accordance with Minn. R. 7854.1300.

8.3 Failure to Commence Construction

If the Permittee has not completed the pre-construction surveys required under this permit and commenced construction of the project within two years of the issuance of this permit, the Permittee must advise the Commission of the reason construction has not commenced. In such event, the Commission shall make a determination as to whether this permit should be amended or revoked. No revocation of this permit may be undertaken except in accordance with applicable statutes and rules, including Minn. R. 7854.1300.

9.0 COMPLAINT PROCEDURES

Prior to the start of construction, the Permittee shall submit to the Commission the procedures that will be used to receive and respond to complaints. The procedures shall be in accordance with the requirements of Minn. R. 7829.1500 or Minn. R. 7829.1700, and as set forth in the complaint procedures attached to this permit.

10.0 COMPLIANCE REQUIREMENTS

Failure to timely and properly make compliance filings required by this permit is a failure to comply with the conditions of this permit. Compliance filings must be electronically filed with the Commission. Attachment B to this permit contains a summary of compliance filings, which is provided solely for the convenience of the Permittee. If this permit conflicts, or is not consistent with Attachment B, the conditions in this permit will control.

10.1 Pre-Construction Meeting

Prior to the start of any construction, the Permittee shall participate in a pre-construction meeting with the Department of Commerce and Commission staff to review pre-construction filing requirements, scheduling, and to coordinate monitoring of construction and site restoration activities. Within 14 days following the pre-construction meeting, the Permittee shall file with the Commission, a summary of the topics reviewed and discussed and a list of attendees. The Permittee shall indicate in the filing the construction start date.

10.2 Pre-Operation Meeting

At least 14 days prior to commercial operation of the facility, the Permittee shall participate in a pre-operation meeting with the Department of Commerce and Commission staff to coordinate field monitoring of operation activities for the project. Within 14 days following the pre-

operation meeting, the Permittee shall file with the Commission, a summary of the topics reviewed and discussed and a list of attendees.

10.3 Site Plan

At least 14 days prior to the pre-construction meeting, the Permittee shall provide the Commission, the Department of Commerce and the Lincoln County Environmental Office with a site plan that includes specifications and drawings for site preparation and grading; specifications and locations of all turbines and other structures to be constructed including all electrical equipment, collector and feeder lines, pollution control equipment, fencing, roads, and other associated facilities; and procedures for cleanup and restoration. The documentation shall include maps depicting the site boundary and layout in relation to that approved by this permit. The Permittee shall document, through GIS mapping, compliance with the setbacks and site layout restrictions required by this permit, including compliance with the noise standards pursuant to Minnesota Rules Chapter 7030. At the same time, the Permittee shall notify the affected landowners and city and town clerks that the site plan is on file with the Commission and the Lincoln County Office.

The Permittee may submit a site plan and engineering drawings for only a portion of the project if the Permittee intends to commence construction on certain parts of the project before completing the site plan and engineering drawings for other parts of the project.

The Permittee may not commence construction until the 30 days has expired or until ~~the earlier of 7 days following the pre-construction meeting or~~ the ~~date on which the~~ Commission has advised the Permittee in writing that it has completed its review of the documents and determined that the planned construction is consistent with this permit. If the Permittee intends to make any significant changes to its site plan or the specifications and drawings after submission to the Commission, the Permittee shall notify the Commission, the Department of Commerce, the Lincoln County Environmental Office and the affected landowners, city and town clerks at least five days before implementing the changes. No changes shall be made that would be in violation of any of the terms of this permit.

In the event that previously unidentified environmental conditions are discovered during construction that by law or pursuant to conditions outlined in this permit would preclude the use of that site as a turbine site, the Permittee shall have the right to move or relocate the turbine site. Under these circumstances, the Permittee shall notify the Commission, the MPCA, DNR, Department of Commerce, the Lincoln County Environmental Office and the affected landowners, city and town clerks of any turbines that are to be relocated, the previously unidentified environmental conditions and how the movement of the turbine mitigates the environmental impact at least five days before implementing the changes. No changes shall be made that would be in violation of any of the terms of this permit.

10.4 Status Reports

The Permittee shall file with the Commission staff on progress regarding site construction. The Permittee need not report more frequently than monthly.

10.5 Notification to the Commission

At least three days before the project is to commence commercial operation, the Permittee shall file with the Commission the date on which the project will commence commercial operation and the date on which construction was completed.

10.6 As-Builts

Within 60 days after completion of construction, the Permittee shall submit to the Commission, copies of all final as-built plans and specifications developed during the project.

10.7 GPS Data

Within 60 days after completion of construction, the Permittee shall submit to the Department of Commerce, in the format requested by the Department of Commerce, geo-spatial information (e.g., ArcGIS compatible map files, GPS coordinates, associated database of characteristics) for all structures associated with the LWECS.

10.8 Project Energy Production

The Permittee shall, by February 1st following each complete or partial year of project operation, file a report with the Commission on the monthly energy production of the project including:

(a) the installed nameplate capacity of the permitted project;

(b) the total monthly energy generated by the project in MW hours;

(c) the monthly capacity factor of the project;

(d) yearly energy production and capacity factor for the project;

(e) the operational status of the project and any major outages, major repairs, or turbine performance improvements occurring in the previous year; and

(f) any other information reasonably requested by the Commission.

This information shall be considered public and must be filed electronically.

10.9 Wind Resource Use

The Permittee shall, by February 1st following each complete or partial calendar year of operation, file with the Commission the average monthly and average annual wind speed collected at one permanent meteorological tower during the preceding year or partial year of operation. This information shall be considered public and must be filed electronically.

10.10 Emergency Response

The Permittee shall prepare an Emergency Response Plan in consultation with the emergency responders having jurisdiction over the facility prior to project construction. The Permittee shall

submit a copy of the plan, along with any comments from emergency responders, to the Commission at least 14 days prior to the pre-construction meeting and a revised plan, if any, at least 14 days prior to the pre-operation meeting. The Permittee shall provide as a compliance filing confirmation that the Emergency Response Plan was provided to the emergency responders and Public Safety Answering Points (PSAP) with jurisdiction over the facility prior to commencement of construction. The Permittee shall obtain and register the facility address or other location indicators acceptable to the emergency responders and PSAP having jurisdiction over the facility.

10.11 Extraordinary Events

Within 24 hours of discovery of an occurrence, the Permittee shall notify the Commission of any extraordinary event. Extraordinary events include but shall not be limited to: fires, tower collapse, thrown blade, acts of sabotage, collector or feeder line failure, and injured worker or private person. The Permittee shall, within 30 days of the occurrence, file a report with the Commission describing the cause of the occurrence and the steps taken to avoid future occurrences.

11.0 DECOMMISSIONING, RESTORATION, AND ABANDONMENT

11.1 Decommissioning Plan

The Permittee shall submit a decommissioning plan to the Commission at least fourteen 14 days prior to the pre-operation meeting, and provide updates to the plan every five (5) years thereafter. The plan shall provide information identifying all surety and financial securities established for decommissioning and site restoration of the Project in accordance with the requirements of Minn. R. 7854.0500, subpart 13. The decommissioning plan shall provide an itemized breakdown of costs of decommissioning all project components, which shall include labor and equipment. The plan shall identify cost estimates for the removal of turbines, turbine foundations, underground collection cables, access roads, crane pads, substation(s), and other project components. The plan may also include anticipated costs for the replacement of turbines or repowering the project by upgrading equipment.

The Permittee shall also submit the decommissioning plan to the local unit of government having direct zoning authority over the area in which the project is located. The Permittee shall ensure that it carries out its obligations to provide for the resources necessary to fulfill its requirements to properly decommission the project at the appropriate time. The Commission may at any time request the Permittee to file a report with the Commission describing how the Permittee is fulfilling this obligation.

11.2 Site Restoration

Upon expiration of this permit, or upon earlier termination of operation of the project, or any turbine within the project, the Permittee shall have the obligation to 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. Any agreement for removal to a lesser depth or no removal shall be recorded with the county and shall show the locations of all such foundations. To the extent feasible, the Permittee shall restore and reclaim

the site to its pre-project topography and topsoil quality. All access roads shall be removed unless written approval is given by the affected landowner requesting that one or more roads, or portions thereof, be retained. All such agreements between the Permittee and the affected landowner shall be submitted to the Commission prior to completion of restoration activities. The site shall be restored in accordance with the requirements of this condition within 18 months of termination.

11.3 Abandoned Turbines

The Permittee shall advise the Commission of any turbines that are abandoned prior to termination of operation of the project. The project, or any turbine within the project, shall be considered abandoned after one (1) year without energy production and the land restored pursuant to Section 11.2 unless a plan is developed and submitted to the Commission outlining the steps and schedule for returning the project, or any turbine within the project, to service.

12.0 COMMISSION AUTHORITY AFTER PERMIT ISSUANCE

12.1 Final Boundaries

After completion of construction, the Commission shall determine the need to adjust the final boundaries of the site required for this project in accordance with Minn. R. 7854.1300, subp. 1.

12.2 Expansion of Site Boundaries

No expansion of the site boundaries described in this permit shall be authorized without the approval of the Commission. The Permittee may submit to the Commission a request for a change in the boundaries of the site for the project. The Commission will respond to the requested change in accordance with applicable statutes and rules.

12.3 Periodic Review

The Commission shall initiate a review of this permit and the applicable conditions at least once every five years. The purpose of the periodic review is to allow the Commission, the Permittee, and other interested persons an opportunity to consider modifications in the conditions of this permit. No modification may be made except in accordance with applicable statutes and rules.

12.4 Modification of Conditions

After notice and opportunity for hearing, this permit may be modified or amended for cause, including but not limited to the following:

(a) violation of any condition in this permit;

(b) endangerment of human health or the environment by operation of the project; or

(c) existence of other grounds established by rule.

12.5 More Stringent Rules

The Commission's issuance of this permit does not prevent the future adoption by the Commission of rules or orders more stringent than those now in existence and does not prevent the enforcement of these more stringent rules and orders against the Permittee.

12.6 Right of Entry

Upon reasonable notice, presentation of credentials, and at all times in compliance with the Permittee's site safety standards, the Permittee shall allow representatives of the Commission to perform the following:

(a) to enter upon the facilities easement of the site property for the purpose of obtaining information, examining records, and conducting surveys or investigations;

(b) to bring such equipment upon the facilities easement of the property as is necessary to conduct such surveys and investigations;

(c) to sample and monitor upon the facilities easement of the property; and

(d) to examine and copy any documents pertaining to compliance with the conditions of this permit.

12.7 Proprietary Information

Certain information required to be filed with the Commission under this permit may constitute trade secret information or other type of proprietary information under the Data Practices Act or other law. The Permittee must satisfy requirements of applicable law to obtain the protection afforded by the law.

13.0 PERMIT AMENDMENT

The Commission may amend this permit at any time if the Commission has good cause to do so, in accordance with Minn. R. 7854.1300, Subp. 2.

Any person may request an amendment of the conditions of this permit by submitting a request to the Commission in writing describing the amendment sought and the reasons for the amendment. The Commission will mail notice of receipt of the request to the Permittee. The Commission may amend the conditions after affording the Permittee and interested persons such process as is required.

14.0 TRANSFER OF PERMIT AND NOTICE OF OWNERSHIP CHANGE

The Permittee may not transfer this permit without the approval of the Commission. If the Permittee desires to transfer this permit, the holder shall advise the Commission in writing of such desire. The Permittee shall provide the Commission with such information about the

transfer as the Commission requires in order to reach a decision. The Commission may impose additional conditions on any new Permittee as part of the approval of the transfer.

Within 20 days after the date of the notice provided in Section 10.6, the Permittee shall file a notice describing its ownership structure, identifying, as applicable:

(a) the owner(s) of the financial and governance interests of the Permittee;

(b) the owner(s) of the majority financial and governance interests of the Permittee's owners; and

(c) the Permittee's ultimate parent entity (meaning the entity which is not controlled by any other entity).

The Permittee shall notify the Commission of:

(a) a change in owner(s) of the majority* financial or governance interests in the Permittee;

(b) a change in owner(s) of the majority* interest financial or governance interests of the Permittee's owners, or,

(c) a sale which changes the parent entity of the Permittee.

**When there are only co-equal 50/50 percent interests, any change shall be considered a change in majority interest.*

The Permittee shall notify the Commission of:

(a) the sale of a parent entity or a majority interest in the Permittee,

(b) the sale of a majority interest of the Permittee's owners or majority interest of the owners, or,

(c) a sale which changes the entity with ultimate control over the Permittee.

15.0 REVOCATION OR SUSPENSION OF PERMIT

The Commission may take action to suspend or revoke this permit upon the grounds that:

(a) a false statement was knowingly made in the application or in accompanying statements or studies required of the Permittee, and a true statement would have warranted a change in the Commission's findings;

(b) there has been a failure to comply with material conditions of this permit, or there has been a failure to maintain health and safety standards;

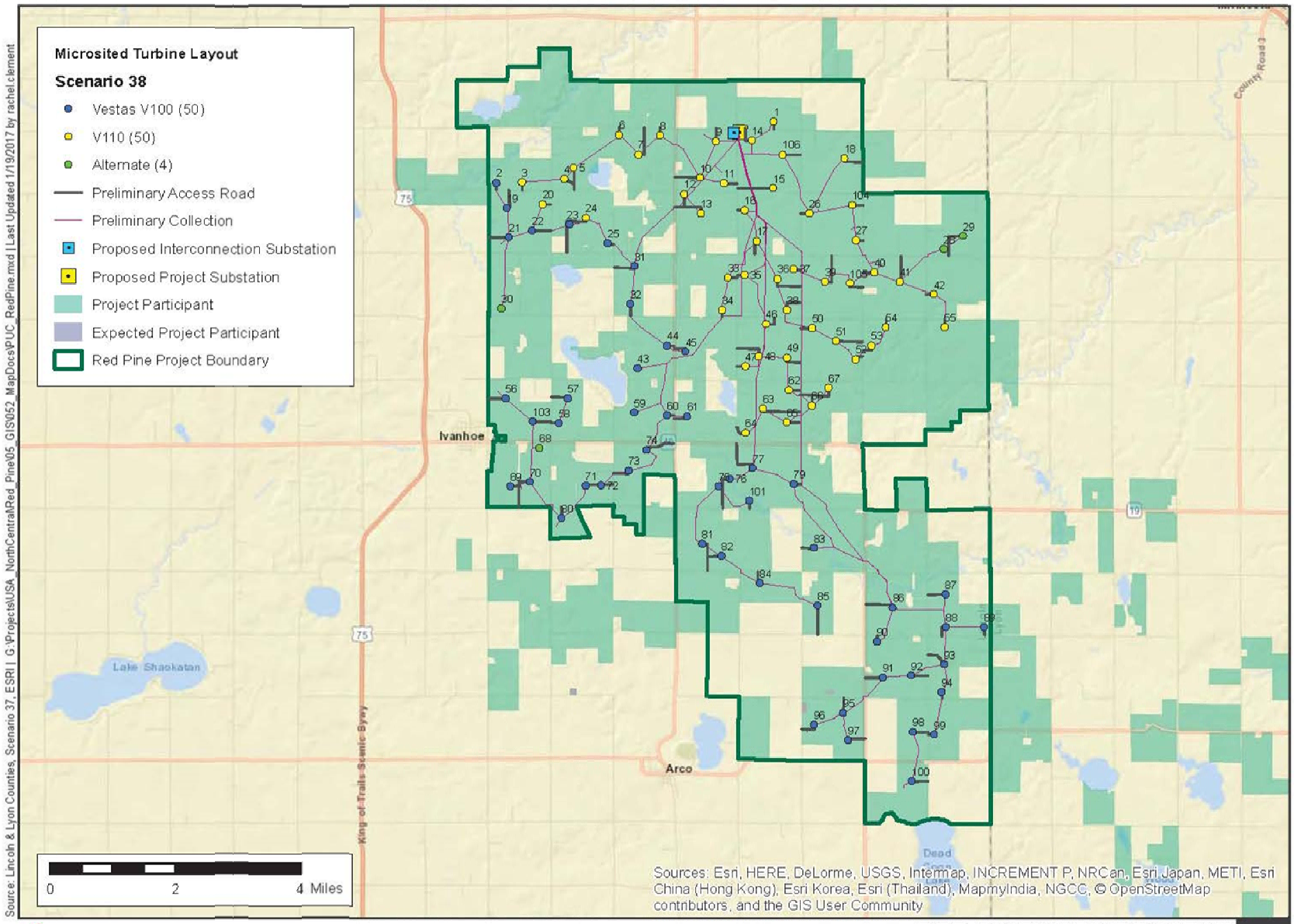
(c) there has been a material violation of a provision of an applicable statute, rule, or an order of the Commission; or

(d) the Permittee has filed a petition with the Commission requesting that the permit be revoked or terminated.

In the event the Commission determines that it is appropriate to consider revocation or suspension of this permit, the Commission shall proceed in accordance with the requirements of Minn. R. 7854.1300 to determine the appropriate action. Upon a finding of any of the above, the Commission may require the Permittee to undertake corrective measures in lieu of having this permit suspended or revoked.

16.0 EXPIRATION DATE

This permit shall expire 30 years after the date this permit was approved and adopted.



edf renewable energy

RED PINE WIND PROJECT
Lincoln County, Minnesota

F-1

MINNESOTA PUBLIC UTILITIES COMMISSION
COMPLAINT HANDLING PROCEDURES FOR
PERMITTED ENERGY FACILITIES

A. Purpose

To establish a uniform and timely method of reporting and resolving complaints received by the permittee concerning permit conditions for site preparation, construction, cleanup, restoration, operation, and maintenance.

B. Scope

This document describes complaint reporting procedures and frequency.

C. Applicability

The procedures shall be used for all complaints received by the permittee and all complaints received by the Minnesota Public Utilities Commission (Commission) under Minn. R. 7829.1500 or Minn. R. 7829.1700 relevant to this permit.

D. Definitions

Complaint: A verbal or written statement presented to the permittee by a person expressing dissatisfaction or concern regarding site preparation, cleanup or restoration or other site and associated facilities permit conditions. Complaints do not include requests, inquiries, questions or general comments.

Substantial Complaint: A written complaint alleging a violation of a specific permit condition that, if substantiated, could result in permit modification or suspension pursuant to the applicable regulations.

Unresolved Complaint: A complaint which, despite the good faith efforts of the permittee and a person, remains unresolved or unsatisfactorily resolved to one or both of the parties.

An individual, partnership, joint venture, private or public corporation, association, firm, public service company, cooperative, political subdivision, municipal corporation, government agency, public utility district, or any other entity, public or private, however organized.

E. Complaint Documentation and Processing

1. The permittee shall designate an individual to summarize complaints for the Commission. This person's name, phone number and email address shall accompany all complaint submittals.

2. A person presenting the complaint should to the extent possible, include the following information in their communications:

    a. name, address, phone number, and email address;

b. date of complaint;

c. tract or parcel number; and

d. whether the complaint relates to a permit matter or a compliance issue.

3. The permittee shall document all complaints by maintaining a record of all applicable information concerning the complaint, including the following:

a. docket number and project name;

b. name of complainant, address, phone number and email address;

c. precise description of property or parcel number;

d. name of permittee representative receiving complaint and date of receipt;

e. nature of complaint and the applicable permit condition(s);

f. activities undertaken to resolve the complaint; and

g. final disposition of the complaint.

F. Reporting Requirements

The permittee shall commence complaint reporting at the beginning of project construction and continue through the term of the permit. The permittee shall report all complaints to the Commission according to the following schedule:

Immediate Reports: All substantial complaints shall be reported to the Commission the same day received, or on the following working day for complaints received after working hours. Such reports are to be directed to the Commission's Consumer Affairs Office at 1-800-657-3782 (voice messages are acceptable) or consumer.puc@state.mn.us. For e-mail reporting, the email subject line should read "PUC EFP Complaint" and include the appropriate project docket number.

Monthly Reports: During project construction and restoration, a summary of all complaints, including substantial complaints received or resolved during the preceding month, shall be filed by the 15th of each month to Daniel P. Wolf, Executive Secretary, Public Utilities Commission, using the eDockets system. The eDockets system is located at: https://wvvw.edockets.state.mn.us/EFiling/home.jsp

If no complaints were received during the preceding month, the permittee shall file a summary indicating that no complaints were received.

G. Complaints Received by the Commission

Complaints received directly by the Commission from aggrieved persons regarding site preparation, construction, cleanup, restoration, operation and maintenance shall be promptly sent to the permittee.

H. Commission Process for Unresolved Complaints

Commission staff shall perform an initial evaluation of unresolved complaints submitted to the Commission. Complaints raising substantial permit issues shall be processed and resolved by the Commission. Staff shall notify the permittee and appropriate persons if it determines that the complaint is a substantial complaint. With respect to such complaints, each party shall submit a written summary of its position to the Commission no later than ten days after receipt of the staff notification. The complaint will be presented to the Commission for a decision as soon as practicable.

I. Permittee Contacts for Complaints and Complaint Reporting

Complaints may filed by mail or email to:

Shanelle Montana, Project Developer
Red Pine Wind Project, LLC
10 2nd Street NE, Suite 400
Minneapolis, MN 55413
Phone: (612) 486-4533
Fax: (612) 746-0777
Email: Shanelle.Montana@edf-re.com

This information shall be maintained current by informing the Commission of any changes as they become effective.

MINNESOTA PUBLIC UTILITIES COMMISSION
COMPLIANCE FILING PROCEDURE FOR
PERMITTED ENERGY FACILITIES

A. Purpose

To establish a uniform and timely method of submitting information required by Commission energy facility permits.

B. Scope and Applicability

This procedure encompasses all known compliance filings required by permit.

C. Definitions

Compliance Filing: A filing of information to the Commission, where the information is required by a Commission site or route permit.

D. Responsibilities

1. The permittee shall file all compliance filings with Daniel P. Wolf, Executive Secretary, Public Utilities Commission, through the eDockets system. The eDockets system is located at: https://www.edockets.state.mn.us/EFiling/homedsp

General instructions are provided on the eDockets website. Permittees must register on the website to file documents.

2. All filings must have a cover sheet that includes:

    a. Date
    b. Name of submitter/permittee
    c. Type of permit (site or route)
    d. Project location
    e. Project docket number
    f. Permit section under which the filing is made
    g. Short description of the filing

3. Filings that are graphic intensive (e.g., maps, engineered drawings) must, in addition to being electronically filed, be submitted as paper copies and on CD. Paper copies and CDs should be sent to: 1) Daniel P. Wolf, Executive Secretary, Minnesota Public Utilities Commission, 121 7th Place East, Suite 350, St. Paul, MN 55101-2147, and
2) Department of Commerce, Energy Environmental Review and Analysis, 85 7th Place East, Suite 500, St. Paul, MN 55101-2198.

The Commission may request a paper copy of any electronically filed document.

ATTACHMENT B

PERMIT COMPLIANCE FILINGS[1]

PERMITTEE: Red Pine Wind Project, LLC
PERMIT TYPE: LWECS Site Permit
PROJECT LOCATION: Lincoln County
PUC DOCKET NUMBER: IP-6646/WS-16-618

PRE-CONSTRUCTION MEETING

Permit Section	Description	Due Date	Notes	eDocket Doc. ID	Date Filed
4.7	Native Prairie Protection Plan	30 days prior to Site Plan submittal.	Develop in consultation with Commission and DNR.		
10.3	Site Plan	14 days prior to pre-construction meeting.			
5.2.1	Field Representative	14 days prior to starting construction.			
9.0	Complaint Reporting Procedures	Prior to the start of construction.			
7.1	Biological & Natural Resource Inventories	30 days prior to pre-construction Meeting.	Results may trigger need for a Native Prairie Protection Plan.		
7.2	Shadow Flicker Analysis	14 days prior to pre-construction meeting.			
5.2.15	Archaeological Resources	Prior to the start of construction and as recommended by the State Historic Preservation Office.			
5.2.16	Interference	14 days prior to pre-construction meeting.			

[1] This compilation of permit compliance filings is provided for the convenience of the permittee and the Commission. It is not a substitute for the permit; the language of the permit controls.

PRE-CONSTRUCTION MEETING (Cont.)

Permit Section	Description	Due Date	Notes	eDocket Doc. ID	Date Filed
7.3	Wake Loss	14 days prior to pre-construction meeting.			
5.2.12 & 6.1	Road Identification	14 days prior to pre- construction meeting.	Document consultation on Scenic Byways		
5.2.6	Soil Erosion & Sediment Control Plan	14 working days prior to pre-construction.	May be the same as NPDES SWPPP.		
10.10	Emergency Response	14 days prior to pre- construction meeting.	Must register in 911 Program.		
8.1	Wind Rights	14 days prior to pre-construction meeting.			
4.6.1	Calcareous Fen Management Plan	30 days prior to Site Plan submittal.	Develop in consultation with DNR only if calcareous fens will be impacted.		
10.1	Summary of pre-construction meeting	Within 14 days of pre-construction meeting			

PRE-OPERATION COMPLIANCE MEETING

Permit Section	Description	Due Date	Notes	eDocket Doc. ID	Date Filed
10.2	Pre-operation compliance meeting	14 days prior to commercial operation.			
4	Noise Study Protocol	14 days prior to pre-operation meeting.			
10.10	Revised Emergency Response Plan	14 day prior to pre-operation meeting.	Must register in 911 Program.		
11.1	Decommission-ing Plan	14 days prior to pre-operation meeting.			

10.5	Notify Commission of commencement of operation	3 days prior to commencement of operation			

OTHER REQUIREMENTS

Permit Section	Description	Due Date	Notes	eDocket Doc. ID	Date Filed
5.1	Notice to Local Government Units	Within 14 days of permit issuance.			
5.1	Notice to Landowners	Within 30 days of permit issuance.			
5.2.2	Site Manager	14 days prior to prior to commercial operation.	Update contact information as necessary.		
9.0	Complaints	Complaint submittals on the 15th of each month or within 24 hours.	Must eFile report even if no complaints.		
7.4	Noise Study Results	Within 18 months of Commercial Operation.			
7.5.1	Avian and Bat Protection Plan	~~**Final**~~ **Most Recent Version Due Before Permit Issuance** with continued updates as necessary thereafter.Annual Audit due 3/15 each year.	In coordination with Commission, MN DNR, and USFWS.		
7.5.2 & 7.5.3	Avian and Bat Reporting Requirements	Quarterly reports due and within 24 hours of discovery of certain species.			
10.8	Project Energy Production	Due 2/1 each year.			
10.9	Wind Resource Use	Due 2/1 each year.			
10.11	Extraordinary Events	Within 24 hours and report on occurrence of event within 30 days.			
10.6 & 10.7	As Builts and GPS Data	Within 60 days of completion of construction.			
8.2	PPA or Enforceable Mechanism	Within 2 years of permit issuance.	If no PPA or enforceable mechanism at permit issuance.		
8.3	Failure to Start Construction	Within 2 years of permit issuance.			