

STATE OF MINNESOTA
COUNTY OF RAMSEY

DISTRICT COURT
SECOND JUDICIAL DISTRICT

State of Minnesota, ex. rel., Association of
Freeborn County Landowners,

Case Type: Other Civil
Court File No.: 62-CV-20-3674
Judge: Hon. Sara Grewing

Plaintiff,

v.

Minnesota Public Utilities Commission,
Defendant,

**DECLARATION OF ALETHEA HUYSER
IN SUPPORT OF MOTIONS TO
DISMISS OF DEFENDANT-
INTERVENORS NORTHERN STATES
POWER COMPANY AND PLUM CREEK
WIND FARM, LLC**

and

Buffalo Ridge Wind LLC, Northern States
Power Company, Plum Creek Wind Farm,
LLC,

Defendant-Intervenors.

I, Alethea Huyser, under penalty of perjury, state the following:

1. I am an attorney at Fredrikson & Byron, P.A. We represent Defendant-Intervenors Northern States Power Company and Plum Creek Wind Farm, LLC in this matter.

2. Attached hereto as Exhibit 1 is a true and correct copy of Application Guidance for Siting Permitting of Large Wind Energy Conversion Systems in Minnesota (Rev. July 2019), available at <https://mn.gov/eera/web/doc/13655/>.

3. Attached hereto as Exhibit 2 is a true and correct copy of *In the Matter of the Proposed Adoption of Rules Governing the Siting of Large Wind Energy Conversion Systems, Minnesota Rules chapter 4401*, Statement of Need and Reasonableness (Sept. 20, 2001), available at <https://www.eqb.state.mn.us/sites/default/files/documents/01-16-WIND-RULESSonar4401final.pdf>.

4. Attached hereto as Exhibit 3 is a true and correct copy of the Minnesota Public Utilities Commission, *Order Establishing General Wind Permitting Standards* (Jan. 11, 2008), Docket No. E, G-999/M-07-1102.

5. Attached hereto as Exhibit 4 is a true and correct copy of *In the Matter of Freeborn Wind Energy LLC's Application for a Large Wind Energy Conversion System Site Permit for the 84 MW Freeborn Wind Farm in Freeborn County*, AFCL's Initial Brief (March 20, 2018) ([eDocket No. 20183-141225-02](#)), PUC Docket No. IP-6946/WS-17-410.

6. Attached hereto as Exhibit 5 is a true and correct copy of *In the Matter of Freeborn Wind Energy LLC's Application for a Large Wind Energy Conversion System Site Permit for the 84 MW Freeborn Wind Farm in Freeborn County*, AFCL Exceptions to ALJ (June 8, 2018) ([eDocket No. 20186-143686-01](#)), PUC Docket No. IP-6946/WS-17-410.

7. Attached hereto as Exhibit 6 is a true and correct copy of *In the Matter of Freeborn Wind Energy LLC's Application for a Large Wind Energy Conversion System Site Permit for the 84 MW Freeborn Wind Farm in Freeborn County*, MPUC Order Granting Site Permit (December 19, 2018) ([eDocket No. 201812-148595-01](#)), PUC Docket No. IP-6946/WS-17-410.

8. Attached hereto as Exhibit 7 is a true and correct copy of *In the Matter of Freeborn Wind Energy LLC's Application for a Large Wind Energy Conversion System Site Permit for the 84 MW Freeborn Wind Farm in Freeborn County*, AFCL Petition for Reconsideration (January 9, 2019) ([eDocket No. 20191-148990-01](#)), PUC Docket No. IP-6946/WS-17-410.

9. Attached hereto as Exhibit 8 is a true and correct copy of *In the Matter of Freeborn Wind Energy LLC's Application for a Large Wind Energy Conversion System Site Permit for the 84 MW Freeborn Wind Farm in Freeborn County*, MPUC Order Amending Site Permit (May 10, 2019) ([eDocket No. 20195-152849-01](#)), PUC Docket No. IP-6946/WS-17-410.

10. Attached hereto as Exhibit 9 is a true and correct copy of the Minnesota Court of Appeals' Aug. 27, 2019 Order, *In the Matter of Freeborn Wind Energy LLC's Application for a Large Wind Energy Conversion System Site Permit for the 84 MW Freeborn Wind Farm in Freeborn County*, Case No. A19-1195 (Minn. App. 2019).

11. Defendant-Intervenors' Memorandum in Support of their Motion to Dismiss also cites publicly filed documents in dockets before the Minnesota Public Utilities Commission ("MPUC"). MPUC dockets are available at <https://www.edockets.state.mn.us/EFiling/edockets/searchDocuments.do?method=showeDocketsSearch&showEdocket=true&userType=public>.

12. The following documents referenced in the motion to dismiss are publicly filed in *In the Matter of Freeborn Wind Energy LLC's Application for a Large Wind Energy Conversion System Site Permit for the 84 MW Freeborn Wind Farm in Freeborn County*, PUC Docket No. IP-6946/WS-17-410:

- a. Initial Filing – Freeborn Wind Site Permit Application (June 15, 2017) ([eDocket No. 20176-132804-01](#)) (“Freeborn Wind Site Permit Application”).
- b. Appendix A to Initial Filing: Agency Correspondence (June 15, 2017) ([eDocket No. 20176-132804-03](#)) (“Appendix A to Freeborn Wind’s Site Permit Application”).
- c. Appendix B to Initial Filing: Noise Analysis (June 15, 2017) ([eDocket No. 20176-132804-04](#)) (“Appendix B to Freeborn Wind’s Site Permit Application”).
- d. Appendix C to Initial Filing: Shadow Flicker Assessment (June 15, 2017) ([eDocket No. 20176-132804-05](#)) (“Appendix C to Freeborn Wind’s Site Permit Application”).
- e. Appendix D to Initial Filing: Telecommunication Reports, (June 15, 2017) ([eDocket No. 20176-132804-06](#)) (“Appendix D to Freeborn Wind’s Site Permit Application”).
- f. Appendix E to Initial Filing: Market Impact Analysis, (June 15, 2017) ([eDocket No. 20176-132804-07](#)) (“Appendix E to Freeborn Wind’s Site Permit Application”).

- g. Appendix F to Initial Filing: Tier 3 Wildlife Studies, (June 15, 2017) ([eDocket No. 20176-132804-08](#)) (“Appendix F to Freeborn Wind’s Site Permit Application”).
- h. Appendix G to Initial Filing: Tier 1 and 2 Studies, (June 15, 2017) ([eDocket No. 20176-132804-09](#)) (“Appendix G to Freeborn Wind’s Site Permit Application”).
- i. Appendix H to Initial Filing: Draft Avian and Bat Protection Plan, (June 15, 2017) ([eDocket No. 20176-132804-10](#)) (“Appendix H to Freeborn Wind’s Site Permit Application”).
- j. AFCL Comments—and Petition for Contested Case and Referral to OAH (Jul. 6, 2017) ([eDocket No. 20177-133591-01](#)).
- k. AFCL Intervention—Notice of Appearance and Petition for Intervention (Sept. 1, 2017) ([eDocket No. 20179-135229-01](#)).
- l. AFCL Comments (July 13, 2017) ([eDocket No. 20177-133859-01](#)).
- m. AFCL Motion – For Certification and Petition For Advisory and Scientific Task Force (September 20, 2017) (eDocket No. 20179-135694-01).
- n. AFCL Comments to Commerce for Draft Site Permit (Oct. 9, 2017) ([eDocket No. 201710-136301-01](#)).
- o. AFCL Initial Brief (March 20, 2018) ([eDocket No. 20183-141225-02](#)).
- p. AFCL Reply Brief (April 4, 2018) ([eDocket No. 20184-141687-01](#)).
- q. AFCL Proposed Findings of Fact, Conclusions of Law and Recommendations (April 4, 2018) ([eDocket No. 20184-141689-01](#)).
- r. AFCL Exceptions to ALJ (June 8, 2018) ([eDocket No. 20186-143686-01](#)).
- s. AFCL Petition for Reconsideration (January 9, 2019) ([eDocket No. 20191-148990-01](#)).
- t. AFCL Comments (March 12, 2019) ([eDocket No. 20193-151035-01](#)).
- u. AFCL Petition and Motion for a Contested Case (Dec. 12, 2019) ([eDocket No. 201912-158263-01](#)).
- v. AFCL Motion to Remand to ALJ (Feb. 13, 2019) ([eDocket No. 20192-150272-01](#)).
- w. AFCL Reconsideration - Petition (May 30, 2019) ([eDocket No. 20195-153253-01](#)).
- x. AFCL Letter– Petition for EAW (Jan. 28, 2020) (eDocket Nos. [20201-159724-02](#), [20201-159724-03](#) and [20201-159724-04](#)).

- y. AFCL Letter– Request for Notice of Pre-Construction meeting and Required Documents (April 23, 2019) ([eDocket No. 20194-152242-01](#)).
- z. AFCL Testimony and Exhibits (December 22, 2017) ([eDocket No. 201712-138411-01](#)).
 - a. Testimony – Dorenne Hansen for AFCL ([eDocket No. 201712-138411-02](#)).
 - b. Testimony – Direct Testimony – Exhibits – AFCL – 2 ([eDocket No. 201712-138411-03](#)).
 - c. Testimony – Direct Testimony Exhibits – AFCL 3-4 ([eDocket No. 201712-138411-04](#)).
 - d. Testimony – Direct Testimony – Exhibit AFCL 6 ([eDocket No. 201712-138411-05](#)).
 - e. Testimony – Direct Testimony – Exhibit AFCL 7-10 ([eDocket No. 201712-138411-06](#)).
 - f. Testimony – Direct Testimony – Exhibit AFCL 11 ([eDocket No. 201712-138411-07](#)).
 - g. Testimony – Direct Testimony – Exhibit AFCL 12-14 ([eDocket No. 201712-138411-08](#)).
- aa. Letter – AFCL Hansen Rebuttal and Certificate (January 22, 2018) ([eDocket no. 20181-139215-01](#)).
- bb. MPUC Order Denying Petition for Advisory Task Force (Dec. 22, 2017) ([eDocket No. 201712-138409-01](#)).
- cc. OAH Findings of Fact and Order Denying Motion (May 14, 2018) ([eDocket No. 20185-143018-01](#)).
- dd. MPUC Order Granting Site Permit (December 19, 2018) ([eDocket No. 201812-148595-01](#)).
- ee. MPUC Order Amending Site Permit (May 10, 2019) ([eDocket No. 20195-152849-01](#)).
- ff. NSP Notice of Acquisition and Request for Transfer of Freeborn Wind LWECs and HVTL (June 18, 2019) ([eDocket No. 20196-153672-02](#)).
- gg. NSP Site Permit Amendment Application (Aug. 20, 2019) (eDocket Nos. [20198-155331-01](#), [20198-155331-02](#), [20198-155331-03](#) and [20198-155331-04](#)).
- hh. AFCL Comments on Xcel Permit Amendment (Nov. 12, 2019) (eDocket No. [201911-157473-01](#)).
- ii. DOC EERA – Comments and Recommendations (Nov. 12, 2019) (eDocket No. [201911-157474-01](#)).

- jj. MPUC Order Denying AFCL's Petitions and Amending Site Permit (March 31, 2020) ([eDocket No. 20203-161639-01](#)).
- 13. I personally reviewed the filings made by AFCL in the Freeborn Wind docket and counted at least 114 different filings by AFCL in that matter.
- 14. The following documents reference in the motion to dismiss are publicly filed in *In the Matter of the Application of Plum Creek Wind Farm, LLC for Certificate of Need, Site Permit, and Route Permit for an up to 414 MW Large Wind Energy Conversion System and 345kV Transmission Line in Cottonwood, Murray, and Redwood Counties, Minnesota*, Docket No. IP6997/WS18-700:
 - a. Plum Creek Wind Farm, LLC Initial Filing (Nov. 14, 2019) ([eDocket No. 201911-157556-02](#))
 - i. Plum Creek Wind Farm, LLC Site Permit Application Filing Letter (Nov. 12, 2019) ([eDocket No. 201911-157475-01](#)).
 - ii. Plum Creek Wind Farm, LLC Initial Filing – Site Permit Figures Part 1 (Nov. 12, 2019) ([eDocket No. 201911-157475-02](#)).
 - iii. Plum Creek Wind Farm, LLC Initial Filing – Site Permit Figures Part 23 (Nov. 12, 2019) ([eDocket No. 201911-157475-03](#)).
 - iv. Plum Creek Wind Farm, LLC Initial Filing – Site Permit Appendix A: Agency Correspondence (Nov. 12, 2019) ([eDocket No. 201911-157475-04](#)).
 - v. Plum Creek Wind Farm, LLC Initial Filing – Site Permit Appendix B: Noise Assessment (Nov. 12, 2019) ([eDocket No. 201911-157475-05](#)).
 - vi. Plum Creek Wind Farm, LLC Initial Filing – Site Permit Appendix C: Shadow Flicker Assessment (Nov. 12, 2019) ([eDocket No. 201911-157475-07](#)).
 - vii. Plum Creek Wind Farm, LLC Initial Filing – Site Permit Appendix D: Telecom Studies (Nov. 12, 2019) ([eDocket No. 201911-157475-08](#)).
 - viii. Plum Creek Wind Farm, LLC Initial Filing – Initial Filing 2019-11-12 Site Permit Appendix E: Public Cultural Resources Literature Review (Nov. 12, 2019) ([eDocket No. 201911-157475-09](#)).
 - ix. Plum Creek Wind Farm, LLC Initial Filing – Site Permit Appendices F-H (Nov. 12, 2019) ([eDocket No. 201911-157477-01](#)).

- b. Overland Letter Re Trade Secret Designation of Public Information (Dec. 16, 2019) ([eDocket No. 201912-158326-02](#)).
- c. Letter– Overland Legalectric – Use of Improper Ground Factor (Dec. 18, 2019) ([eDocket No. 201912-158454-05](#)).
- d. Overland Letter (June 15, 2020) ([eDocket No. 20206-163951-05](#)).
- e. Notice of Public Information and Environmental Impact Scoping Meeting (March 9, 2020) ([eDocket No. 20203-161061-02](#)).

15. The following documents reference in the motion to dismiss are publicly filed in *In the Matter of the Possible Rulemaking to Amend Minnesota Rules Chapter 7854*, MPUC Docket E999/R-18-518:

- a. Goodhue Wind Truth - Petition for Wind Siting Rulemaking (July 31, 2018) ([eDocket No. 20187-145383-01](#)).
- b. Notice of Comment Period on Petition for Rulemaking to Amend Minnesota Rules Chapter 7854 on Siting Large Wind Energy Systems (August 2, 2018) ([eDocket No. 20188-145500-01](#)).
- c. DOC-EERA Comments and Recommendations (Aug. 24, 2018) ([eDocket No. 20188-145984-01](#)).
- d. Minnesota Center for Environmental Advocacy Comments (Aug. 24, 2018) ([eDocket No. 20188-145968-01](#)).
- e. MPUC Order Denying Petition (Sept. 26, 2018) ([eDocket No. 20189-146644-01](#)).

I declare under penalty of perjury that everything I have stated in this document is true and correct

Dated: August 5, 2020
Minneapolis, Minnesota

/s/Alethea M. Huyser
Alethea M. Huyser



Application Guidance for Site Permitting of Large Wind Energy Conversion Systems in Minnesota

mn COMMERCE
DEPARTMENT
DIVISION OF ENERGY RESOURCES

Energy Environmental Review and Analysis

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Part I: Introduction and Overview of the Permitting Process

Introduction

Minnesota has seen steady growth in wind energy production since the first large scale wind projects were permitted in the 1990's. Growth in the wind industry, changes in wind technology, and public interest in large wind projects has also led to increasingly complex permitting issues. In Minnesota, the site permit application is the primary basis on which many site permit decisions are made. Not only is the site permit application the first step in the permitting process, but it also serves as the primary environmental review document.¹ Preparing a thorough, complete and organized application benefits applicants and reviewers. An incomplete or unorganized application can lead to permitting delays.

Statutory Authority

Large Wind Energy Conversion Systems (LWECS), defined as wind projects with a nameplate capacity of five megawatts or greater, are governed by [Minnesota Statutes Chapter 216F](#), portions of Chapter 216E, and [Minnesota Rules Chapter 7854](#). The information in this guidance document is based on the statute and rule requirements. Applicants unfamiliar with the process are encouraged to read all related statutes and rules for complete information.

Role of the Minnesota Public Utilities Commission, the Commerce Department, and other Agencies

The Minnesota Public Utilities Commission (Commission) regulates electricity, natural gas, and telephone service industries in Minnesota. The Commission is responsible for issuing site and route permits for energy facilities, including LWECS. The Commerce Department's Energy Environmental Review and Analysis (EERA) unit serves as independent technical staff to the Commission.² EERA staff assists the Commission by administering the environmental review and technical analysis of siting and routing applications and making recommendations to the Commission. EERA is also responsible for reviewing pre-construction filings and other permit compliance filings on behalf of the Commission.

Stakeholders, including other state agencies, federal agencies, tribal governments, local units of government, and the public may review and comment on wind projects during the permitting process. A site permit issued by the Commission does not preclude the need for obtaining permits from other agencies if necessary. Applicants are responsible for identifying and obtaining the necessary permits required for the project.

In counties that have assumed permitting authority for LWECS under 25 MW, applicants must consider conditions that may be more stringent than Commission permit conditions. Applicants should also review the WECS ordinance of any county that has adopted one.³

Preparing a thorough, complete and organized application benefits applicants and reviewers.

An incomplete or unorganized application can lead to permitting delays.

Overview of the LWECS Permitting Process

The permitting process begins when an application is formally submitted to the Commission via the eDockets system, as well as in hard copy. The Commission must make a final decision on a site permit within 180 days of application acceptance if a Certificate of Need is not required. The Commission may extend this deadline for cause.⁴

The table below provides an overview of the major steps in the permitting process.

Table 1: Overview of the Permitting Process for a Large Wind Energy Conversion System

| Permitting Milestones | Pre-Application | Draft Application | Application Submittal | Application Acceptance | Public Meeting and Comment Period | Draft Site Permit | Public Hearing and Comment Period | Site Permit |
|-----------------------|--|---|---|---|---|--|---|---|
| | Data Assessment and Analysis. Consult with EERA, DNR, FWS staff et al. | EERA staff review for completeness; applicant provides additional information if needed | E-file application and submission of hard copies to agency staff. | Commission accepts/rejects Application and reviews for completeness | EERA staff accept public comments to consider during the development of the preliminary draft site permit | EERA files comments and recommendations along with the preliminary draft site permit | Applicant, public and EERA staff comments on the Draft Site Permit / ALJ Report with recommendations. | Commission issues/denies site permit |
| Length of Time | Varies | | | Within 30 days of submitta | 45 days (Approx). | Commission issues/denies draft site permit 30 days (Approx). | 45 days (Approx). | Within 180 days of application acceptance** |

* A contested case hearing may be requested during the comment period for the Draft Site Permit).

** This time frame applies only to projects without a Certificate of Need. Projects requiring a Certificate of Need may take one year to permit.

How to Use this Document

This document provides information on how to prepare a complete site permit application. It also includes information on the permitting process, pre-application consultation, and filing requirements. The guidance identifies the required elements of a site application and provides a list of maps and mapping guidelines. This document also serves as the framework for organizing the application.

This document is organized into five parts:

Part I: Introduction and Overview of the Permitting Process

Part II: Pre-Application Consultation and How to File

Part III: LWECS Application and Guidelines

Part IV: Mapping Guidelines

Part V: Repowering Guidelines

Part II: Pre-Application Consultation and How to File

Pre-Application and EERA Consultation

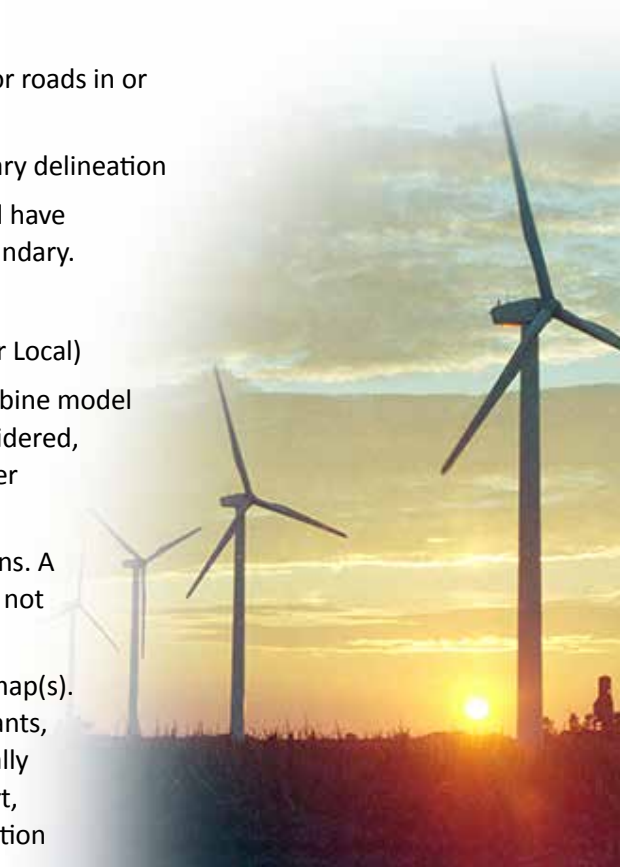
Preparing a complete project application is a critical step in the permitting process. Preliminary assessments and analysis can make an application more robust. These guidelines will assist applicants in determining the information needed for a complete application and common resources used for data collection. The resources provided are by no means exhaustive and applicants should be prepared to gather the relevant information required to submit an application that can be accepted by the Commission.

Applicants should contact Department of Commerce–EERA staff prior to application submission. EERA staff advise on application requirements and provide information to applicants on the state’s review process. Pre-application consultation can identify missing elements within the application or elements requiring additional information for completeness.

Other topics discussed during pre-application consultation are Avian and Bat Protection Plans and pre-and post-construction surveys and monitoring. The following list of documents and maps is needed as a minimum for a pre-application consultation with EERA staff. Applicants are strongly encouraged to submit a draft application prepared according to the application guidelines in Part III of this document for review and comment.

Pre-Application Information

1. Project description and overview including :
 - A. Project location showing counties, townships, cities, and major roads in or near the project area
 - B. Estimated size of the project area in acres and project boundary delineation
 - a. At a minimum, prior to this meeting, the Applicant should have submitted a GIS – compatible shapefile of the project boundary.
 - C. Anticipated interconnect location(s) and associated facilities
 - D. List of other permits needed for this project (Federal, State, or Local)
 - E. Size (rated capacity), in MWs, of the proposed project. If a turbine model is not yet certain, provide information on turbines being considered, representing the maximum and minimum megawatt size under consideration
 - F. Preliminary turbine layout, including alternate turbine locations. A preliminary layout provided as a GIS – compatible shapefile is not required to be at this time, but is strongly encouraged.
2. MN DNR Natural Heritage Inventory System (NHIS) Reports and map(s). The NHIS provides important information on Minnesota’s rare plants, animals, and native plant communities. The NHIS response typically consists of a Natural Heritage letter, Index Report, Detailed Report, and Map(s). The Detailed Report and map(s) contain specific location



information that is nonpublic data (Minnesota Statutes Section 84.0872, Subdivision 2.) and should not be included in the publicly available application. However, these maps can be provided to EERA for review. Public data, including the Index Report and letter (s) should be included in the application.

For more information or to request a NHIS report, go to: <http://www.dnr.state.mn.us/eco/nhnrp/NHIS.html>

3. Report on archaeological or historic sites within and near the project area from the MN State Historical Preservation Office (SHPO).

For more information on MN SHPO or to request a report, go to <http://mn.gov/admin/shpo/>

4. Analysis of Tier One (Preliminary Site Screening) and Tier Two (Site Characterization Study). The U.S. Fish and Wildlife Service has developed Wind Energy Guidelines that describes information needed to identify, assess, and monitor potential adverse impacts of wind energy projects on wildlife and their habitat, especially migratory birds and bats.

The USFWS guidelines can be found at: https://www.fws.gov/ecological-services/es-library/pdfs/WEG_final.pdf

5. Analysis of any site studies to date (avian, bat, wildlife, or other biological surveys completed or anticipated prior to site construction).
6. Discussion of whether a Certificate of Need is required for the project and the schedule for obtaining a certificate (if needed).
7. Project correspondence (if any) with federal, state, and county agencies; local units of government and tribal governments to date.
8. Draft Avian and Bat Protection Plan (ABPP) or Bird and Bat Conservation Strategy (BBCS). The Draft ABPP or BBCS should include how results of pre-construction avian surveys informed micro-siting and steps to be taken to identify, avoid, minimize and mitigate impacts to avian and bat species during the construction and operation phases of the project. The plan should also address formal and informal monitoring, training, wildlife handling, documentation (e.g., photographs), and reporting protocols for each phase of the Project.

Minnesota has seen steady growth in wind energy production since the first large scale wind projects were permitted in the 1990's.

Maps for Pre-Application Consultation

Map 1: Project location and boundaries, county boundaries, nearest communities, cities, and major roads. Include an inset map showing where the project is located in the state.

Map 2: Preliminary turbine layout and alternate turbine locations.

Map 3: NHIS map showing the general location of threatened, endangered, and special concern species and/or their habitat occurring within 5 miles of the proposed project. Map to be labeled Not for Public Distribution.

Map 4: Ownership map showing all public lands, conservation easements (public and private) within 5 miles of the project boundary. Data layers can be obtained from the [Minnesota Geospatial Commons \(https://gisdata.mn.gov/\)](https://gisdata.mn.gov/). Information on conservation easements can be obtained from the county.

Map 5: Local zoning and land use map(s) showing current and future land use in the project area and surrounding areas, including urban growth boundaries.

Map 6: Land cover map

Map 7: National Wetland Inventory Map

Determining Application Completeness

A thorough, accurate, and well organized application is needed for the Commission to accept an application, to facilitate public review and comment, and for the Commission to issue a site permit. Consulting with EERA staff prior to submitting an application to the Commission helps identify missing elements and concerns or where additional information is needed.

Applicants should be aware that applications rarely answer all the questions that state agencies must address and may be asked to provide additional information and data throughout the permitting process. Applicants must respond to all EERA and Commission inquiries and requests in a timely and thorough manner.

How to File

LWECS applications are formally submitted electronically on eDockets. Hard copies of the application and electronic copies are needed by Commission staff and EERA staff for review and posting on the website.

For more information on eDockets and how to establish an account, go to:

<https://www.edockets.state.mn.us/EFiling/security/login.do?method=showLogin>

1. E-Filing: Applicants are responsible for establishing and maintaining an eDocket account and registry. Applications must be submitted to eDockets for consideration. The 180 day permitting process begins when an application has been accepted by the Commission.
2. Electronic and Paper copies: In addition to the application submitted to the Commission via eDockets (discussed above), electronic and paper copies (9 in total) must be delivered to EERA. The electronic files should break out the application in individual PDF files by text, appendices, and maps. The files should be labeled as they appear in the table of contents and include the file size. The table of contents should be a separate PDF. File sizes must be limited to 5-10 MB.
3. Map Data: Provide the data used (preferably shapefiles) for all maps submitted with the application to EERA. Files should be labeled and arranged to correspond with each map.
4. Trade Secret or Privileged Data: Applicants may request certain information be considered trade secret and/or privileged data not available to the public. According to the Minnesota Government Data Practices Act (and other applicable law), the Commission has the authority to determine if the trade secret request satisfies the requirements for the protected classification and will notify the applicant of the determination before releasing such data or information. However, the application serves as the environmental analysis and is the basis for public comment and is generally regarded as public information. An applicant may withdraw its application if the information is not entitled to protection.

Part III: Application Guidelines

Tips on Preparing an Application

Data Analysis

Provide an analysis or interpretation of the data used and presented for each required element identified below. For example, if it has been determined that population density is low; provide an interpretation of the significance of low population densities in relation to the project.

Citations and References

Preparing an application will require the use of many data sources. Provide citations and sources of information, as they are used, including websites. If projection models are used, specify which model/and or program was used, and the assumptions, variables, or inputs used in modeling. Data sources used for mapping should also be cited.

Writing Environmental Impacts and Mitigation of the Proposed Actions

Determining the impacts and appropriate mitigation measure of the proposed project can be challenging. The environmental analysis portion of the application should be an objective evaluation of the anticipated positive and negative impacts of the proposed project actions on the physical, biological, and socio-economic environment. Impact avoidance and minimization should always be the first course of action... The following may be helpful in considering impacts and mitigation:

1. The characterization of impacts should include descriptions of duration, intensity (or magnitude), and context (site specific, local, regional, etc.) and how the project will avoid or minimize impacts.
2. Provide supporting analysis or rationale for the impact and its intensity. The analysis should be value-neutral rather than a justification for the action.
3. Mitigation measures should provide decision-makers with a list or range of options to reduce impacts and not simply reduce impacts to permit levels.

Best Management Practices

Identify the use of best management practices (BMPs) to be employed during construction and post-construction of the project as applicable. In some instances, BMPs can provide mitigation measures.

Site Permit Application

The information in the application must be consistent with [Minnesota Rules 7854.0500](#).

1. Applicant Information

- 1.1. Letter of transmittal signed by an authorized representative or agent of the applicant.
- 1.2. Complete name, address, and telephone number of the applicant and any authorized representative.

- 1.3. Signature of the preparer of the application if prepared by an agent or consultant of the applicant.
- 1.4. Role of the applicant in the construction and operation of the LWECS.
- 1.5. Operator of the LWECS if different from the applicant.
- 1.6. Name of the person or persons to be the permittees, should a site permit be issued.
- 1.7. Statement of Ownership and list of any other LWECS or other energy facilities located in Minnesota in which the applicant, or a principal of the applicant, has an ownership or other financial interest.

2. Certificate of Need (CN)

Discuss whether or not a CN for the project is required. This can be determined by reviewing Minnesota Statute Section 216B.243. If required, provide the expected schedule for obtaining the CN. A site permit cannot be issued for a project requiring a CN until the CN has been issued. However, the application process can proceed while the CN request is pending. If an exemption to a CN has been requested, provide a discussion of what the applicant intends to do with the power that is generated.⁵ Discuss any power purchase agreement or other agreement related to the sale of power generated by the project.

3. State Policy

Describe how the proposed project furthers state policy to site projects in an orderly manner compatible with environmental preservation, sustainable development, and the efficient use of resources.

4. Project Description and Overview

- 4.1. Project location (counties and townships of the project area).
- 4.2. Size of the project area in acres.
- 4.3. Size (rated capacity), in megawatts, of the proposed project. If turbine model has not been selected, provide information on turbines being considered (up to three), representing the maximum and minimum megawatt size under consideration.
- 4.4. Number of turbines and alternate turbine locations considered for the project.
- 4.5. List the number of meteorological towers for the project. These shall be placed no closer than 250 ft. from the edge of the road rights-of-way and from the boundaries of the developer's site control (wind and land rights). Please note if meteorological towers will be temporary or permanent.
- 4.6. Percent of wind rights secured, if any (see section 7 for more information regarding wind rights).

5. Project Design

For every turbine layout that is submitted, the applicant must provide all of the following information (sections 5 through 11) for each turbine model and layout. For example, each layout will have to provide impacts to the environment per section 8 below and include accompanying maps.



- 5.1. Provide a description of the project layout with the proposed spacing of turbines, residential roads, necessary setbacks, and site control.
- 5.2. A description of the turbines and towers and other equipment to be used in the project, including the name of equipment manufacturer(s).
- 5.3. A description of the LWECS electrical system, including collection lines, feeder lines, transmission lines, transformers, and interconnection voltage, and substations.

6. Description and Location of Associated Facilities

Describe the facilities, equipment, machinery, and other devices necessary to the operation and maintenance of a large wind energy conversion system, including collector and feeder lines, and substations.

6.1 Transmission and Project Substations

Describe the facilities necessary for the project to interconnect to the transmission grid. This includes any project transmission lines, project substations, and how they connect to existing substation(s) used at the point of interconnection. Show the location of all power lines entering and leaving the substation. If an existing substation is being modified, show the location of all new potential power lines and reconfigured lines and new or altered access roads. If the project is in the MISO queue, identify and describe the phase in the process at the time of application.

6.2 Collector Lines and Feeder Lines

Provide the total number of miles of collector and feeder lines required, separated by type (overhead vs. underground). Specify the collector line voltage to be used and transformer type, location, and size of transformer pad at each turbine site.

6.3 Associated Facilities

Describe any planned operation and maintenance buildings, other associated facilities, or met towers for the project. This includes operations and maintenance facilities, temporary access roads, and meteorological towers. Describe and list how associated facilities will be permitted (through the LWECS site permit, local permits, or through a separate routing permit from the Commission).

7. Wind Rights

Describe wind rights secured; the applicant should distinguish between option agreements and easement or lease agreements. An option agreement provides the applicant the exclusive right to enter into an easement or lease agreement. An easement or lease agreement, which may contain a development period, provides the applicant with the ability to construct and operate the proposed project. Include the number of acres secured for construction and operation of the project and compare that to the total number of acres of the project boundary.

8. Environmental Impacts

Provide an analysis of the potential impacts of the project, mitigative measures, and any adverse environmental effects that cannot be avoided, for each of the

required elements listed below (sections 8.1-8.20). In accordance with Minnesota Statutes Chapter 116D (Minnesota Rules 4410.3600), the analysis of environmental impacts in this section satisfies environmental review requirements and an Environmental Assessment or Environmental Impact Statement is not required.

8.1 Demographics

Describe the population; per capita incomes, number of homes, type and quantity of businesses in and near the project area. This should include population density within five miles from the project boundary.

- 8.1.1. Provide the number of people per square mile with information on population densities in the project area or counties in which the project is located.
- 8.1.2. Provide an Environmental Justice Analysis for the project area. Include a table that provides population, housing, minority population, per-capita income, and the percent of persons living below the poverty level in relation to county and township population. If environmental justice populations are found within or adjacent to the project boundary, include a discussion of mitigation measures and any impacts that cannot be avoided.

Minnesota State Demographic Center

<https://mn.gov/admin/demography/>

US EPA

<https://www.epa.gov/environmentaljustice>

US Census Bureau

<http://factfinder.census.gov>

Minnesota Department of Employment and Economic Development

<https://mn.gov/deed/data/>

8.2 Land Use

Describe land use in the project area and in the greater project area. This discussion should include a description of applicable zoning and comprehensive planning at the local or county level.

1. Local Zoning and Comprehensive Plans

Provide a discussion of comprehensive plans and local zoning reviewed for the proposed project. Provide an analysis and discussion of potential impacts of the project, proposed mitigative measures, and any adverse environmental effects that cannot be avoided. Information on urban growth boundaries and zoning can generally be found on local or county websites.

- 8.2.1. Provide a table of adopted comprehensive plans within and adjacent to the proposed project area and the year they were adopted. List the governing body (county, town, or city) responsible for the

Is the project compatible with local zoning and comprehensive plans?

plan, the name of the plan, and any other associated development plans such as land and water management plan and farmland preservation plan.

8.1.2. Identify any county or local ordinances pertaining to wind energy conversion standards.

8.2.3. Identify and map current and future zoning, including urban growth boundaries within and adjacent to the project area.

8.3. Conservation Easements

Conservation easements are sold or donated by a landowner to state, federal, or non-governmental organizations in perpetuity to meet conservation objectives. Conservation easements may or may not require public access as part of the easement agreement. Describe the conservation easements on lands within and adjacent to the project boundary, particularly Reinvest in Minnesota (RIM) lands. Conservation easements owned by non-governmental organizations, such as land trusts, are registered with the county.

Reinvest in Minnesota (RIM)

<http://www.bwsr.state.mn.us/easements/index.html>

RIM shape files are available from the MN Geospatial Commons

<https://gisdata.mn.gov/>

Natural Resources Conservation Service

<https://www.fsa.usda.gov/programs-and-services/conservation-programs/index>

8.4. Noise

8.4.1. Provide existing ambient sound levels and projected post-project sound levels including total sound and turbine only noise. Provide the method or type of model used to determine noise levels.

8.4.2. Projected post-project total sound levels must meet MN standards (Minnesota Rules Chapter 7030) at all residential receptors (homes).

If background sound levels are less than the applicable standard at nearby receptors, the modeled turbine-only noise levels should not cause an exceedance of the applicable state standard at nearby receptors, inclusive of the measured background sound level. "Cause" means that the project turbine-only contribution is in excess of the applicable state standard.

If background sound levels are equal to or greater than the applicable state standard at the nearby receptors, the windfarm should not contribute more than 47 dB(A) to total sound levels at the nearby receptors. Therefore, for example, when nighttime background sound levels are at 50 dB(A), a maximum turbine-only contribution of 47 dB(A) would result in a non-significant increase in total sound of 3 dB(A).

Typically 750-1500 ft is required to meet noise standards depending on turbine model, number of turbines, layout, and site specific conditions.

8.4.3. Turbine and Facility Lighting

Describe the turbine lighting system and any light-mitigating technology or comparable solution to ADLS or LIDS capable of reducing the impact of nighttime lighting while maintaining night conspicuity sufficient to assist aircraft in identifying and avoiding collision with the facilities.

Describe all other lighting at the facility, potential impacts to residents and the surrounding area, and associated mitigation.

8.4.4. Provide an analysis and discussion of potential impacts of the project, options to mitigate impacts, and any adverse environmental effects that cannot be avoided.

8.5. Visual Impacts

Describe the visual impacts of the project on the surrounding area. Provide an analysis and discussion of potential impacts of the project, proposed mitigative measures, and any adverse environmental effects that cannot be avoided.

8.5.1. Discuss the visual impacts of the project on public resources, such as public lands, waters or other areas of scenic value.

8.5.2. Discuss the visual impacts of the project on private lands and homes within and near the project area.

8.5.3. Shadow Flicker

Provide an analysis and discussion of shadow flicker based on the preliminary turbine layouts. Include isopleths for 100, 50, and 25 hours/year of potential shadow flicker. List the assumptions and methodology used in the analysis. Provide a figure illustrating likely hours of shadow flicker/year and a table showing potential shadow durations/day at each residential receptor potentially affected by the Project.

8.6. Public Services and Infrastructure

Describe the public services and infrastructure within the project boundary and 5 miles outside the project boundary and list associated setbacks. Describe potential impacts and mitigation measures.

8.6.1. Roads

List all roads, road miles, and their classification (Federal, state, county, township, or private) within the project area. Turbines shall not be placed closer than 250 feet from the edge of public road rights-of-way.

8.6.2. Communication Systems

Describe and list all communication systems in and adjacent to the project boundary. This may include, but is not limited to, micro-

wave, cell phone, radio, and internet.

8.6.3. Television

Provide an analysis of the potential for television interference.

8.6.4. Cell Towers and Broadband Interference

Provide an analysis of the cellular and broadband services in and adjacent to the project area. Include a description of any possible disruptions in service and mitigation measures.

8.7. Cultural and Archaeological Resources

Consult with the Minnesota State Historic Preservation Office (SHPO) to determine the extent and type of archaeological and cultural resources in and near the project area (within 0.5 miles of the project boundary). Provide an interpretation of the results obtained from SHPO. A qualified archaeologist may be needed to interpret results and to identify mitigation techniques. If surveys are required or recommended, list the type and phase as described in the [SHPO Manual for Archaeological Projects in Minnesota](#) (2005).

8.7.1. Provide a list of all historic and archeological sites potentially affected by the proposed project.

8.7.2. Describe how the proposed project would affect any identified historic and archeological resources and how the project could be modified to reduce or eliminate potential affects. Modifications could include site changes in siting and/or micrositing, route changes for connecting facilities, and construction practices.

For more information, see **MN State Historical Society**

<http://www.mnhs.org/shpo/>

8.8. Recreation

8.8.1. Provide a summary of recreational resources within the project boundary and 10 miles from the project boundary. This should include summaries of public and private recreational lands, and any unique recreational opportunities or features in the area such as wildlife refuges, scenic riverways or byways, designated trails (motorized and non-motorized), and Scientific Natural Areas (SNAs). Public lands are subject to the five rotor diameter setback for turbines along the prevailing wind direction and three rotor diameter setback on the non-prevailing wind direction. Turbine setbacks from recreational trails will be considered on a case-by-case basis. Provide an analysis and discussion of potential impacts of the project, proposed mitigative measures, and any adverse environmental effects that cannot be avoided.

For more information on recreational resources, go to:

MN Public Recreation Information Map (MN PRIM)

<http://www.dnr.state.mn.us/maps/prim.html>

MN DNR Division of Parks and Trails

http://www.dnr.state.mn.us/trails_waterways/index.html

MN DNR Wildlife Management Areas

http://www.dnr.state.mn.us/nature_viewing/index.html
<https://www.dnr.state.mn.us/wmas/index.html>

MN DNR scientific and Natural Areas

<http://www.dnr.state.mn.us/snas/index.html>

National Wildlife Refuges

<http://www.fws.gov/refuges/profiles/ByState.cfm?state=MN>

8.9. Public Health and Safety

8.9.1. EMF

Provide an estimate of the magnetic field profile created by collector lines. Profiles should include buried collector lines, bundled configurations, and overhead collector lines, at 0', 25', 50', and 100'. Provide an analysis and discussion of potential impacts of the project, proposed mitigative measures, and any adverse environmental effects that cannot be avoided.

8.9.2. Aviation

Identify all public and private licensed airports within the project boundary and within 10 miles of the project boundary. This includes the location and orientation of all public and private runways and landing strips. Identify known commercial services operating within the project boundary such as aerial applications for agricultural purposes, including flight paths, and any state or local programs for the control of diseases and pests (i.e., gypsy moth control). Provide an analysis and discussion of potential impacts of the project, proposed mitigative measures, and any adverse effects that cannot be avoided.

Airport setbacks must be in accordance with MN Department of Transportation Department of Aviation and Federal Aviation Administration requirements. For more information go to:

MN Department of Transportation

<http://www.dot.state.mn.us/aero/>

MN Department of Transportation (Tall Structures)

<http://www.dot.state.mn.us/aero/avoffice/talltowers.html>
<http://www.dot.state.mn.us/aero/talltowers.html>

8.10. Hazardous Materials

If hazardous materials are known to exist in the project area, list and describe the type of contaminant, where the contaminant is located on site, media in which the contaminant is embedded (soil, water, tank, etc.),

estimated concentration of the contaminant, and estimated volumes of the contaminant. Provide an analysis and discussion of potential impacts of the project, proposed mitigative measures, and any adverse environmental effects that cannot be avoided.

8.11. Land-based Economies

Describe impacts to land-based economies, including agriculture, forestry, and mining. This should include a description of the land-based economy and a general discussion of potential revenues lost as a result of the project (acres removed from production). Provide discussion of the potential environmental impacts of the project, proposed mitigative measures, and any adverse effects that cannot be avoided.

8.12. Tourism

Describe any tourism and associated community benefits derived from natural resources, recreational, and/or historical or cultural opportunities in the area. Provide an estimate of annual tourism revenues. Provide an analysis and discussion of potential impacts of the project, proposed mitigative measures, and any adverse environmental effects that cannot be avoided.

More information on regional and local tourism can be found at

MN Tourism: Explore Minnesota

<http://industry.exploreminnesota.com/side2/research-reports/economic-impact/>

8.13. Local Economies and Community Benefits

8.13.1. Describe the economic impacts and community benefits of the project, such as the number of people to be employed as a result of construction and operation of the LWECS. Estimate how much of the workforce will come from local sources; number of jobs created during construction and number of jobs created for maintenance and operation of the facility. Include an estimate of the number of FTEs expected for construction and for operation.

8.13.2. Discuss tax payments made to counties, including annual tax revenue estimates.

8.13.3. Provide an analysis and discussion of potential impacts of the project, proposed mitigative measures, and any adverse effects that cannot be avoided.

8.14. Topography

Describe the topography within the project area. Describe any changes to site topography due to grading activities. Provide an analysis and discussion of potential impacts of the project, proposed mitigative measures, and any adverse environmental effects that cannot be avoided.

8.15. Soils

Describe the soils within and adjacent to the project area. Provide an analysis and discussion of potential impacts of the project, proposed mitigative measures, and any adverse environmental effects that cannot be avoided.

For more information, go to:

MN Geospatial Office (MNGEO)

<http://www.mngeo.state.mn.us/chouse/soil.html>

MN Natural Resource Conservation Service

<http://www.mn.nrcs.usda.gov/https://www.nrcs.usda.gov/wps/portal/nrcs/site/soils/home/>

8.16. Geologic and Groundwater Resources

Describe the geology and groundwater resources of the project area. This should include a discussion of surface geology, bedrock, and wells. Be sure to specify what type of well(s) will be constructed for the project and expected capacity. Provide an analysis and discussion of potential impacts of the project, proposed mitigative measures, and any adverse environmental effects that cannot be avoided.

For more information go to:

Minnesota State Geological Survey

<http://www.geo.umn.edu/mgs/https://www.mngs.umn.edu/>

US Geological Survey

<http://www.usgs.gov/>

8.17. Surface Water and Floodplain Resources

8.17.1. Describe surface water and floodplains in the project area, including but not limited to lakes, rivers, and streams. All outstanding resource value waters should be identified. Meandered waterbodies should also be identified, especially if the state owns any part of the sub-surface. List the shoreland management classifications associated with lakes and rivers.

8.17.2. MN DNR has designated Wildlife Lakes that restrict the use of motorized boats to reduce disturbance to waterfowl. Describe any designated Wildlife Lakes in and adjacent to the project boundary.

Provide an analysis and discussion of potential impacts of the project, proposed mitigative measures, and any adverse environmental effects that cannot be avoided.

8.17.3. Describe 100-year Federal Emergency Management Agency (FEMA) floodplains within the project area.

For more information on Wildlife Lakes, go to: <http://www.dnr.state.mn.us/wildlife/shallowlakes/designation.html>

For information on other surface waters and meandering water

bodies, go to:

MN Pollution Control Agency (PCA)

<http://www.pca.state.mn.us/water/>

MN DNR

<http://www.dnr.state.mn.us/waters/index.html>

http://www.dnr.state.mn.us/watershed_tool/index.html

8.18. Wetlands

Describe wetlands within and near the project area. Turbines, towers, and associated facilities shall not be located in public waters or wetlands. Unavoidable wetland impacts from collector and feeder lines may be subject to MDNR, US Fish and Wildlife Service, the US Army Corp of Engineers, and local government permitting requirements as applicable. Permits are required to cross MN DNR administered lands and/or from other agencies. Provide an analysis and discussion of potential impacts of the project, proposed mitigative measures, and any adverse environmental effects that cannot be avoided.

MN Board of Water and Soil Resources

<http://www.bwsr.state.mn.us/index.html>

8.19. Vegetation

Describe the dominant vegetation and cover types for the following: agricultural lands (row crops, hay /pasture, other), non-agricultural upland (prairie, other grasslands, brushlands, and upland woods) and wetlands (wooded, marshes, bogs, fens). Provide a table with the estimated number of acres of each land cover type and the number of acres to be impacted by the project, including permanent and temporary impacts. Provide a discussion of mitigation measures.

MN DNR-Ecological Resources

<http://www.dnr.state.mn.us/eco/index.html>

8.20. Wildlife

8.20.1. Describe existing wildlife resources and expected impacts to habitats, species, and populations, including a discussion of the results obtained from the USFWS Wind Turbine Guidelines Tier One and Tier Two screening process. Provide documentation and/or studies used in Tier One and Tier Two process. If the results from Tier One and Tier Two screening indicate the need for Tier Three field studies, provide the questions or data gaps to be answered by the field studies and a schedule for completing the work. Include whether or not the impacts will be temporary or permanent. Additional studies may be needed (Tiers Four and Five) based on the results of Tier Three.

8.20.2. MN DNR has established waterfowl feeding and resting areas on selected lakes to protect waterfowl from disturbance. List any

waterfowl feeding and resting areas in and adjacent to the project boundary.

- 8.20.3. Identify Important Bird Areas (IBA) within and adjacent to the project boundary. IBAs provide essential habitat for one or more breeding, wintering, and migrating species of bird.

Provide an analysis and discussion of potential impacts of the project, proposed mitigative measures, and any adverse environmental effects that cannot be avoided.

For more information on waterfowl feeding and resting areas, go to:

<http://www.dnr.state.mn.us/wildlife/shallowlakes/mwfra.html>

For other information regarding wildlife and wildlife habitat, go to:

MN DNR-Wildlife Action Plan

<http://www.dnr.state.mn.us/cwcs/index.html><https://www.dnr.state.mn.us/mnwap/index.html>

USFWS Wind Turbine Guidelines

[Draft Wind Turbine Guidelineshttps://www.fws.gov/ecological-services/energy-development/wind.html](https://www.fws.gov/ecological-services/energy-development/wind.html)

For information on Important Bird Areas, go to:

<http://www.dnr.state.mn.us/iba/index.html>

8.21. Rare and Unique Natural Resources

- 8.21.1. Describe any rare and unique natural resources, including habitat and community types, threatened, endangered, species of special concern as determined by the NHIS database. Detailed locations of these species should not be included in the application. Describe any surveys or known studies conducted for rare and unique resources, and provide any avoidance and mitigation plans.
- 8.21.2. Identify any native prairie within or adjacent the project boundary. Identify lands enrolled in the Native Prairie Bank Program (number of acres) and any associated Prairie Protection Plan. Turbines are generally not permitted in native prairie. Any direct impacts to native prairie will require a biological survey, and/or a native prairie protection plan, prior to construction. Recommendations for setbacks from native prairie will be limited to site-specific conditions that warrant additional protection, such as prairie chicken habitat, associated wetland complexes, public waters, or other important wildlife uses.
- 8.21.3. Describe Minnesota County Biological Survey sites of biodiversity significance and native plant communities rated Moderate, High, or Outstanding within and adjacent to the project boundary.

MN DNR Natural Heritage Inventory

<http://www.dnr.state.mn.us/eco/nhnrp/NHIS.html>

For information on land in the Prairie Bank Easement Program, go to:

<http://www.dnr.state.mn.us/prairierestoration/prairiebank.html>

For information on Minnesota's Species of Greatest Conservation Need, go to:

<http://www.dnr.state.mn.us/cwcs/index.html><https://www.dnr.state.mn.us/mnwap/index.html>

Minnesota County Biological Surveys

<http://www.dnr.state.mn.us/eco/mcbs/index.html>

9. Site Characterization of Wind Resources

9.1. Describe the site characteristics for the following:

9.1.1. Interannual variation

9.1.2. Seasonal variation

9.1.3. Diurnal conditions

9.1.4. Atmospheric stability, to the extent available

9.1.5. Turbulence, to the extent available

9.1.6. Extreme conditions

9.1.7. Speed frequency distribution

9.1.8. Variation with height

9.1.9. Spatial variations

9.1.10. Wind rose, in eight or more directions, including a diagram or illustrating wind rose.

9.1.11. Other meteorological conditions at the proposed site, including the temperature, rainfall, snowfall, and extreme weather conditions

9.2. Location of other wind turbines within 10 miles from the project boundary.

10. Project Construction

Describe the manner in which the project will be constructed, including impacts, mitigation, and any best management practices to be used during construction for each of the following:

10.1. Roads and Infrastructure

Estimate the potential impacts of construction vehicles on the local roads, including potential locations where local roads would need to be modified, expanded, or reinforced in order to accommodate delivery of turbines.

10.2. Access Roads

Provide the total number of miles required for turbine access roads. Describe the materials to be used and construction of access roads, including road bed depth and road width. Describe any associated site access control required for the project (fences or gates).

10.3. Other Associated Facilities

Describe any operation and maintenance buildings, other associated facilities, or met towers for the project. Include the number of road miles, number of acres required to accommodate the facility, size of facilities, and any other information needed to characterize the extent and impact of the associated facility.

10.4. Turbine Site location

Describe the type of foundation(s) to be used. Include the following: dimensions, surface area, and depth required, amount of soil excavated, materials used for the foundation and reinforcement, and a description of the tower mounting system.

10.5. Post-Construction Cleanup and Site Restoration

Describe the timeframe and methods for post-construction clean-up and site restoration. Include information on erosion control methods and materials, decommissioning of temporary roads, and site restoration plans.

10.6. Operation of Project

Describe how the project will be operated and maintained after construction, including a maintenance schedule.

10.7. Costs

Describe the estimated costs of design and construction of the project and expected operating costs. This can be described as approximate capital development costs and the general costs associated with project operation and maintenance.

10.8. Schedule

Provide an anticipated schedule for completion of the project, including the time periods for land acquisition, obtaining a site permit, obtaining financing, procuring equipment, and completing construction. Provide the expected date of commercial operation.

10.9. Energy Projections

Identify the energy expected to be generated by the project. This can be described as a range of the net capacity factor and the average annual output for that range in megawatt hours.

11. Decommissioning and Restoration

The Site Permit application should include a draft Decommissioning Plan. The draft plan should include a detailed task list and cost estimate prepared by an engineer. Decommissioning Plans should contain:

11.1. The anticipated life of the project.

- 11.2. A description of how the facility will be disconnected from the grid.
- 11.3. A detailed description of how the physical components will be removed, transported off-site, and disposed of. The description should include the stepwise process of removal (e.g. how will the blades be removed, what components need to be broken down on site, what can be salvaged and what will be landfilled).
- 11.4. If any of the land is leased, a description of decommissioning, abandonment, and removal conditions included in landowner lease agreement (e.g. how is it decided whether roads remain?).
- 11.5. Site restoration objectives and a detailed description of how those objectives will be met.
- 11.6. A detailed estimate of decommissioning costs (including turbine dismantling costs, foundation removal costs, access road removal costs, transportation costs, disposal fees, estimated scrap value). This estimate should also include a description of cost assumptions (e.g. major equipment needs, what type of disposal sites are required for component disposal, depth of removal).
- 11.7. A description of the method and schedule for revising cost estimates.
- 11.8. A description or plan of decommissioning assurance – including the type of instruments being considered, a timeline for funding of the assurance, a description of how the amount of money available will be reconciled with the changing cost estimates, and the proposed beneficiary of the security.

12. Identification of other permits

Provide a table of permits for all known or potentially required permits for the proposed project. Include federal, state, and local agencies or authorities and the permits they issue.

Part IV: Maps

Map Scale and Data Layers

Aerial photos are generally used as a base layer for most maps and should be provided at a scale of at least 1:4800. The extent of the aerial photography must be inclusive enough to show the landscape context within which the proposed facilities would be placed and will require the map extent to go beyond the project boundary. Rectified orthophotos using GIS are preferred (reduced size aerial photos are not adequate). The standard GIS platform is ESRI ArcGIS v. 9. All data (shapefiles are preferred) used to create the following maps must be submitted to EFP.

In some cases, providing all of the layers requested on a single map may not be practical. Applicants should submit maps that provide cartographic clarity as well as providing the necessary geographic information below.

Obtaining Data Layers

Data layers and shapefiles for use with ArcGIS can be obtained from several sources, including but not limited to:

Minnesota Geospatial Commons

Provides and maintains certain statewide geographic data, including aerial photographs.

<https://gisdata.mn.gov/>

Natural Resource Conservation Service (NRCS)

<http://www.mn.nrcs.usda.gov/technical/soils/digi.html><https://www.nrcs.usda.gov/wps/portal/nrcs/site/soils/home/>

Minnesota State Geological Survey

<http://www.geo.umn.edu/mgs/><https://www.mngs.umn.edu/>

US Geological Survey

<http://www.usgs.gov/>

List of Required Maps

1. Project Location

Include county and municipal boundaries, cities, villages, lakes and rivers, and all major roads and highways delineated on a United States Geological Survey map, with a state locator map. Extent should be at least 10 miles from the project boundary.

2. Project Area and Facilities

Provide a project area map with a recent (within the last 3 years) aerial photograph as a base. Include:

- Boundaries of the project area,
- Location of all proposed turbine sites
- Location of any new substation facilities or existing substation expansion
- Location of collector circuits, access roads, and crane paths.

- The extent of this map should not extend more than 2 miles beyond the project area boundary. Maps should include local infrastructure including roads, existing utility facilities (electric transmission and distribution, pipelines etc.), and the location of sensitive sites including but not limited to all residences, airports and private air strips, municipalities, recreational lands, major rivers and lakes. If new residences, subdivisions, commercial or industrial facilities have been built since the date of the aerial photo base map, note those features accurately on the project area map.

3. Public Land Ownership and Recreation

Map of all publicly owned lands inside the project boundary and within 5 miles of the project area (parks, trails national/county/state forests, etc).

4. Turbine Layout and Constraints

Provide layout and constraint maps for each turbine type under consideration. Include setbacks from participating and non-participating landowners, and any other proposed setbacks.

5. Existing Wind turbine locations in the project area.

6. Land Cover

Provide land cover in the project area and surrounding areas.

7. Zoning Map

Include local zoning in the project area and adjacent to the project boundary, including urban growth boundaries.

8. Topographic Maps

Provide topographic maps showing all turbine sites, substation facilities, collector circuits, and access roads. The topographic extent should extend no less than 2 miles out from the project boundary.

9. FEMA Floodplain

10. Wetlands Inventory Map

A. Wetland Maps

MN Wetland Inventory (MNWI) Maps up to 5 miles from the project boundary). Provide maps showing WI wetlands within and around the project area boundary. Maps should show each turbine site and all connecting facilities (roads, collector circuits etc.) without obscuring map details.

B. Delineated Wetlands Maps (within the project boundary)

C. Flood Insurance Rate Maps

11. Surface Waters

Map all surface waters within the project area and ½ mile from the project boundary

12. Unique Natural Features

Include MCBS site classification, rare plant communities, and cultural or archaeological sites of significance within and adjacent to the project boundary. Include turbine layout, collector circuits, and access roads.

13. Soils

Provide soils within the project area grouped by soil association. Include turbine layout, collector circuits, and access roads.

14. Site Geology and Depth to Bedrock

Map depth to bedrock in the project area. Include turbine layout, collector circuits, and access roads.

15. Land Ownership

A. Land Ownership Maps ½ mile outside the project boundary showing ownership, roads, and municipal boundaries.

B. Parcel boundary maps showing the project boundary with the location of all turbine sites, access roads, collector circuits, and crane paths. Parcel maps should be based on the most recent data available and include corrections to reflect accurate ownership.

16. Microwave Beam Path

Include microwave beam paths and telecommunication systems within and adjacent to the project boundary.

17. Sound/Noise

Map noise modeling data for each turbine type under consideration. Include all homes within the project area. See section 8.3 for more details.

Part V Repowering

Repowering is defined as a change to an existing wind facility to improve the operation and output of the wind turbines that results in a material change to the site permit language and conditions and a physical change to the wind facility. Output of the facility includes the megawatt hours production as well as the megawatt nameplate capacity. Turbine retrofit packages are considered material changes.

Changes that are not material changes to the site permit are software upgrades, maintenance, etc. as long as the output of the facility does not increase beyond 5 percent as a result of the immaterial changes. Retrofits on existing turbine bases that change the blade length or change the foundation engineering requirements are considered a repowering project.

Repowering Process

The Commission follows the site permit amendment process when considering repowering projects⁶. Permitting for the repowering process is expected to take approximately 3-4 months, as shown in Table 2.

Table 2: Overview of the Repowering Process

| Permitting Milestone | Pre-Application | Draft Application | Permit Amendment Application Filed | Comments on Application Completeness and Process | Notice of Public Meeting | Public Meeting and Comment Period | Recommendations on Permit Amendment | Site Permit |
|------------------------|--|--|---|---|--|--|---|---|
| Process | Data Assessment and Analysis. Consult with EERA, DNR, FWS, and other agencies. | EERA review for completeness; applicant provides additional information if needed. | E-file permit amendment application and submit hard copies to agency staff. | EERA submits comments and recommendations on application completeness and review process to Commission. | Commission issues Notice of Public Information meeting and comment period. | EERA staff makes a draft site permit available prior to the public meeting. The Commission accepts public comments on the amendment application. | EERA submits recommendations to Commission. | Commission issues/denies amended site permit. |
| Time in Days (approx.) | Varies | | 10 | | 15 | 40 | 64 | 100 |

If there are substantial outstanding issues at the end of the amendment process, the Commission will reject the amendment application without prejudice. An applicant may reapply at any time with additional information.

The Commission may request additional information if minor issues are not resolved; a comment period will be reestablished upon receipt of the information. Supplemental comment periods typically extend Commission decisions by 60-90+ days.

Application for Repowering

Repowering requires the submittal of a new application or an updated application. All of the information and data requirements in Parts 2, 3, and 4 of this guidance is to be included in an application for repowering.

The permittee must outline how the information provided in the amended application applies to the proposed changes (including site, natural resources, and proposed facility modifications) and compares to the information provided to permit the existing site. Explain any necessary changes to the proposed mitigation. If there are no modifications to either the impacts or the proposed mitigation measures for any of the topic areas, an explanation of why the impacts and mitigation have not changed must be provided.

If a permittee proposes a full repower of project facilities (decommissioning and rebuilding) the application must address all impacts and mitigation measures for the full process of the tear-down, rebuild, and restoration (to the extent proposed) in the application. In addition to addressing parts 2,3, and 4 of this guidance, the application must include the following: a decommissioning plan for the current site (including tear-down protocols; site removal, road impacts, equipment disposal, estimated costs of disposal and decommissioning, etc.), site restoration, information on the compliance with the existing and active permit requirements, and new construction information.

It is strongly recommended that permittees seeking a repowering amendment contact and consult with relevant agencies for input; contact landowners; and conduct community outreach prior to applying for an amendment. Disputed or unresolved issues in the amendment process may prolong a final decision or cause an application to be rejected.

Endnotes

¹[Minn. Rule 7854.0500, Subp. 7.](#)

²[Minn. Stat. 216E.03, Subd. 11.](#)

³[Minn. Stat. 216F.08; MN PUC Docket No.: E999/M-07-1102; Counties that have assumed authority as of 2/1/2019: Jackson, Lincoln, Lyons, Meeker, Murray, Pipestone, Stearns.](#)

⁴[Minn. Stat. 216F.04 \(c\).](#)

⁵[Minn. Stat. 216B.243 Subd. 8.](#)

⁶[Minn. Rule 7854.1300.](#)

**STATE OF MINNESOTA
MINNESOTA ENVIRONMENTAL QUALITY BOARD**

**In the Matter of the Proposed
Adoption of Rules Governing
the Siting of Large Wind Energy
Conversion Systems**

**STATEMENT OF NEED
AND REASONABLENESS**

Minnesota Rules chapter 4401

I. BACKGROUND AND INTRODUCTION

In 1995 the Minnesota Legislature passed a law regulating large wind energy conversion systems. Minnesota Session Laws 1995, chapter 203, codified at Minnesota Statutes sections 116C.691 to 116C.697. The law required that any person seeking to construct a Large Wind Energy Conversion System (LWECS) in Minnesota was required to obtain a Site Permit from the Minnesota Environmental Quality Board.

A wind energy conversion system is a wind turbine or windmill or other device and associated facilities that converts wind energy to electrical energy. A Large Wind Energy Conversion System is a combination of these devices that generates 5,000 kilowatts or more. Minnesota Statutes section 116C.691

The law went into effect on August 1, 1995. At that time the EQB already had an application pending for a large wind energy conversion system, commonly referred to as the Northern States Power Company Phase II Project, a 107.5 megawatt project near Lake Benton, Minnesota. The EQB has successfully applied the new statutory requirements to the project and issued a Site Permit to NSP on October 31, 1995.

In December 1995, the EQB adopted Interim Site Permit Procedures for Large Wind Energy Conversion Systems. These Interim Procedures identified information to be included in a permit application and established procedures for providing the public with opportunities to participate in the permit consideration. The EQB successfully applied the Interim Site Permit Procedures to seven large wind projects since the adoption of the Interim Procedures in 1995.

The Minnesota Environmental Quality Board is proposing to adopt these rules under the statutory provisions relating to adoption of rules without a public hearing. Minnesota Statutes sections 14.22 to 14.28. These statutes allow an agency to adopt rules by giving notice to the public and allowing a period of time for the public to enter comments into the record, but do not require the agency to hold a public hearing. Because the EQB has had extensive experience applying the Interim Site Permit Procedures and issued seven site permits under those Procedures, and because the Procedures form the basis of these

proposed rules, the EQB has been able to bring these rules forward in a proven and polished form. Permit applicants and the public have had opportunities to participate in the issuance of site permits under essentially the same requirements and procedures proposed in these rules. Neither permit applicants nor the general public have complained about the manner in which the EQB has administered the site permit program under the Interim Procedures. This should allow these rules to go forward in an expeditious and noncontroversial manner.

Alternative Format

Upon request, this Statement of Need and Reasonableness can be made available in a different format, such as large print, Braille, or cassette tape. To make a request, contact Larry Hartman at the Minnesota Environmental Quality Board, 658 Cedar Street, St. Paul, Minnesota 55155, phone (651) 296-5089, fax (651) 296-3698, or e-mail, larry.hartman@state.mn.us For TTY, contact Minnesota Relay Service at 800-627-3529 and ask for EQB.

II. STATUTORY AUTHORITY

Minnesota Statutes section 116C.695 provides:

The board shall adopt rules governing the consideration of an application for a site permit for an LWECS that address the following:

- (1) criteria that the board shall use to designate LWECS sites, which must include the impact of LWECS on humans and the environment;
- (2) procedures that the board will follow in acting on an application for an LWECS;
- (3) procedures for notification to the public of the application and for the conduct of a public information meeting and a public hearing on the proposed LWECS;
- (4) requirements for environmental review of the LWECS;
- (5) conditions in the site permit for turbine type and designs; site layout and construction; and operation and maintenance of the LWECS, including the requirement to restore, to the extent possible, the area affected by construction of the LWECS to the natural conditions that existed immediately before construction of the LWECS;
- (6) revocation or suspension of a site permit when violations of the permit or other requirements occur; and

(7) payment of fees for the necessary and reasonable costs of the board in acting on a permit application and carrying out the requirements of sections 116C.691 to 116C.696.

As is more specifically explained below in the discussion for each individual section of the proposed rules, each of these areas described above is addressed in the rules.

Under this grant of authority, the EQB has the necessary statutory authority to adopt rules for the administration of permit applications for Large Wind Energy Conversion Systems.

Minnesota Statutes section 14.125 – a part of the Administrative Procedure Act that applies to rulemaking – provides that an agency shall publish notice of intent to adopt rules or a notice of hearing within 18 months of the effective date of the authorizing statutes or the rule authority expires. However, this provision does not apply to laws authorizing or requiring rulemaking that were enacted before January 1, 1996, and the statutes at issue here were adopted in 1995.

Because the Interim Site Permit Procedures worked well in issuing LWECs Site Permits, the EQB elected to focus its efforts on the existing and proposed wind projects rather than on the development of a comprehensive set of rules. Thus, it has taken several years to bring this set of permanent rules to rulemaking. However, the experience the EQB has had in issuing these other site permits over the past five years has assisted the EQB greatly in addressing all the matters that are included in the proposed rules.

II. NEED FOR THE RULES

Rules for the administration of site permits for Large Wind Energy Conversion Systems are needed because the EQB is likely to receive a number of permit applications over the next few years and into the future for large wind projects. Wind energy continues to be developed along Buffalo Ridge in southwestern Minnesota, and other areas of the state are likely to see development as well. It is preferable to have in place a comprehensive set of procedures and requirements that have the force and effect of law that can be applied in permitting proceedings for large wind projects. The Legislature declared in 1995 that the policy of the State is to site LWECs in an orderly manner that is compatible with environmental preservation, sustainable development, and the efficient use of resources. These rules are intended to further those legislative goals and policies.

III. COMPLIANCE WITH VARIOUS STATUTORY REQUIREMENTS.

A. SOLICITATION OF OUTSIDE OPINION

Minnesota Statutes section 14.101 requires an agency to solicit public comments on the subject of the proposed rulemaking. On February 12, 2001, the EQB published notice in the *State Register* of its intent to promulgate rules regarding the processing of permit

applications for Large Wind Energy Conversion Systems. 25 State Register 1382 (Feb. 12, 2001). The EQB also published notice in the *EQB Monitor* on February 19, 2001.

The public was given until April 6, 2001, to submit comments in response. The EQB did not receive a single written comment in response to the notice of intent to solicit outside opinion. The EQB also solicited public comments in March 1996 with a notice to that effect in the *State Register*. 20 State Register 2256 (March 11, 1996). No comments on the subject of the rules were submitted at that time either.

B. DISCUSSION OF TOPICS IDENTIFIED IN SECTION 14.131

Minnesota Statutes section 14.131 requires that an agency that is proposing to adopt rules must address a number of factors in the Statement of Need and Reasonableness. The required factors are addressed below:

- (1) A description of the classes of persons who probably will be affected by the proposed rule, including classes that will bear the costs of the proposed rule and classes that will benefit from the proposed rule.**

The persons who will be primarily affected by these rules are the wind developers. Local governmental officials and the general public and organizations involved in environmental protection are also affected by these rules but not in the same way as the developers. Utilities that purchase electricity generated by wind power can be affected by these rules.

The wind developers will bear the costs of the proposed rules because they are the persons who apply for the permits to construct the Large Wind Energy Conversion Systems. These persons will have to pay fees for the processing of their permit applications. Also, the permit conditions that are imposed in a site permit, such as environmental mitigation and construction limitations and avian mortality and other studies, will also result in costs to the permittee to perform these tasks.

Permittees will also receive a benefit from these rules, however. The rules will inform wind developers what is expected of them in constructing large wind projects. The permit will authorize the permittee to proceed with construction of a wind project in a specific area, effectively precluding other developers from building in that area. The permit may be an effective tool in finalizing financing of a proposed project. The state permit will pre-empt local review of the project and eliminate the need to seek separate permits from a number of local governmental bodies.

Local government will be affected by these rules in the sense that a permit for a LWECs project will determine the location of the facility and the conditions under which the project is to be constructed and operated. Local government will be pre-empted from enforcing its own zoning and other regulations. Minnesota Statutes section 116C.697. Local residents may be impacted by the location of wind turbines near their property. Environmental organizations will be affected because the rules will determine how the

wind resources are developed in an orderly fashion that is protective of the resource and the environment. Utilities that will purchase the electricity generated by wind turbines will be affected through the availability and cost of such power.

(2) The probable costs to the agency and to any other agency of the implementation and enforcement of the proposed rule and any anticipated effect on state revenues.

The Environmental Quality Board is authorized by statute to charge permit applicants with the necessary and reasonable costs incurred by the EQB in processing the permit application. Minnesota Statutes section 116C.695(7). In addition, the EQB is authorized to make a general assessment against utilities in the state to fund the EQB's work with energy facilities. Minnesota Statutes section 116C.69, subd. 3. None of the expenses incurred by the EQB in either promulgating these rules or in administering permit applications will be paid for out of the general fund. Thus, implementation and enforcement of these rules should have no effect on state revenues.

The EQB estimates that in the next few years one or two permit applications for LWECS projects will be submitted each year. In the past six years since the law went into effect, the EQB has issued seven site permits for LWECS projects. The processing of these applications has cost about \$10,000 per application, although the first permit for the Northern States Power Company's Lake Benton I project was significantly higher, in excess of \$100,000, because it was a highly contested permit with a contested case hearing and an appeal to the Minnesota Court of Appeals by Kenetech Windpower, Inc.

(3) A determination of whether there are less costly methods or less intrusive methods for achieving the purpose of the proposed rule.

The EQB has operated under Interim Site Permit Procedures for the past five years. These rules are based on those Interim Procedures. Given the fact that neither the wind developers nor the general public have complained about any portions of the Interim Procedures for the past several years, it does not seem that the rules are unreasonably costly or intrusive. The EQB issued two Site Permits for LWECS in the year 2001 – one to Navitas Energy LLC and one to Chanarambie Power Partners LLC. It took about sixty days from acceptance of the application to complete the process and issue the permit, and it cost the applicants approximately \$10,000 each in fees charged by the EQB. The EQB believes that the proposed rules will provide for an expeditious consideration of a permit application with minimal cost to the applicant and ample opportunity for the public to be informed and to participate.

(4) A description of any alternative methods for achieving the purposes of the proposed rule that were seriously considered by the agency and the reasons why they were rejected in favor of the proposed rule.

In 1995 when the EQB first began implementing the statutory requirement to obtain a site permit for a LWECS, there were several wind developers who were competing for the

best lands along Buffalo Ridge for wind projects. In order to ensure that the best lands were available to the serious wind developers who were likely to proceed expeditiously with their projects, the EQB included in the Interim Site Permit Procedures a mechanism whereby a utility company that had applied to the Public Utilities Commission for a certificate of need for a wind project in a specific area and was directed by law to provide wind power, was entitled to have that area reserved for its development for a period of two years from the time the application was accepted by the PUC. Such a reservation is not included in the proposed rules.

The reason for eliminating this mechanism is because it is no longer necessary. Instead, the proposed rules allow a person to apply for a permit for a specific area, but the authorization to proceed is contingent on the permittee obtaining the wind rights in the area defined in the permit and obtaining a power purchase agreement with somebody who is going to buy the electricity generated. In the last few years it has been private companies, not public utilities, that have been applying for the wind permits. Developers with the wind rights and a commitment to buy the power, along with the financing to fund the project, are going to be able to proceed with their projects without any need to reserve an area in advance.

(5) The probable costs of complying with the proposed rule.

The most readily identifiable costs of the proposed rules are the fees to be charged for processing the permit application. These fees for the seven site permits issued to date have been approximately \$10,000 per permit proceeding, except for the first permit the EQB issued to Northern States Power Company in 1995. Unless a project is controversial for some reason, and a contested case hearing is required on the application, costs for processing a permit application should continue to be in the \$10,000 range.

Permittees, of course, will also incur costs in complying with the conditions imposed in the permit. Wind turbines can cost more than a million dollars apiece, so the costs of complying with permit conditions has not been a major factor for wind developers as far as the EQB knows. The avian mortality study that Northern States Power Company was ordered to perform in 1995 cost about \$500,000 to complete. That cost, however, is being shared proportionately by all wind developers who obtain permits from the EQB through 2002, depending on the megawatts of installed capacity permitted.

(6) An assessment of any differences between the proposed rule and existing federal regulations and a specific analysis of the need for and reasonableness of each difference.

This statutory requirement is primarily designed to address the situation where a proposed state rule is more stringent than a corresponding federal requirement. In this case, there is no corresponding federal regulation. Chapter 4401 applies to state permitting requirements for Large Wind Energy Conversion Systems. The federal government does not require such a permit for wind projects. The federal government could require approval for a wind project in certain circumstances, such as the case where

the wind turbines are near an airport or located on federal lands. However, the federal government does not require a permit for a wind project per se.

C. Performance-Based Analysis-Minnesota Statutes Section 14.002.

Minnesota Statutes section 14.002 requires an agency that is developing rules to describe in the Statement of Need and Reasonableness how it considered ways it might afford flexibility in complying with the regulatory requirements being proposed while still meeting the agency's objectives. Here, what the EQB tried to do was to minimize the burden on what must be submitted as part of a permit application, yet ensure that environmental and energy considerations are addressed, and to expedite the process, yet provide ample opportunity for public input.

An example of how the EQB provided flexibility is in part 4401.0450, subpart 2, where the proposed language gives a permit applicant the right to go ahead with the permit application even if the applicant does not have a power purchase agreement for the power that will be generated. Another example is in subpart 5 of the same part, where an applicant's lack of wind rights will not hold up processing a permit application, even though without the wind rights the proposer will not be able to build the project.

In order to provide information to the public, and yet keep the process moving, the proposed rules provide that upon acceptance of an application, the chair of the board will make a preliminary decision on whether a permit may be issued and prepare a draft site permit if the decision is to approve a permit. This draft site permit will quickly identify for the public and the applicant any areas of contention. In the end, the existence of a draft site permit should provide for an expeditious final decision.

Throughout development of the proposed rules, the EQB was cognizant of the desire by applicants to minimize the burden of applying for a permit and to provide for an expeditious final decision. The EQB also considered that the public wants to be informed about proposed projects and to have an opportunity to participate in the decisionmaking process. The EQB believes that these rules will result in an open, informed, expeditious permitting process. The statute gives the EQB 180 days from the time an application is accepted to reach a final decision. Minnesota Statutes section 116C.694(c).

All interested persons are encouraged to submit comments on any parts of the rules. If there are other instances where additional flexibility is possible, the EQB will certainly consider such suggestions.

D. NOTICE TO COMMISSIONER OF THE DEPARTMENT OF AGRICULTURE

Minnesota Statutes section 14.111 provides that before an agency may adopt rules that affect farming operations, the agency must provide a copy of the proposed rules to the Commissioner of the Department of Agriculture at least 30 days before publishing notice in the *State Register*. In this case, these proposed rules will not directly regulate farming operations, and this notice is probably not required. However, because the wind projects

to be permitted under these rules will likely be located on farm land, farming operations can be impacted when the wind turbines are constructed, and it is appropriate to notify the Commissioner.

Presently, the Commissioner of the Department of Agriculture, Gene Hugoson, is the chair of the Environmental Quality Board. Commissioner Hugoson has, of course, been advised of the possible adoption of these rules. This statutory requirement has been complied with.

E. ADDITIONAL NOTICE GIVEN TO THE PUBLIC

Minnesota Statutes section 14.23 requires an agency to describe in the Statement of Need and Reasonableness the efforts the agency made to notify persons or classes of persons who might be affected by the proposed rules about the proposed rulemaking. In addition to the statutory requirements to publish notice in the State Register and to mail notice to persons on the EQB rulemaking list, the EQB will also undertake other efforts to notify the public about these proposed rules.

The EQB will publish notice in the *EQB Monitor* of the proposed rulemaking. Each issue of the *EQB Monitor* is distributed to a lengthy list of persons and published on the EQB webpage. Many groups and individuals in Minnesota and elsewhere who are active and interested in environmental matters in the state are aware of the *EQB Monitor* and read it regularly.

In addition, the EQB will post a copy of the notice, the proposed rules, and this Statement of Need and Reasonableness directly on the internet. The EQB homepage contains an entry identifying the new items that have been recently posted by the EQB. When this material is first posted, the public will also see an entry highlighting the fact that this material is now available on the web.

The EQB has also over the past six years or so compiled a list of several hundred names of people who are known to the agency to be interested in wind development and new wind projects. The list includes names of wind developers, utility companies, local government officials, and the general public. The EQB will mail notice directly to the persons on this list, either by postal mail or by electronic mail.

Finally, the EQB will publish notice of the proposed rulemaking in local newspapers in southwestern Minnesota, where most of the wind development has occurred in the state. These will be the same newspapers that have been used in the past to provide notice about permit applications for specific projects.

V. RULE-BY-RULE ANALYSIS

This part of the SONAR is a rule-by-rule discussion of the reasons why the rule is being proposed. In a number of places, the EQB identifies documents that provide information that supports the proposed language

4401.0100 PURPOSE.

This part is simply a recitation of what chapter 4401 is intended to do and repeats the statutory policy regarding the orderly development of the wind resource in Minnesota. Minnesota Statutes section 116C.693. There are no substantive requirements in this part.

4401.0200 Definitions.

Subpart 1. Scope. This provision simply states that the terms defined in the rule are for purposes of chapter 4401.

Subpart 2. Associated Facilities. The term associated facilities is used in the statutory definition of “wind energy conversion system” but the Legislature did not define the term. It is helpful to provide a definition because an LWECS consists of not only the wind turbines, but also other associated facilities. Under the law even the associated facilities require a permit before construction is authorized.

The EQB proposes to define “associated facilities” as those “facilities, equipment, machinery, and other devices necessary to the proper operation and maintenance of a large wind energy conversion system, including access roads, collector and feeder lines, and substations.” This is simply a common sense definition. When permitting a LWECS, the EQB must not only identify the wind turbines to be included in the project, but also the other facilities and equipment that are necessary to make the wind turbines functional.

While it is not possible to identify specifically what facilities and equipment are included within the definition of “associated facilities” for every LWECS that might be proposed, there are some facilities that are certainly within the definition. The proposed definition lists access roads, collector and feeder lines, and substations as examples of “associated facilities.” These are the kind of facilities that have been included in other permitted projects as associated facilities. Surely, the electrical connections required to convey the electricity from the wind turbine to the transmission grid are associated facilities. Also, facilities necessary to transport the turbines and towers and other equipment to the site, like access roads, are the kind of activities that impact the environment and should be evaluated as part of the permit process. These roads are also necessary to maintain the turbines after they are up and running.

Other kinds of facilities and equipment and machinery that are necessary to the project will be determined during the permit process. The permittee can identify these facilities that are necessary to operation and maintenance of the LWECS. The reference to “necessary” facilities is specific enough to allow the applicant and the EQB to determine what is included within the definition.

Subpart 3. Board. The Minnesota Environmental Quality Board is sometimes simply referred to as the “board” in the rules for clarity and simplicity. The board is

comprised of the commissioners and directors of the state agencies that are members of the MEQB and the private citizens appointed by the Governor. Minnesota Statutes section 116C.03, subdivision 2. The board is the entity that makes the final decisions on permits and other matters.

Subpart 4. Chair. The “chair” is the person appointed by the Governor to serve as the chair of the board. There are several tasks identified in the rules for the chair of the Board to perform. As is explained below for specific rule language, it is reasonable to assign certain duties to the chair to ensure that the process moves expeditiously to a decision by the board. Since the board meets only once a month, it would slow down the process if every matter had to be brought to the board.

Subpart 5. Construction. The EQB does not want project proposers to begin construction of their proposed projects until after a permit has been issued. Part 4401.0300 provides that it is against the law to commence construction of an LWECs until the board has issued a site permit. The reason for prohibiting construction until the permit is issued is so that the applicant will not engage in conduct that irreversibly impairs the environment or make financial commitments that will make it difficult for the EQB to openly evaluate the project. It is common practice for permitting agencies to insist that projects not begin until a decision on the permit has been made. See, for example, the Minnesota Pollution Control Agency’s rules for water permits. Minnesota Rules part 7001.1020, subpart 8.

The question, of course, is what does it mean to commence construction. The kinds of commitments and activities described in the proposed rule – starting a continuous program of construction or site preparation - are the kinds of commitments and activities that would make it difficult for the EQB to deliberate to the extent it must on a permit request and to decide on the permit in accordance with the requirements of the law. These kind of efforts not only put pressure on the EQB to allow the conduct to go forward, but they can result in damage to the environment that could have and should have been avoided.

The proposed definition does not prohibit entering into power purchase agreements and obtaining wind rights from property owners and gathering wind data prior to obtaining a permit. Obviously, these kinds of tasks can be completed without impacting the permit process or the environment. Indeed, the EQB wants developers to negotiate and enter into power purchase agreements with utilities and negotiate and obtain wind rights from property owners. Certainly there is no objection to gathering wind data without applying for and obtaining a permit.

Nor does the rule make any mention of restricting the right to enter into contractual commitments related to the wind project. The EQB considered limiting the ability of a permit applicant to make binding contractual agreements to purchase facilities or equipment in advance of receiving a permit, but wind developers must be able to arrange for delivery of the turbines well in advance of applying for and receiving a permit from the EQB.

Subpart 6. Draft site permit. The draft site permit is a document that represents a preliminary decision by the chair that a site permit can be issued for the project. The draft site permit contains terms and conditions that the chair has determined might be appropriate to include in the final site permit. The draft site permit will assist the applicant and the public in understanding the issues associated with the proposed project

Subpart 7. EQB. This is the definition of the agency itself, including both the Board and the staff. Whenever it is the chair or the board that is responsible for performing a task or making a decision, the rules specify that. But in many instances it is the staff that will actually carry out certain tasks, and it is necessary to recognize that distinction. For example, it is the staff that will arrange for the publication of certain notices and maintain the accounting of the costs. In those instances in the rules where agency staff may perform the task, the rules spell out EQB, rather than the Board or the Chair.

Subpart 8. EQB Monitor. The *EQB Monitor* is a bulletin published by the EQB every other Monday. The *EQB Monitor* has been published by the EQB since 1977. The *EQB Monitor* is distributed widely to interested persons, and it is published on the web.

<http://www.mnplan.state.mn.us/eqb/monitor.html>

The public has come to expect notices of EQB matters to be published in the *EQB Monitor*, and there are several references in the rules to publication in the *EQB Monitor*.

Subpart 9. Large wind energy conversion system or LWECS. This definition is the statutory definition in Minnesota Statutes section 116C.691, subdivision 2.

Subpart 10. Person. Person needs to be defined broadly to include more than just individual human beings. The definition here is the same definition used in the Power Plant Siting Rules. Minnesota Rules part 4400.0200, subp. 12.

Subpart 11. Power Purchase Agreement. Individuals and corporations and other organizations that are not in the utility business are often the persons who propose large wind energy projects. These wind developers intend to sell the power generated to utilities like Xcel Energy and Great River Energy, who will then deliver the electricity to the ultimate consumers. Since the developers do not have their own transmission facilities, they need an agreement with the utilities to purchase the power to be generated. This definition defines power purchase agreement to be any kind of enforceable agreement between the developer and the utility for purchase of the wind power.

Subpart 12. Site Permit. The Site Permit is the document that the board issues at the completion of the process that authorizes the applicant to proceed with construction of the project under the terms and conditions contained in the permit.

Subpart 13. Small Wind Energy Conversion System or SWECS. This definition is identical to the statutory definition. Minnesota Statutes section 116C.691, subdivision 3. Every wind energy conversion system is either a SWECS or a LWECS but the EQB has jurisdiction only over the LWECS.

Subpart 14. Wind Energy Conversion System or WECS. This definition is identical to the statutory definition as well. Minnesota Statutes section 116C.691, subdivision 4. The Legislature intended in the statute and the EQB intends in the rule to promulgate a broad definition that will encompass any kind of device that captures the wind to use for the generation of electric energy.

4401.0300 PERMIT REQUIREMENT

Subpart 1. LWECS. This rule is simply a reiteration of the statutory mandate that a permit is required to construct a Large Wind Energy Conversion System. The rule also requires that the permit must be obtained before construction of the system can commence. Since the term “construction” is defined in part 4401.0200, subpart 5, there should be no confusion on the part of developers what is allowed to happen before the permit is issued. The explanation for the definition is included in the discussion for that subpart.

Subpart 2. SWECS. The Legislature provided that a Site Permit from the EQB is not required to construct a wind project of less than 5 megawatts and this rule recognizes that limitation. The EQB has no jurisdiction over SWECS, and the second sentence of this rule recognizes that local units of government are responsible for regulating the small wind projects. No state environmental review is required of an electric generating facility of less than five megawatts. Minnesota Rules part 4410.4600, subpart 3.

Subpart 3. Expansion of Existing System. The purpose of this provision is to require EQB review and approval before an existing LWECS is expanded by any amount or before an existing SWECS is expanded by an amount that allows the SWECS to generate more than 5 megawatts of electricity. Since the Legislature required any project over 5 megawatts to undergo state review, it makes sense to give the EQB an opportunity to analyze any expansion of an existing project when more than 5 megawatts of power are involved. The EQB wants to avoid the situation where several small projects are constructed without state review when in reality the projects are essentially one large project that requires an EQB permit.

The test proposed in the EQB rule for determining whether several small projects are really a large project is taken from the statutory language passed by the Legislature in the Energy Security and Reliability Act of 2001. Minnesota Session Laws 2001, chapter 212, article 5, section 2. In the 2001 legislative session, the Minnesota Legislature addressed this issue in terms of the incentive payment that is available to developers of small wind energy projects under two megawatts. Minnesota Statutes section 216C.41. The incentive payment is 1.5 cents per kilowatt-hour for qualifying facilities. The

Legislature was concerned that developers might attempt to skirt the limitations of the incentive payment provision by proposing several small wind projects, none of which exceeds two megawatts alone but which in total exceed that number, by proposing each project under a different name. In that way a developer might seek an incentive payment for several small projects that in reality are one large project in excess of the qualifying amount.

The language passed by the Legislature reads as follows:

(b) Beginning January 1, 2002, the total size of a wind energy conversion system under this section [216C.41] must be determined according to this paragraph. Unless the systems are interconnected with different distribution systems, the nameplate capacity of one wind energy conversion system must be combined with the nameplate capacity of any other wind energy conversion system that is:

- (1) located within five miles of the wind energy conversion system;
- (2) constructed within the same calendar year as the wind energy conversion system; and
- (3) under common ownership.

In the case of a dispute, the commissioner of commerce shall determine the total size of the system, and shall draw all reasonable inferences in favor of combining the system.

(c) In making a determination under paragraph (b), the commissioner of commerce may determine that two wind energy conversion systems are under common ownership when the underlying ownership structure contains similar persons or entities, even if the ownership shares differ between the two systems. Wind energy conversion systems are not under common ownership solely because the same person or entity provided equity financing for the systems.

Minnesota Statutes section 216C.41, subd. 5, as amended by Minnesota Laws 2001, ch. 212, art. 5, section 2.

The language in the proposed rule is essentially the same as the statutory language. The test applied by the Commissioner of the Department of Commerce for incentive payment purposes will be the same test applied by the EQB for permitting purposes. The Commissioner of Commerce is a member of the EQB Board and there will be cooperation between Commerce and the EQB in resolving whether two or more small projects are really one larger project.

4401.0400. FILING OF APPLICATION FOR SITE PERMIT.

Subpart 1. Number of Copies. The rule requires an applicant to file three copies of the application with the EQB. The reason three copies are required is so that the Chair can have a copy and the staff can have two. It is reasonable to require the applicant to provide enough copies to allow the staff and the Chair to conduct their review of the adequacy of the application. As is explained later, once the application is accepted the applicant will have to submit additional copies so the EQB can provide copies to all those persons who normally receive such documents.

Subpart 2. Electronic Copy. The EQB has been putting more and more information on its web page. The public has come to expect to find information about matters pending before all state agencies on the web. It is a convenient and inexpensive way to provide information to the public. In order to put the application on the web, the applicant must provide an electronic version of the document. The rule recognizes that an applicant can ask for a waiver of the requirement to provide an electronic copy, but it is hard to imagine in today's computer world that an electronic version is not available. Perhaps certain maps or photographs may not be available but even that situation should not arise often.

Subpart 3. Proprietary information. The purpose of this subpart is simply to recognize that on occasion an applicant may provide information as part of an application that is protected from public disclosure by Minnesota law. The most likely statute providing such protection is the Minnesota Government Data Practices Act, Minnesota Statutes chapter 13, and the most likely classification is trade secret information. Minnesota Statutes section 13.37(b). However, an applicant may have other reasons to protect certain information and may certainly rely on those.

The issue over public inspection of information in wind project applications has not been a problem in the past, but the rule nonetheless creates a mechanism for handling a request by an applicant to protect certain information from public disclosure. The request will be brought to the full Board for a determination of whether the information actually qualifies for the classification. If the Board disagrees with the applicant, and is of the view that the information is public information, the applicant can either allow the public to inspect the information, withdraw the application, or challenge the Board's decision in court. In any event, information that an applicant believes is not open for public review will not be made available to the public without affording the applicant an opportunity to establish that the information is protected.

4401.0450 CONTENTS OF SITE PERMIT APPLICATION.

Subpart 1. Applicant. This subpart requires the applicant to provide basic background information about the person or persons applying for the LWECS Site Permit. This same kind of information is required from applicants for other kinds of energy facilities permitted by the MEQB. See Minnesota Rules parts 4400.0600 (transmission lines), 4400.2600 (power plants), and 4415.0115 (pipelines). This kind of

information is necessary to ascertain who the permittee or permittees should be and also to provide contact persons for purposes of mailing notices and asking questions.

Item A. A letter of transmittal from an authorized representative or agent of the applicant is simply a means of submitting the application.

Item B. Providing the complete name, address, and telephone number of the applicant and authorized representatives ensures that the EQB staff can contact the right people if questions should arise. This is especially important when the application is first filed with the EQB if the staff has not had much prior contact with the applicant and learned the names of the appropriate people with knowledge about the project.

Item C. Asking for the signature of the preparer of the application is certainly a reasonable request. The preparer of the application is usually the person who is most knowledgeable about the project, or at least knows who to talk to about a particular matter. Applicants often use consultants to prepare and submit their applications. It is helpful to know who the consultant is so that questions may be directed to the consultant to clarify data or information in the application and to arrange for the transfer of an electronic version of the application.

Item D. The EQB wants to know whether the applicant is actually the person who will construct and operate the LWECS. It is important to determine the appropriate persons to name as permittees on the permit and to ensure that any conditions included in the permit will be complied with. The public usually wants to know the names of all persons involved with a proposed project. For example, in one application proceeding Northern States Power Company was the applicant, Zond, Inc. was the builder, and the permittee was Lake Benton Power Partners, LLC.

Item E. Asking the applicant to identify any other wind projects in which the applicant has an ownership or other financial interest will allow the EQB to determine whether a particular project is part of any other wind projects. It will also allow the EQB to consider the applicant's performance regarding these other projects and evaluate the applicant's ability to comply with permit conditions.

Item F. As with item D, the EQB wants to ensure that the proper persons are named as permittees. If the operator of the LWECS is required to ensure compliance with certain operating conditions, the EQB wants to know who that person is who will be performing certain operational tasks.

Item G. This last item simply asks the applicant to identify who should be named as permittees on the permit. It has been the EQB's experience that oftentimes a wind developer will incorporate a new organization for purposes of a particular project. The EQB needs to know the precise name of the applicants, and whether they are individuals, corporations, limited liability partnerships, or other organization. Asking the applicant to identify the precise names and structure of the permittees is the best way to ensure that the correct names are used.

Subpart 2. Certificate of need or other commitment.

Item A. A certificate of need is a document issued by the Minnesota Public Utilities Commission. Minnesota Statutes section 216B.243, as amended by Minnesota Laws 2001, chapter 212, art. 7, sec. 33. A certificate of need is required for any power plant over 50 megawatts. Minnesota Statutes section 216B.2421, subd. 2(a), as amended by chapter 212, art. 7, sec. 29.

If a certificate of need is required, the applicant should file that application with the PUC prior to filing a site permit application with the MEQB. See Minnesota Statutes section 216B.243, subd. 4, as amended by chapter 212, art. 7, sec. 32. The applicant can file a permit application with the EQB before the PUC makes a decision on the certificate of need, but the EQB cannot issue a permit until a certificate of need is issued. Minnesota Statutes section 216B.243, subd. 2. Because the siting process will take less time to complete than the certificate of need process, the board can process the site permit but not make a final decision on the site permit until a certificate of need has been granted. The need and siting decisions for other energy facilities are made in the same sequence.

Item B. This provision recognizes that the Board may ask the PUC to determine if a certificate of need is required for a particular project. Because wind turbines are modular in nature, additional turbines may be added to a project at almost anytime. If, for example, a 45 MW project is built (for which a certificate of need is not required because it is under 50 MW), and the developer later proposes to add another 10 MW, it may be appropriate for the PUC to determine if a certificate of need is required.

Item C. This provision addresses those wind projects for which a certificate of need is not required because the LWECs is under 50 megawatts. In the absence of a need decision, the board wants to know what the applicant intends to do with the power that is generated. The board does not want to issue a site permit for a project that may not be built.

The board explained the reasons for requiring a power purchase agreement in two recent wind permit proceedings. The EQB in May 2001 issued permits to two developers for projects for which they did not have a power purchase agreement. One permit was for Navitas Energy, LLC, and the other was for Chanarambie Power Partners, LLC. for projects in Murray and Pipestone Counties. In both cases, the permittee had not finalized a power purchase agreement, at least not for all the power it intended to generate. The EQB issued both permits but conditioned them on the requirement that the permittee obtain a power purchase agreement within a specified time. The EQB made a specific finding regarding this issue in those permit proceedings, which reads as follows: “The purpose of the requirement for a power purchase agreement was to ensure that a developer did not tie up a large area of land for wind generation when the project was not likely to go forward in a timely fashion.” Finding No. 44, Navitas Energy, LLC.

The rule provides that the chair may request the applicant to submit a copy of the power purchase agreement or other document confirming the sale of the power. It is reasonable to recognize that the EQB can insist on confirmation that a power purchase agreement or other enforceable arrangement exists for sale of the power. However, the power purchase agreement is sometimes a confidential document, and the EQB has not in the past required the entire document to be submitted. The EQB may not need to know the terms of the sale, or the price, or other matters, for example, but only that an enforceable agreement exists. In such event, the EQB can request that only certain parts of the agreement be submitted.

While it is reasonable to expect a wind developer to tell the EQB what it intends to do with the power it plans to generate, the lack of a power purchase agreement does not necessarily mean that the permit will be delayed or denied. Both the Navitas permit and the Chanarambie permit were conditioned on the permittee obtaining a power purchase agreement within a relatively short period of time, and the permittees were not allowed to proceed with construction until they obtained a power purchase agreement. This is a reasonable solution to the situation where a developer wants to get a project approved but has not finalized the purchase arrangement yet, and this approach is continued in the rules.

Subpart 3. State policy. This part requires the applicant to describe in the application how the LWECS project will comport with a state policy that provides for environmental preservation, sustainable development and efficient use of resources. Minnesota Statutes section 116C.693. This part is significant in that it expresses the state policy and provides the applicant an opportunity to demonstrate how the LWECS project addresses these general policy areas. The applicant's discussion of this may also provide the Board with additional knowledge about development of the wind resource that may be helpful in the review and permitting of the LWECS project.

Subpart 4. Proposed site. This provision requires the applicant to submit basic information about the proposed site.

Item A. The boundaries of the project must be identified with some specificity so the EQB can determine whether the project interferes with any other existing or proposed wind projects. Applicants for existing projects have not had difficulty in the past in providing the EQB with United States Geological Survey (USGS) maps or other maps showing the boundaries of the project. The EQB will specifically identify the boundaries of the project in any permit that is issued, so the applicant must specify the area for which approval is being sought.

Item B. The EQB wants to know the characteristics of the wind within the proposed project boundaries. In order to ensure the orderly and efficient use of the wind resource, as directed to do by the Legislature, it is important to know the quality of the wind in the area to be developed.

The information required under this item is the kind of information developers have to gather to determine whether a proposed location has the kind of winds that are required for a successful wind project. The ten characteristics identified in this rule provide information on the speed of the wind, the seasonal variation in the wind, the frequency of the wind, wind direction, height of the wind above grade, and other criteria that are important in siting the location of wind turbines. Developers are not going to propose a project unless they have gathered this kind of information about the wind. It has not been a problem with past permits for applicants to provide the information requested here.

Item C. Since other meteorological conditions like rainfall and snowfall and temperature can affect the amount of electricity generated by wind turbines, it is reasonable to request an applicant to supply this kind of information. Again, any applicant for a wind project costing millions of dollars is going to have this kind of information available.

Item D. The reason for identifying the location of other wind turbines in the general area of the proposed LWECs is to ensure that one project does not interfere with another. If turbines are sited too close together, a downwind turbine can experience what's called wake loss. Wake loss results when the wind is sent into a turbulent state after encountering a turbine. If a turbine is located too close downwind, usually within ten rotor diameters of the upwind turbine, the wind will not have had a chance to recover to its normal state, and the turbulence will result in less efficient generation of electricity at the second turbine. Because the EQB wants to ensure efficient use of the wind resource, it is preferable to avoid wake loss to the extent possible. By taking into account existing turbines, the EQB can evaluate the potential for wake loss with a proposed project.

Subpart 5. Wind rights. In order to construct wind turbines in a particular location, the permittee must have the right to place the turbines on the land in the desired location. Wind developers have negotiated easements and other agreements with many landowners along Buffalo Ridge in southwest Minnesota and in other areas of the state with potential wind resources. It is reasonable and appropriate to expect a permit applicant to describe what wind rights the applicant holds within the proposed boundary of the project. The manner in which the EQB will address the issue of wind rights with particular projects is discussed under part 4401.0610, subpart 1.

Subpart 6. Design of project. This rule requires an applicant to provide some detail about the project being proposed. This information is required so the EQB can know specifically what is being proposed, evaluate the project and identify any problem areas, and determine necessary conditions for any permit that is issued.

Item A. The applicant must identify how many turbines the project will include and where the applicant intends to install those turbines. Identification of turbine location is necessary for all kinds of reasons, everything from environmental impacts to wake loss. The EQB understands, however, that at the time the application is submitted, the applicant can only estimate where the turbines will be located, because micrositing

occurs after the permit is issued and construction is about to begin. The permit does not preclude the permittee from moving the location of particular turbines from what was anticipated, as long as other various restrictions of the permit are complied with, such as setback requirements and restrictions on placing turbines in areas like wetlands. Typically, a site permit for a wind project contains a condition requiring the permittee to inform the EQB of the precise locations of the turbines when the micrositing is complete.

Item B. The EQB needs to know the specifics of the turbines that will be installed – the height, the structure, the blade diameter, and other data. This information is necessary to evaluate the possible impacts of the project on the environment and to consider the energy production expected.

Items C and D. The wind turbines are only a part of any LWECS. A wind project also involves all kinds of electrical equipment, like transformers and collection and feeder lines, and other equipment like maintenance and operational equipment. In order to evaluate the complete impact of a proposed project, these associated facilities must also be identified. It is appropriate to require the applicant to identify what additional facilities are associated with the particular project being proposed. In addition, this will ensure that any permit that is issued will be written to cover everything that is associated with the project.

Subpart 7. Environmental impacts. Of course, the EQB must investigate and review the environmental impacts associated with any proposed wind project. The applicant is the one that must provide the information about the potential impacts of the project. What this rule requires is the inclusion in the application of information on the potential impacts of the project, the mitigative measures that are possible, and adverse environmental effects that cannot be avoided. This is the typical analysis with any project undergoing environmental review by the EQB or other agencies.

The effects identified in items A – R in the rule should cover every potential impact of a LWECS. It is not necessary to discuss every single one of these in this Statement of Need and Reasonableness. Suffice it to say that an applicant must identify any and all potentially adverse impacts that may be caused by a proposed project and mitigative measures that might be implemented with regard to those impacts.

Wind projects have not been found to have significant environmental and human impacts. Wind projects along Buffalo Ridge have been generally well accepted by residents and others concerned about the environment. Permit conditions have been satisfactory to address specific concerns like wetlands and wildlife management areas with past permits. One area of concern that was raised initially was the possibility of avian fatalities caused by the turbines.

As part of the first wind permit issued by the EQB, the Board required Northern States Power Company to conduct an avian mortality study along Buffalo Ridge. This study was conducted between 1995 and 2000, and a report on the study was completed in 2000. The researchers found that the number of avian fatalities from the wind turbines at

Buffalo Ridge is essentially inconsequential, although there was some bat mortality found. The wind developers are presently conducting additional studies on bat mortality.

Because the environmental and human consequences of wind turbines are relatively minor and can be minimized by appropriate permit conditions, the EQB is not requiring in these rules that an Environmental Assessment Worksheet or an Environmental Impact Statement be prepared on a proposed LWECS. It is sufficient that the environmental impacts and mitigative measures be discussed in the application itself. If an issue of concern were to be raised specific to a particular wind project, the EQB could ask for additional examination of those impacts and could address the concern through permit conditions or by moving some of the turbines

Subpart 8. Construction of project. Construction itself can cause environmental impacts, so it is necessary for the applicant to address the manner in which the project will be constructed. It may be necessary to include conditions in the permit requiring mitigative measures during construction of the turbines.

Subpart 9. Operation of project. Once the wind turbines are up and running, they must be operated and maintained. The applicant must describe its operation and maintenance procedures so any impacts associated with those tasks can be identified and addressed.

Subpart 10. Costs. The EQB uses the cost information to evaluate whether the project is making efficient use of the wind resource. Also, cost information is important to place in perspective the costs of mitigating any environmental impacts that are identified.

Subpart 11. Schedule. The EQB wants to know at the time the application is submitted what the developer's proposed schedule is. The EQB understands that sometimes schedules slip, but at least the applicant can provide an anticipated schedule. The rule requires the applicant to describe the anticipated schedule for a number of tasks, including obtaining the permit, acquiring land, obtaining financing, procuring equipment, and completing construction. This information will give the EQB a good overall view of the tasks required to be completed to actually bring the project online, and help identify any constraints in the schedule. The expected date of commercial operation is helpful to the EQB and to other state agencies as well. The public, also, is interested in the anticipated schedule for construction of the project.

Subpart 12. Energy projections. The EQB has been collecting data on how well the wind turbines in the state have been performing. At the time the application is submitted, the applicant can only make projections on the energy to be generated, but it is helpful to know what the developer expects to receive from the turbines planned for installation.

Subpart 13. Decommissioning and restoration. Just like any other project, a LWECS will not last forever. At some point the wind turbines and other associated

facilities will have to be decommissioned. The EQB wants to know upfront how the developer plans to pay for removal of the turbines at the end of their useful life. Since the wind turbines may last for thirty years or more, and the ownership of the project may change over the years, some arrangements must be made from the start to provide funding for the ultimate decommissioning. In other cases wind developers have created funds specially set aside for this purpose, and the funding comes from payments made periodically from sale of the electricity. The EQB is not promulgating one specific requirement for ensuring funds are available for decommissioning, and the EQB will allow applicants to be creative provided the EQB can be assured the money will be there when needed.

Subpart 14. Identification of other permits. It is not unusual with any project requiring a permit that the applicant identify what other permits are required before the project can go ahead. These permits are normally such permits as a Department of Natural Resources water crossing permit or a wetland survey and a Pollution Control Agency surface water discharge permit. Sometimes federal approval may be required, depending on the location of the project. For example, approval from the Federal Aviation Administration (FAA) may be required if an airport is nearby, or approval from the Bureau of Land Management could be necessary if the project were to be located on federal lands. Local government is pre-empted from enforcing its zoning and land use ordinances when the EQB has jurisdiction over a project. Minnesota Statutes section 116C.697.

4401.0460 ACCEPTANCE OF APPLICATION.

Sections 4401.0460 through 4401.0550 establish the procedures the EQB will follow in acting on an application for a site permit for a LWECs. The Legislature specifically directed the EQB to adopt rules establishing such procedures. Minnesota Statutes section 116C.695(2).

Subpart 1. Action by chair. The chair has thirty days under this requirement to accept or reject an application once it is submitted to the EQB. The statute specifically provides that it is the chair who decides on the completeness of the application. Minnesota Statutes section 116C.694(c). Allowing the chair to make this decision, rather than the board, will help to speed the process along. Ultimately, of course, it is the full board that will decide whether to issue a permit and what conditions to include.

The chair has thirty days from the day the application is submitted to make a decision on the completeness of the application. Acceptance of the application also triggers the start of the 180 days the EQB has to act on the application. Minnesota Statutes section 116C.694(c). Normally, wind developers have been in contact with the staff prior to submission of an application and have allowed the staff to comment on draft applications. Thus, when the application is submitted in final form, it contains the information the staff believes is necessary and is quickly accepted. If the chair should reject an application, the rule requires the chair to identify in writing the deficiencies that exist and how the application can be corrected.

Subpart 2. Notice of application acceptance. It is important that notice be provided quickly to persons who are likely to be interested in the fact that a wind permit has been applied for. This subpart requires the applicant to notify local officials and to publish notice in a newspaper of general circulation in each county in which the project is proposed to be located within fifteen days after acceptance of the application. Fifteen days is a reasonable period of time. There is no reason notice can't be published in the newspaper within a few days or a week after acceptance of the application.

This subpart provides that failure to give this notice or a delay in giving the notice could result in the permit being denied or a decision being delayed. It is appropriate to provide that these kind of sanctions could be imposed because the EQB has only 180 days to act on a permit application once the application is accepted, and it is important to give the public ample opportunity to respond to the proposal.

However, it is unlikely that such sanctions would be imposed. In most instances, the public will have already been informed about the possibility of a wind project in their vicinity by the time the application is submitted to the EQB, since usually the word about a proposed project is in the news locally before a permit is even applied for. Also, the subpart provides that the chair may elect to relieve the applicant of giving this notice. The reason for this is oftentimes the EQB is prepared to give the notice specified in part 4401.0550, subpart 1, at the same time the applicant is required to give notice under this subpart. In such situations, it makes sense to combine the notice to provide all the information specified in 4401.0550. Further, the EQB will post the application on its web page as soon as possible after the application is accepted, and the use of the internet helps provide notice very quickly.

Subpart 3. Additional copies. The purpose of this subpart is to ensure that a hard copy of the application is available in the area where the project is proposed to be located. The rule requires the applicant to provide a copy to the cities, townships, and counties where the project is located. These local governmental offices are a convenient place for residents in the area to come to review a hard copy. The rule directs local officials to make the application available for public inspection. The EQB has found local officials more than willing to perform this task in the past.

The applicant also must provide a hard copy to the Minnesota Public Utilities Commission and the Minnesota Historical Society. The PUC is interested in all wind projects because the PUC may have evaluated the project as part of a certificate of need proceeding or may have to consider the project in a subsequent rate hearing. The Department of Commerce will also be interested in all wind projects, but since the Commissioner of the Department of Commerce is a member of the EQB board, that agency will always be provided with such applications.

The rule requires the applicant to provide a hard copy of the application to each landowner within the boundaries of the proposed LWECS site. These are the people who are most directly affected by the project and who are most likely to review the

application. The EQB experience with all kinds of energy facilities is that the landowners whose property is most directly affected want to be provided with a hard copy of the application.

Once an application has been accepted, the applicant must submit a number of additional copies to the EQB. The rule does not specify how many copies of the application the applicant must submit. The chair will inform the applicant of the number. The EQB would like to minimize the number of hard copies that are required, but the EQB has a fairly extensive mailing list of agencies and citizens who require a copy of such documents. It is likely that the EQB will require 40 or more copies.

4401.0470 PUBLIC ADVISOR The Power Plant Siting Act, Minnesota Statutes sections 116C.51 to 116C.69, which was passed in 1973, gives the EQB jurisdiction over power plants other than wind projects and over high voltage transmission lines. One of the requirements of the Power Plant Siting Act is that the EQB appoint a staff person to act as a public advisor when a permit application for a power plant or transmission line is submitted. Minnesota Statutes section 116C.59, subd. 3. There is no corresponding requirement in the wind power statutes, but the EQB believes that continuation of this practice is desirable. Therefore, the EQB is proposing to adopt this section to provide for the appointment of a staff person to assist the public in participating in LWECS permit proceedings. The EQB has appointed a public advisor in the other wind project permit proceedings and the public has appreciated having such a person to consult about the process.

The language in this section is based on the language in the existing power plant siting rules. Minnesota Rules part 4400.0900. It is important to emphasize in the rule that while this staff person can assist the public in understanding the process, the staff cannot act as a legal adviser or advocate for any member of the public.

4401.0500 PRELIMINARY DETERMINATION AND DRAFT SITE PERMIT.

Subpart 1. Preliminary determination. This rule provides that within 45 days after acceptance of an application, the Chair must make a preliminary determination whether a permit may be issued and prepare a draft site permit with proposed conditions if a permit may be issued. This is the process followed by other agencies in administering permit programs. See the Pollution Control Agency rules on permits. Minnesota Rules parts 7001.0100 and 7001.1080.

The existence of a draft site permit will help the public and the applicant focus on any issues that are associated with the project. It will convey a preliminary decision by the chair that a site permit may be issued, and the proposed conditions will identify any potential issues of concern. The EQB has issued seven site permits for LWECS over the last six years and these permits have been quite similar in content. The EQB believes that it can quickly make a preliminary decision on whether a permit is appropriate and can draft the document with conditions based on the other permits that have been issued.

Subpart 2. Effect of draft site permit. This provision is necessary to clarify that issuance of a draft site permit does not mean that a permit is guaranteed. The EQB could still deny the permit based on information that is collected during the permit process. The permit conditions can certainly be changed in any manner that is supported by the record. Also, this rule emphasizes that a draft site permit does not authorize anything. A permit applicant is not authorized to begin construction of a wind project simply because the chair has sent a draft site permit out for public comment.

4401.0550 PUBLIC PARTICIPATION. This rule is intended to ensure that the public has an opportunity to participate in the processing of a permit application for a proposed wind project. The statute requires the EQB to include in its rules procedures for notifying the public of an application and affording opportunities for a public information meeting and a public hearing on a proposed LWECs. Minnesota Statutes section 116C.695(3). Some of the provisions in these proposed rules intended to provide public notice, part 4401.0460, and to assist the public, part 4401.0470, have already been discussed. This rule addresses additional notice and opportunities for public participation in the process.

Subpart 1. Public notice. Part 4401.0460 specifies requirements for notifying the public that a permit application for a wind project has been accepted by the EQB. This rule, part 44001.0550, specifies the notice that must be given by the EQB, not the applicant, about how the EQB will actually process the application and how the public may participate.

The rule does not specify when the notice must be given, but since it is not given until after a draft site permit is prepared, it could be as long as 45 days after acceptance of the application. However, with the Navitas and Chanarambie permits issued in May 2001, the staff had a draft site permit prepared within days after the application was accepted, so this notice was provided shortly after the application was accepted. That is the reason part 4401.0460, subpart 2, recognizes that these two notices may be combined.

Items A, B, and C. Some of the information – the name of the applicant and the description of the project and the location of a hard copy of the application– are repetitious from information the applicant must provide under 4401.0460. But it is helpful for the EQB to include that information in its notice as well.

Item D. This item requires a statement in the notice that a draft site permit is available. The draft permit will focus the issues for the public so it is important that the public knows that such a document is available.

Item E. This provision requires the EQB to identify the name of the public advisor appointed by the Chair. The public needs the identity of this person so the public knows who to contact at the EQB staff with its questions.

Item F. The notice must contain the time and place of a public information meeting that the EQB will hold on every site permit application. As discussed below, the

public must be given notice that a public meeting will be held in the area of the proposed project before the EQB will make a decision on a permit.

Item G. The notice must notify the public that comments may be submitted on the draft permit within a specified time period. The time period is discussed under subpart 4 of this rule. Also, the notice must inform the public that any person can request a contested case hearing on the matter. This hearing option is discussed under subpart 5.

Item H. Item H. requires the EQB to explain the anticipated procedures for reaching a final decision on the permit application. This requirement is another example of how the EQB wants to ensure that the public is fully aware of its opportunities to participate in the permitting process.

A related issue that should be discussed here under this proposed rule is the authority of the EQB to appoint a citizen advisory task force. The Power Plant Siting Act, which applies to large electric power generating plants and high voltage transmission lines, provides that the EQB can create a citizen advisory task force to assist the agency in siting and routing these kind of projects. Minnesota Statutes section 116C.59, subd. 1, as amended by Minnesota Laws 2001, chapter 212, article 7, section 18. These wind rules on LWECS do not contain a specific provision for creating such a task force. The reason for that is unlike the traditional coal-fired and natural gas-fired power plants, where several sites can be considered for the location of the plant, the wind developer has one particular area in mind for the project. There is not a great deal a citizen advisory task force can do with regard to selecting a site for a wind project.

In 1995, with the Lake Benton I project, the EQB actually did appoint a citizen advisory task force. That project, however, was proposed under the old power plant siting provisions that required an applicant to propose at least two sites. The task force did have two sites to review and did make a recommendation on a preferred site. Today, however, under these newer wind siting statutes, there are not two sites to review, and there is no role for a citizen advisory task force to play in reviewing potential sites.

Subpart 2. Distribution of public notice. While subpart 1 specifies what has to be in the notice the EQB will give the public, this rule addresses how to give that notice. Newspaper ads have historically been an effective means of alerting the public to matters pending before the EQB, and this rule continues that practice. Also, the EQB usually compiles a list of names and addresses of people who are known to the EQB to be interested in certain matters or certain kinds of matters, and the EQB will assuredly contact directly any person who asks to be notified about wind permits generally or a certain project specifically. Finally, the EQB Monitor has been published by the EQB for about 25 years, and the public has come to expect information like notice of permit applications in the Monitor. The Monitor is also available electronically on the EQB webpage, and thousands of people often check the Monitor on their computers for information.

Subpart 3. Public comments on draft permit. The public must be given an opportunity to submit comments on a proposed project. This rule gives the public a minimum of 30 days after publication of the draft site permit in the EQB Monitor to submit comments. The EQB can allow more than 30 days if the Chair believes that more time is appropriate in the circumstances. Also, the rule allows the Chair to extend the comment period if necessary to accommodate members of the public who have a good reason for needing more time. Further, the public will actually have more than 30 days from the time the notice of the acceptance of the permit application was first given and the application made available in local governmental offices.

Subpart 4. Public information meeting. The rule requires that the EQB hold a public informational meeting on each permit application. The EQB has held public informational meetings on all previous wind projects that have been permitted, and the EQB, and the public presumably, has found these meetings to be helpful in gathering information on a particular project. It is worthwhile to continue this practice.

The rule specifies how the meeting should be noticed and scheduled. The time frames provided are designed to afford the public an opportunity to meet with the EQB staff and the applicant at the meeting, ask their questions and gather information, and then have time to submit written comments if desired. The rule provides that the Chair can extend the comment period upon request.

Subpart 5. Contested case hearing. The statute requires that the EQB rules must provide for the conduct of a public hearing. Minnesota Statutes section 116C.695(3). The EQB does not read the statute to require a contested case hearing presided over by an administrative law judge in every case, as is specified in the Power Plant Siting Act for large electric generating power plants and high voltage transmission lines. Minnesota Statutes section 116C.57, subd. 2d., as amended by chapter 212, article 7, sec. 10. Instead, the EQB believes it is in compliance with the statute to provide for public meetings and an opportunity to request a contested case hearing in an appropriate situation. With only 180 days to complete the permitting process, it is unlikely the Legislature intended the EQB to hold a contested case hearing on every permit application.

During the public comment period, any person may request a contested case hearing. The person requesting the hearing must put the request in writing and specify the issues to be addressed in the hearing and the reasons why a hearing is necessary. The request will be presented to the full board. There must be a good reason to go through the time and expense of a contested case hearing. Item B. provides that the board will hold a hearing if it finds that a material issue of fact is in dispute and the holding of a hearing would aid the EQB in making a final determination on the permit application. These are reasonable criteria to apply in determining whether a contested case hearing is appropriate.

It is reasonable to impose a time limit on when a person may ask for a contested case hearing. The proposed rule allows the public to ask for a hearing any time up to the day

the comment period on the draft site permit ends. This is a minimum of 30 days after the draft site permit becomes available.

If a hearing is ordered, it will be a contested case hearing, presided over by an administrative law judge from the Office of Administrative Hearings who will conduct the hearing and write a report making recommendations on the site permit. Item C of the subpart specifically recognizes the role of the Office of Administrative Hearings. It is likely that the board will have to extend the time to act on the permit if such a hearing is held.

The only contested case hearing the EQB has held on a LWECS project involved the Lake Benton I project in 1995, in which two developers were competing for the same project. The other six LWECS that have been built along Buffalo Ridge were permitted without any controversy. No members of the public requested hearings on any of those projects. The EQB expects that future projects will also be able to be permitted without a contested case hearing, but this rule will be available if the situation should arise where there is public objection.

4401.0600 FINAL PERMIT DECISION.

Subpart 1. Board action. This subpart recognizes that it is the full Board that will make the ultimate permit decision. The rule provides that the Board must follow the applicable contested case procedures in those situations where a hearing was held. Those requirements can be found in the EQB's own procedural rules, Minnesota Rules chapter 4405, and in the rules of the Office of Administrative Hearings, Minnesota Rules chapter 1405, and in the Administrative Procedure Act, Minnesota Statutes sections 14.57 to 14.62.

When a hearing has not been held, the Board must still act on the basis of the record that has been created and follow its own procedural requirements in Minnesota Rules chapter 4405, for bringing matters to the Board at a regular monthly meeting for action.

Subpart 2. Time limit for decision. This provision is merely a repeat of the statutory requirement that the EQB has 180 days after acceptance of the application to act on the request. Minnesota Statutes section 116C.694(3). However, the statute allows the EQB to extend this deadline for cause, and the rule recognizes that possibility. It is impossible to identify in the rule all the reasons for extending a deadline, and the EQB has not even attempted to list any acceptable reasons. It is reasonable to address this question on an ad hoc basis as the situation arises. Of course, if the applicant agrees to the extension, it is reasonable to extend the time. In all cases, the EQB will not unreasonably delay reaching a decision on a permit.

In the past, for projects that were not contested, the EQB has been able to issue a site permit within just a month or two from the date the application was submitted. Under these rules, requiring certain notices to be given and affording time for public comment,

the EQB should be able to make a final decision on an uncontested permit request within three or four months from the day the application is accepted.

Subpart 3. Determination by board. This rule sets forth the standard for issuance of a permit. The requirements are taken from the statute setting forth state policy to site LWECs in an orderly manner that is compatible with environmental preservation, sustainable development, and the efficient use of resources. Minnesota Statutes section 116C.693. These criteria are admittedly subjective, but they are the standards established by the Legislature, and in the seven wind permits the EQB has issued to date, application of these criteria has not been a problem. It is reasonable for the EQB to attempt to minimize the environmental impacts of the project, ensure the continued development of the wind resource, and utilize the wind resource in an efficient manner that keeps the costs of wind power as low as possible.

Subpart 4. Conditions. The EQB is authorized by statute to include conditions in any wind permit it issues. Minnesota Statutes section 116C.694(d). The EQB has not attempted to establish by rule any conditions that go into all wind permits. Appropriate conditions are determined during the permitting process. The information required to be included with the permit application is intended to allow the EQB to establish appropriate conditions reflecting the specifics of the project.

The seven wind permits that the EQB has issued generally contain the same permit conditions, and it is likely that permits issued in the future will contain identical or similar conditions. The last two wind permits issued by the Board - the Navitas permit and the Chanarambie Power Partners permit – are essentially identical. Nonetheless, the EQB is not attempting in this rulemaking to establish any conditions by rule.

There are a couple of rule requirements in part 4401.0610 that will be included in the permits that are issued, so in a sense these rule requirements are permit conditions. These requirements are discussed below.

Subpart 5. Term. The statute does not establish any definitive term for a wind permit. The EQB proposes to adopt by rule a term of 30 years for an LWECs permit. The EQB has included this 30-year term in its existing permits without objection. The 30 years is based on the generally accepted fact that 30 years is about how long a wind turbine is expected to last. However, the rule does provide that the permit can be extended so the EQB has no intention of requiring the removal of turbines that have a useful life. Requiring a renewal after 30 years, however, will afford the EQB an opportunity to take a fresh look at an old project and determine whether there is useful life left.

4401.0610 EFFECT OF PERMIT.

Subpart 1. Wind rights. This rule provides that even if a person obtains a wind permit from the EQB, the permit itself does not convey the right to install any wind turbines if the permittee does not hold the wind rights in the area where the permittee

wants to construct the turbine. Many wind developers are private organizations without the authority of eminent domain that would allow the permittee to condemn land. A wind developer cannot simply march onto private property and begin installing wind turbines.

This issue came to light in May 2001 when both Navitas Energy and Chanarambie Power Partners wanted a wind permit to construct turbines in the same area. Neither one held the wind rights in the area contested. In order to proceed with issuance of a permit to both developers, the EQB included language in their permits that provided that they could not go ahead in the contested area until the wind rights were obtained, and then the developer that failed to get the wind rights was precluded from building in that area. See the Navitas and Chanarambie permits. This seemed like a reasonable solution to the issue, one that allowed the developers to proceed with their projects in other areas, and the EQB has determined to incorporate this approach into the rule.

Several years ago, when the first wind projects were being developed along Buffalo Ridge by Northern States Power Company, NSP solicited bids from wind developers with the condition that NSP would provide the wind rights. Now, the developers are responsible for obtaining their own wind rights

While wind rights are required in order to construct a wind project, the EQB has not necessarily held up the issuance of a permit when a developer is still negotiating for certain wind rights. With the two permits issued in May 2001 to Navitas Energy and Chanarambie Power Partners, the Board included in both permits a particular area for which neither permittee held the wind rights, but provided that only that developer that obtained the wind rights could develop in the area. This was a reasonable solution in May 2001 and may continue to be a reasonable method to deal with situations where a wind developer has not obtained the wind rights. However, a developer with wind rights in a particular area may also apply for a permit and pre-empt another developer with a permit from developing in a particular area.

Subpart 2. Other LWECS construction. This subpart is a corollary to subpart 1. While Navitas and Chanarambie sought their permits simultaneously, in the future two wind developers may seek a permit to place turbines in same area at different times. This rule recognizes that just because the first developer obtains a permit for a certain area, that a second developer cannot seek a permit for the same area if the first developer does not hold the wind rights in the area permitted. The EQB believes that this kind of rule will allow developers to continue with their development plans and result in expeditious development of the wind resource in Minnesota.

Subpart 3. Power purchase contract. This is another related issue. A wind developer is not going to be able to obtain financing of a proposed project if the developer has nobody to buy the wind power that is to be generated. However, a developer may seek a permit from the EQB while it is negotiating a power purchase agreement or other enforceable mechanism for sale of the power. This provision will allow the EQB to proceed with issuance of the permit even though the details on a power purchase agreement have not been worked out. This was the situation with the Navitas

and Chanarambie permits. In that case, the EQB gave both developers a permit but conditioned the permits on the obtaining of a power purchase agreement or other mechanism for selling the power. If the permittee was not able to finalize a power purchase agreement within a finite time, less than one year in Chanarambie's case and about a year with Navitas, the permit was null and void. Again, this kind of approach allows the EQB to issue the permit and keep the developer moving with its plans, and yet not jeopardize the use of the wind resource by another developer with wind rights or a power purchase agreement.

It was discussed above in section 4401.0600, subpart 4 (Conditions) that the EQB had not attempted to establish conditions in the rule. In effect, however, the requirements in this part 4401.0610 do establish conditions that will be placed in wind permits.

4401.0620 DELAY IN COSTRUCTION. Because the Legislature wants to see an efficient and orderly development of the wind resources in this state, the EQB has proposed this condition to require a permittee to begin construction of the project within two years, and if construction has not begun within that timeframe, the permittee must advise the Board of the reason for the delay. The Board may then consider whether to revoke the permit. No permit would be revoked without notice and opportunity to be heard and compliance with all of the permittee's rights.

The EQB has required in its Power Plant Siting rules for years, Minnesota Rules part 4400.4000, that if a large power plant or high voltage transmission line permitted by the Board is not placed under construction within four years, the Board shall suspend the permit and the permittee cannot proceed without a reinstatement of the permit by the Board. This same concept is continued in this rule, although the timeframe is shorter and the suspension or revocation of the permit is not automatic. The reason for the rule is that at least for the larger projects (over 50 megawatts), the Public Utilities Commission will have determined that the project is needed. If the project is needed, the EQB, and perhaps the PUC and other agencies as well, want to know what is holding up construction, and whether another developer or another project should be permitted.

4401.0700 PERMIT AMENDMENT OR REVOCATION.

Subpart 1. New boundary. When a wind permit is issued for a proposed project, the boundaries of the project are specifically defined in the permit. Once the permittee completes its micrositing process and determines the specific locations for the turbines, however, the size of the project may shrink in size. The EQB then redefines the boundaries of the project to be the minimum area required so that the areas not used are available for other projects.

In the past this amendment of the permit to redefine the boundaries has been done by the board. But because it is a rather routine matter, the proposed rule would delegate that authority to the chair. This delegation allows this task to be completed with a minimum of administrative delay. However, the rule does provide that if there is a dispute over the precise boundaries of the project, any person can bring the matter to the full board. This

could be the permittee, who thinks the project area has shrunk too much, or another developer who wants the boundaries even smaller. The EQB has not experienced any complaints over the redefining of the boundaries, but the rule provides a process in case an objection is raised.

Subpart 2. Permit amendment. The statute recognizes that the Board may “deny, modify, suspend, or revoke a permit.” Minnesota Statutes section 116C.694(d). This subpart simply repeats that authority.

Subpart 3. Permit revocation. This subpart recognizes that the Board may revoke a permit in certain situations and the rule specifies the situations under which the permit may be revoked. The first condition in Item A is when the applicant has knowingly made a false statement as part of the application. Obviously, a permitting agency has the authority to revoke a permit that was obtained falsely, and that is what this provision says.

Item B allows the Board to revoke a permit if the permittee has failed to comply with the terms and conditions of the permit. Again, this is a situation where any permitting agency could chose to revoke a permit. However, violation of a permit condition is not an automatic revocation. The Board has discretion in how to respond to a permit violation. Not every permit violation is of such consequence that revocation or other sanction is appropriate. This will be a case-by-case decision.

Item C allows the Board to revoke a permit if human health or the environment is endangered. Here, too, the Board has discretion and it will be an ad hoc decision.

Item D covers the situation where the permittee has violated other laws that reflect on the ability of the permittee to comply with the permit.

The EQB has never revoked a wind permit, or any other permit, that it has issued. It is unlikely that a permittee will ever engage in the kind of conduct specified here. Nonetheless, it is reasonable to provide in the rules for revocation of a permit if the situation should arise.

Subpart 4. Procedure. Because the EQB has discretion whether to revoke a permit even if certain conduct has been engaged in, and because a permittee is entitled to certain due process rights before a permit can be taken away, this subpart establishes that the EQB must afford the permittee the right to notice and opportunity to be heard before a permit can be amended or revoked. The rule also recognizes that the Board may act on its own volition, or any person may bring an alleged misconduct situation to the Board’s attention.

4401.0800 FEES.

Minnesota Statutes section 116C.695(7) provides that the board shall adopt rules governing “payment of fees for the necessary and reasonable costs of the board in acting

on a permit application and carrying out the requirements of sections 116C.691 to 116C.697. The EQB is not establishing in this rule that applicants must pay fees; that was established by the Legislature in the statute. Instead, this rule only addresses the manner in which the fees are paid.

Minnesota Statutes section 16A.1283 is a new statute that was passed in 1999 that provides that a state agency may not impose a new fee or increase an existing fee without the approval of the Legislature. In this case, the EQB is not imposing a new fee or increasing an existing fee. The fee remains exactly as the Legislature created it in 1995. Therefore, it is not necessary to obtain legislative approval to adopt this subpart of the rules.

Subpart 1. Fee requirement. The first sentence of this rule merely recognizes the requirement that a permit applicant must pay a fee. The second sentence attempts to identify some of the necessary and reasonable costs that must be paid in processing a permit application. Obviously, staff time is a significant part of the necessary expenses. In addition, there are costs the EQB must pay to other persons, such as newspapers and postage and travel expenses, that must be covered. Often the EQB must seek legal advice in processing a particular application, and this is certainly true if any litigation should result. There are times when the EQB's permit decisions are challenged in court. In fact, the first LWECS permit the EQB issued, to Northern States Power Company for the Lake Benton Phase I project, was challenged in court.

Subpart 2. Determination of board budget. The applicant must pay the necessary and reasonable expenses of the EQB in processing the application. When the permit is applied for, nobody knows exactly how much it will cost to process, so the chair, working with the EQB staff, will prepare an estimate of the expected costs. The estimate will be based on past experiences in processing LWECS applications and on the staff's expectations of what will be involved in processing the pending application. The expenses incurred by the EQB in issuing the last two wind permits issued by the Board – the Navitas and Chanarambie Power Partners permits issued in May 2001 and referenced throughout this document – were approximately \$10,000. This is a reasonable fee and the applicants have not complained about the amount.

If an applicant should disagree with the chair's estimate, the rule allows the applicant to bring the complaint to the attention of the board. The EQB does not expect this to happen, because the staff will be able to make a fairly accurate estimate, and because in the end, the applicant will not be required to pay more than the actual costs. In any event, the rule recognizes that an applicant could ask the board to review the estimated budget.

Subpart 3. Initial payment. The EQB will begin incurring costs from the time the application is submitted so it is necessary for the applicant to make a payment to the agency essentially at the same time the application is submitted. The rule recognizes that the EQB will not begin to process the application until the first payment is made. If the applicant is late in making the payment, the EQB's timeframe for completing the permit process will not commence. The EQB's experience has been that applicants will discuss

the budget with the staff before the application is even submitted, so that when the applicant does submit the application, a check for the initial amount can be included.

The rule requires that the first payment be at least 50% of the total estimated budget. Because the staff must complete a great deal of work in a relatively short time after the application is accepted, it is reasonable to require one-half of the total payment be made upfront. Also, since the timeframe allowed for the entire process is only 180 days, it is preferable to not spend a lot of time sending invoices out to the applicant for additional payments. Some applicants might simply choose to submit the entire estimated fee upfront with the application and wait until the final accounting to determine the actual expenses.

Minnesota Statutes section 116C.69, subd. 2 and 3, which apply to permitting of power plants and transmission lines, requires that permit fees be deposited in a separate account for the specific project. Section 116C.695 does not include that requirement, but the EQB has always in the past maintained separate accounts for LWECS applications, and it makes sense to continue that practice. Maintaining a separate account helps ensure that only the necessary and reasonable costs attributable to the project are charged to the applicant.

Subpart 4. Periodic payments. If the applicant only pays one-half of the estimated budget, or if the estimated budget turns out to be insufficient, the EQB will send an invoice to the applicant and request additional payments. The EQB expects the applicant to make the payments before the EQB incurs expenditures beyond what is available in the account, and the EQB usually requests payment within 30 days of receipt of the invoice. It is reasonable to require that the applicant maintain a positive balance in the account to pay EQB expenses as they are incurred.

The rule provides that if the applicant has an outstanding balance due at the time the EQB is prepared to make a final decision on the permit, the applicant must pay that amount before a final decision is made. It makes good sense to ensure that the applicant pays what is owed for processing the permit before the final decision is made

Subpart 5. Final accounting. Since the applicant pays only what is necessary and reasonable, a final accounting is required once all the expenses have been incurred. The final accounting will indicate exactly what costs and expenses were paid as part of the application. The EQB's accounting people will prepare the final accounting. If the applicant believes that the figures are unnecessary or unreasonable, the applicant can request that the board review the numbers and make a final decision on the amount due.

The final accounting cannot occur until the EQB has determined all its expenses in processing the permit application. It is possible that an aggrieved person may challenge the Board's final decision by bringing a lawsuit, so the final accounting cannot occur until the time for judicial review has expired.

It is reasonable to provide only a short period of time for either the applicant to make an additional payment, or the EQB to refund an overpayment, once the final accounting is determined. The rule provides for a thirty-day period for the final payment. Both the applicant and the EQB should be able to make the requisite payment within thirty days of the determination of the amount.

VI. Conclusion

As explained in this document, the proposed rules will help ensure that the EQB can carry out its legislative mandate to ensure the orderly development of the wind resources in this state while protecting the environment. The permit program established by these rules for Large Wind Energy Conversion Systems should operate in an effective and expeditious fashion to accommodate applicants who seek a prompt resolution of their permit application and the public who seek an opportunity to be informed and to be heard.

DATED: September 20, 2001



GENE HUGOSON
Chair
Minnesota Environmental Quality Board

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EXHIBIT LIST

1. 25 State Register 1382 (February 12, 2001) (Notice of Intent to Solicit Outside Opinion)
2. EQB Monitor (March 5, 2001)
3. List of Persons Interested in Rules on Wind Projects
4. List of Wind Permits Issued by the EQB
5. Interim Site Permit Procedures
6. Lake Benton I Permit
7. Navitas Energy, LLC
 - a. Application
 - b. Permit
 - c. Findings of Fact
8. Chanarambie Power Partners, LLC
 - a. Application
 - b. Permit
 - c. Findings of Fact
9. Avian Study
10. Energy Security and Reliability Act of 2001

ADDENDUM TO STATEMENT OF NEED AND REASONABLENESS

At the Environmental Quality Board meeting on September 20, 2001, when the Board approved the Statement of Need and Reasonableness and authorized the Chair to go forward with formal rulemaking on the proposed rules, the Board made one change in the proposed rules as they were presented to the Board. The Board in its authorizing resolution directed the staff to add a short Addendum to the SONAR explaining this one change, and that is the purpose of this Addendum.

The one change the Board made in the proposed rules was to change the word “electricity” in part 4401.0610, subpart 3 to the word “power.” The changed language now reads as follows:

Subp. 3. Power purchase agreement. A site 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 power to be generated by the project. If the permittee does not have a power purchase agreement or other enforceable mechanism at the time the permit is issued, the board shall provide in the permit that the permittee shall advise the board when it obtains a commitment for purchase of the power. The board may establish as a condition in the permit a date by which the permittee must obtain a power purchase agreement or other enforceable mechanism or the site permit is null and void.

The reason for the change is to recognize that the energy generated by wind turbines could be in a form other than electricity. For example, the electricity generated by the turbines could be used to produce hydrogen, which could then be stored and sold to a purchaser for use in generating electricity at a later time, or even sold for other purposes. By using a broader term in this subpart, the EQB is recognizing that it may be possible to utilize wind turbines for purposes other than the immediate sale of electricity.

On September 24, 2001, amendments to the rules of the Office of Administrative Hearings regarding rulemaking became effective. The amendments were published in the State Register on September 17, 2001 (26 State Register 391).

One of the changes made to the rules relates to information in the Statement of Need and Reasonableness. The new rule now requires the SONAR to include the date the statement is made available for public review. Minnesota Rules part 1400.2070, subpart 1.E. This rule change became effective after the EQB Board approved the Statement of Need and Reasonableness in this case but this Addendum is added to provide this information.

The Statement of Need and Reasonableness first became available to the public on September 13, 2001, the day the information for the EQB’s September 20 monthly Board

meeting was mailed to Board members and to persons on the agency's mailing list. The SONAR has been available for the asking since that date. The SONAR was discussed at the Board meeting on September 20, 2001.

BEFORE THE MINNESOTA PUBLIC UTILITIES COMMISSION

LeRoy Koppendrayer
David C. Boyd
Thomas Pugh
Phyllis A. Reha

Chair
Commissioner
Commissioner
Commissioner

In the Matter of Establishment of General
Permit Standards for the Siting of Wind
Generation Projects Less than 25 Megawatts

ISSUE DATE: January 11, 2008

DOCKET NO. E,G-999/M-07-1102

ORDER ESTABLISHING GENERAL WIND
PERMIT STANDARDS

LEGISLATIVE HISTORY

In 1995, the Minnesota Legislature enacted the Minnesota Wind Siting Act¹ which established jurisdictional thresholds and procedures to implement the state's authority to issue site permits for large wind energy conversion systems (LWECS). Permanent rules to implement the Wind Siting Act were adopted by the Minnesota Environmental Quality Board (EQB) in February 2002.²

In 2005, the Legislature transferred the site permitting authority for LWECS (with a combined nameplate capacity of 5 megawatts or more), to the Minnesota Public Utilities Commission. Site permits for wind facilities with a combined nameplate capacity of less than 5 megawatts (small wind energy conversion systems, or SWECS) are permitted by local units of government.

Amendments to the Wind Siting Act were enacted during the 2007 legislative session. The amendments:

- establish definitions and procedures requiring the commissioner of the Department of Commerce to make LWECS project size determinations for permit applications submitted by counties, and set forth that an application to a county for a LWECS permit is not complete without a project size determination from the commissioner;
- provide the option for counties to assume the responsibility for processing applications for permits required by the Wind Siting Act for LWECS facilities less than 25 MW in total nameplate capacity commencing January 15, 2008;

¹ Minnesota Statutes Chapter 216F.

² Minnesota Rules Chapter 7836.

- provide that the Commission shall establish general permit standards by January 15, 2008; and
- allow the Commission and counties to grant variances to the general permit standards and allows counties to adopt ordinance standards more restrictive than the Commission's general permit standards.

PROCEDURAL HISTORY

At its August 23, 2007 meeting, the Commission requested that the Department of Commerce's Energy Facility Permitting staff consult with stakeholders and prepare for the Commission's consideration general permit standards and setback recommendations to satisfy the legislative mandate.

On September 28, 2007, the Energy Facility Permitting staff issued a notice of comment period to all Minnesota county planning and zoning administrators, to the Power Plant Siting Act general mailing list and to persons on recent wind project mailing lists. The Energy Facility Permitting staff also made presentations about this proceeding to pertinent associations in St. Cloud, Winona, Fergus Falls, and Pope County.

The Commission received some 26 written comment letters during the comment period. Comments were submitted by:

- Wadena County
- Southwest Regional Development Commission
- Lyon County Board of Commissioners
- Dakota County
- Lyon County Public Works
- Minnesota Department of Natural Resources
- PPM Energy
- The Minnesota Project
- Community-based energy development (C-BED) project participants and supporters³

On December 20, 2007, the Commission met to consider the matter. Michael Reese and Steve Wagner, representing Pope and Stevens County C-BED projects, appeared and made comments.

³ Seventeen persons who identified themselves as participants and advocates for C-BED projects submitted an identical form letter regarding setback issues, the wind access buffer, elimination of wind right requirements for small acreages, and capping costs of required permit studies.

FINDINGS AND CONCLUSIONS

I. The Comment Process

Through written or oral comments, most stakeholders indicated general agreement that the state wind site permitting process, standards and setbacks provide public safety protections, protect the wind rights of landowners and require permittees to conduct due diligence to avoid unforeseen impacts, which has resulted in orderly wind development.

Several of the comments recommended that the general wind permitting standards and setbacks should require that wind projects permitted by Minnesota counties be subject to the same level of pre-construction studies, due diligence, and wind access buffer setbacks as LWECS projects. Other comments focused on specific areas of concern and requested that the Commission modify certain existing LWECS permit setbacks or conditions for the general permit standard.

Some persons making comments suggested changes to some of the Commission's established standards and setbacks, which will be discussed below.

II. Commission Action

After careful consideration, the Commission herein adopts the attached "General Wind Turbine Permit Setbacks and Standards for LWECS Facilities Permitted by Counties Pursuant to Minnesota Statute 216F.08." Exhibit A. These standards and setbacks maintain most of the Commission's established LWECS permit standards and setbacks which have been in effect for the last twelve years, with the relatively minor changes set forth below.

A. Wetland Setbacks

The Minnesota Department of Natural Resources (DNR) initially recommended that the Commission establish a 1000 foot turbine setback from all wetlands, streams, rivers and lakes listed in the state Public Waters Inventory and those listed on the National Wetlands Inventory.⁴ The DNR submitted a letter on December 7 which supported deferring action on the wetland setback issue to provide time to further explore the issue.

The DNR's proposal with respect to wetlands would encompass a large and significant change from the Commission's existing standards, which prohibit placement of wind turbines in wetlands, but require no setbacks from wetlands. Were the Commission to adopt this proposal, it would exclude significant amounts of land from future wind development. As the DNR has agreed to defer the issue pending further factual development, the Commission will retain its current practice of prohibiting placement of wind turbines in wetlands, but requiring no setback from them, as an interim standard.

⁴ The DNR's proposed wetland setback would not apply to Minnesota Wetlands Conservation Act "exempt" or "farmed" wetlands.

Having determined that the Commission cannot act on the DNR's recommendation unless and until there is further record development of this issue, the Commission will request the Energy Facility Permitting staff to investigate wetland setback issues with stakeholders and develop recommendations for future Commission consideration.

B. Wind Access Buffer Setback

Seventeen C-BED participants and advocates filed comments on setback issues.⁵ They asserted that the wind access buffer setback historically applied by the Commission⁶ to protect the wind rights of landowners adjacent to, but not participating in, the permitted project is overly conservative and does not economically or efficiently utilize state wind resources. The C-BED advocates requested a reduction of the wind access buffer to a distance of two rotor diameters on the cross wind axis and four rotor diameters on the predominant axis.

The DNR requested that the Commission require the same three rotor diameter by five rotor diameter wind access buffer setback to publicly owned conservation lands, such as state wildlife management areas.

Another commentor, PPM Energy, supported the current wind access buffer setbacks, considering the prevailing wind directions in Minnesota and the wake effects, or turbulence, between wind turbines.

The Energy Facility Permitting staff informed the Commission that their own experience, as well as information from experts and practitioners in the field of wind turbine siting, has consistently affirmed that wind turbines be spaced at least four rotor diameters and up to twelve rotor diameters apart on the predominant wind axis to minimize the effects of wind turbine induced turbulence downwind.

Therefore, the Commission will maintain its current setbacks of three rotor diameters on the secondary wind axis and five rotor diameters on the predominant axis. This buffer setback has been shown to protect wind rights and future development options of adjacent rights owners. At the request of the DNR, the Commission will also apply this same setback to public lands.

⁵ The wind access buffer setback is an external setback from lands and wind rights outside of an applicant's site control, to protect the wind and property rights of persons outside the permitted project boundary and persons within the project boundary who are not participating in the project.

⁶ The Commission has historically imposed a wind access buffer of three rotor diameters on the crosswind or secondary axis (typically east-west) and five rotor diameters on the predominant or downwind axis (typically north-south).

1. Setbacks from Small Parcels

C-BED participants requested that the Commission eliminate the wind access buffer setback from non-participating property owners with land parcels less than fifteen acres in size.

The Commission declines to do so. Historically, the wind projects for which Commission review and permits have been granted have been composed of dozens of individual parcels of land and wind rights, totaling thousands of acres of land for each LWECS project. For these many years, permittees have been able to develop projects while applying the wind access setbacks from small, non-participating landowners. After consideration, the Commission finds no rationale in statute or rule to treat one person's wind rights differently from another's.

2. Internal Turbine Spacing

C-BED advocates also requested that the Commission not regulate turbine spacing within an LWECS facility, nor require wake analyses prior to construction, claiming that these provide only a snapshot of expected performance at a facility.

The Commission declines to implement this request. The purpose of the internal turbine spacing setback and requirement that wake loss studies be submitted is to ensure that LWECS projects permitted by the Commission are designed and sited in a manner that ensures efficient use of the wind resources, long term energy production, and reliability.⁷

Maintaining the Commission's three rotor by five rotor dimension internal turbine spacing setback and requirement to submit wind wake loss studies is a reasonable means by which to accomplish these goals.

3. Setbacks from Roads and Recreational Trails

The DNR and Dakota County suggested increasing setbacks from public road rights-of-way to total turbine height; the DNR proposed applying the same setback from state trails and other recreational trails.⁸

As amended, Minn. Stat. § 216F.081 allows counties to adopt more restrictive public road setback ordinances than the Commission's general permit standards. The amended statute also directs the Commission to take those more restrictive standards into consideration when permitting LWECS

⁷ See Minn. Stat. § 216F.03 and Minn. Rules Part 7836.0200.

⁸ Dakota County also proposed establishing new, unspecified setbacks where high volume roads are present or to accommodate planned transportation expansion projects. The Commission's general permit standards ensure that LWECS are sited in a manner which will not interfere with future urban developments, including taking into consideration local comprehensive plans when reviewing LWECS site permits.

within such counties. Finally, the Commission or a county may require larger road setbacks on a case-by-case basis in situations where a greater setback is justified.

Here, maintaining the existing minimum 250 foot turbine setback from the edge of public road rights-of-ways continues to be reasonable. The purpose of the setback is to prevent ice from shedding off wind turbines onto public roads. No reports of ice shed from turbines being deposited onto public roads has come to the attention of state regulators, despite inquiries made to wind developers, maintenance technicians, and local government officials about the subject.

The Commission will therefore adopt a case-by-case approach to handling issues of this type where necessary and in the public interest. The Commission will adopt this same case-by-case approach to address setbacks from high volume roads that may be widened in future transportation expansion projects.

The Commission also concludes that setbacks should be developed and applied to state trails on a case-by-case basis. State trails, which are generally multi-use recreational trails, traverse a wide variety of terrains and landscapes across the state. Setbacks are primarily to enhance the aesthetic enjoyment of the trail user; however, the needs and desires of the owner of the property through which the trail runs must also be considered.

A case-by-case analysis is best suited in recognition of many types of permanent and temporary recreational trails situated across the state.

C. Miscellaneous Issues

Finally, comments and recommendations were offered on a variety of matters as set forth below. After review, the Commission finds that no changes to the Wind Siting Rules or General Permit Standards are necessary to address these issues.

Comments and recommendations were made concerning decommissioning and facility retrofit, urging review of permits if a permittee seeks to retrofit or otherwise modify the permitted facility. The Wind Siting Rules and Commission-issued LWECS permits have always required decommissioning plans nearly identical to the language recommended by the commentor. The Commission or counties have the ability to reassess and/or amend requirements for decommissioning plans as needed throughout the life of the LWECS facility permitted. Also, a facility retrofit or expansion would require Commission siting process review and site permit action, in accordance with Minn. Rules, Chapter 7836. These comments support the need to retain such requirements in the general wind permit standards.

The Southwest Regional Development Council offered comments on transportation issues related to transporting wind project equipment to the site, bridge and weight restrictions, local road permits required and construction related road damages. Issues such as these will continue to be handled by the governmental bodies controlling each road right-of-way, as set forth in Commission wind permit conditions. These comments support the need to retain such requirements in the general wind permit standards.

The Southwest Regional Development Council requested clarification on determination of project size. Minn. Stat. § 216F.011 provides a process and standards for the Commission and the Department of Commerce to use in making LWECS size determinations. Training materials and sessions will also be provided by the Department of Commerce Energy Facility Permitting staff.

Finally, the C-BED participants requested that permit costs for the site permit and any additional studies be capped at \$1000.00. Costs associated with site permit processing by the Commission are governed by Minn. Rule, part 7836.1500, which establishes that permit applicants shall pay the actual costs in processing an application.

ORDER

1. The Commission herein adopts the Large Wind Energy Conversion System General Wind Turbine Permit Setbacks and Standards proposed by the Department of Commerce Energy Facility Permitting staff, attached as Exhibit A. The general permit standards shall apply to large wind energy conversion system site permits issued by counties pursuant to Minn. Stat. 216F.08 and to permits issued by the Commission for LWECS with a combined nameplate capacity of less than 25,000 watts.
2. The Commission requests that the Department of Commerce Energy Facility Permitting staff further investigate wetland setback issues with stakeholders and develop recommendations for Commission consideration.
3. This Order shall become effective immediately.

BY ORDER OF THE COMMISSION



Burl W. Haar
Executive Secretary



(SEAL)

This document can be made available in alternative formats (i.e. large print or audio tape) by calling 651.201.2202 (voice). Persons with hearing or speech disabilities may call us through Minnesota Relay at 1.800.627.3529 or by dialing 711.

Exhibit A

Minnesota Public Utilities Commission

General Wind Turbine Permit Setbacks and Standards for Large Wind Energy Conversion System (LWECS) Permitted Pursuant to Minnesota Statute 216F.08

| Resource Category | General Permit Setback | Minimum Setback |
|---|---|--|
| Wind Access Buffer (setback from lands and/or wind rights not under permittee's control) | Wind turbine towers shall not be placed less than 5 rotor diameters (RD) from all boundaries of developer's site control area (wind and land rights) on the predominant wind axis (typically north-south axis) and 3 rotor diameters (RD) on the secondary wind axis (typically east-west axis), without the approval of the permitting authority. This setback applies to all parcels for which the permittee does not control land and wind rights, including all public lands. | 3 RD (760 – 985 ft) on east-west axis and 5 RD (1280 – 1640 ft) on north-south using turbines with 78 – 100 meter rotor diameters. |
| Internal Turbine Spacing | The turbine towers shall be spaced no closer than 3 rotor diameters (RD) for crosswind spacing (distance between towers) and 5 RD downwind spacing (distance between strings of towers). 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. | 5 rotor diameters downwind spacing 3 rotor diameters apart for crosswind spacing |
| Noise Standard | Project must meet Minnesota Noise Standards, Minnesota Rules Chapter 7030, at all residential receivers (homes). Residential noise standard NAC 1, L50 50 dBA during overnight hours. Setback distance calculated based on site layout and turbine for each residential receiver. | Typically 750 – 1500 ft is required to meet noise standards depending on turbine model, layout, site specific conditions. |
| Homes | At least 500 ft <u>and</u> sufficient distance to meet state noise standard. | 500 feet + distance required to meet state noise standard. |
| Public Roads and Recreational Trails | The turbine towers shall be placed no closer than 250 feet from the edge of public road rights-of-way. Setbacks from state trails and other recreational trails shall be considered on a case-by-case basis. | Minimum 250 ft |
| Meteorological Towers | Meteorological towers shall be placed no closer than 250 foot from the edge of road rights-of-way and from the boundaries of developer's site control (wind and land rights). Setbacks from state trails and other recreational trails shall be considered on a case-by-case basis. | Minimum 250 ft |
| Wetlands | No turbines, towers or associated facilities shall be located in public waters wetlands. However, electric collector and feeder lines may cross or be placed in public waters or public water wetlands subject to DNR, FWS and/or USACOE permits. | No setback required pending further PUC action. |

| | | |
|---|---|--|
| Native Prairie | Turbines and associated facilities shall not be placed in native prairie unless approved in native prairie protection plan (see native prairie standard below). Native prairie protection plan shall be submitted if native prairie is present. | No setback required. |
| Sand and Gravel Operations | No turbines, towers or associated facilities in active sand and gravel operations, unless negotiated with the landowner. | |
| Aviation (public and private airports) | No turbines, towers or associated facilities shall be located so as to create an obstruction to navigable airspace of public and private airports in Minnesota or adjacent states and/or providences. | Setbacks or other limitations determined in accordance with MNDOT Department of Aviation and Federal Aviation Administration requirements. |

Additional General Permit Standards

Pre-Application Project Size Determination.

Pursuant to Minnesota Statute 216F.011, applications to a county for a LWECS permit are not complete without a project size determination provided by the Commissioner of the Minnesota Department of Commerce. Requests for size determination shall be submitted on forms provided by the Department of Commerce. Upon written request of a project developer and receipt of any supplemental information requested by the commissioner, the commissioner of commerce shall provide a written size determination within 30 days. In the case of a dispute, the chair of the Public Utilities Commission shall make the final size determination.

Pursuant to Minnesota Statute 216F.011, the total size of a combination of wind energy conversion systems for the purpose of determining what jurisdiction has siting authority must be determined according to the criteria below:

The nameplate capacity of one wind energy conversion system must be combined with the nameplate capacity of any other wind energy conversion system that:

- (1) is located within five miles of the wind energy conversion system;
- (2) is constructed within the same 12-month period as the wind energy conversion system; and
- (3) exhibits characteristics of being a single development, including, but not limited to, ownership structure, an umbrella sales arrangement, shared interconnection, revenue sharing arrangements, and common debt or equity financing.

Wind Turbines Design Standards. All turbines shall be commercially available, utility scale, not prototype turbines. Turbines shall be installed on tubular, monopole design towers, and have a uniform white/off white color. All turbine towers shall be marked with a visible identification number.

Underground and Overhead Electric Collection and Feeder Lines. The permittee shall place electrical lines, known as collectors, communication cables, and associated electrical equipment such as junction boxes underground when located on private property. Collectors and cables shall also be placed within or adjacent to the land necessary for turbine access roads unless otherwise negotiated with the affected landowner. This paragraph does not apply to feeder lines.

The permittee shall place overhead or underground 34.5 kV electric lines, known as feeders within public rights-of-way or on private land immediately adjacent to public rights-of-way if a public right-of-way exists, except as necessary to avoid or minimize human, agricultural, or environmental impacts. Feeder lines may be placed on public rights-of-way only if approval or the required permits have been obtained from the governmental unit responsible for the affected right-of-way. In all cases, the permittee shall avoid placement of feeder lines in locations that may interfere with agricultural operations. Notwithstanding any of the requirements to conduct surveys before any construction can commence, the permittee may begin immediately upon issuance of a LWECS site permit to construct the 34.5 kV feeder lines that will be required as part of the project.

Any guy wires on the structures for feeder lines shall be marked with safety shields.

Topsoil and Compaction. The permittee must protect and segregate topsoil from subsoil on all lands unless otherwise negotiated with affected landowner. Must minimize soil compaction of all lands during all phases and confine soil compaction to as small area as possible.

Fences. The permittee shall promptly repair or replace all fences and gates removed or damaged during project life and provide continuity of electric fence circuits.

Drainage Tile. The permittee shall take into account, avoid, promptly repair or replace all drainage tiles broken or damaged during all phases of project life unless otherwise negotiated with affected landowner.

Equipment Storage. The permittee shall negotiate with landowners to locate sites for temporary equipment staging areas.

Public Roads. The permittee shall identify all state, county or township roads that will be used for the LWECS Project and shall notify the permitting authority (PUC or county) and the state, county or township governing body having jurisdiction over the roads to determine if the governmental

body needs to inspect the roads or issue any road permits prior to use of these roads. Where practical, existing roadways shall be used for all activities associated with the LWECS. 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.

Prior to construction, the permittee shall make satisfactory arrangements (including obtaining permits) for road use, access road intersections, maintenance and repair of damages with governmental jurisdiction with authority over each road. The permittee shall notify the permitting authority (PUC or county) of such arrangements upon request.

Turbine Access Roads. The permittee shall construct the smallest number of turbine access roads it can. 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. When access roads are constructed across streams and drainage ways, the access roads shall be designed in a manner so runoff from the upper portions of the watershed can readily flow to the lower portion of the watershed.

Private Roads. The permittee shall promptly repair private roads, driveways or lanes damaged unless otherwise negotiated with landowner.

Soil Erosion and Sediment Control. Prior to commencing construction, the Permittee shall submit its National Pollution Discharge Elimination System (NPDES) construction permit issued by the Minnesota Pollution Control Agency (MPCA) to the permitting authority (PUC or county).

Cleanup. The permittee shall remove all waste and scrap that is the product of construction, operation, restoration and maintenance from the site and properly dispose of it upon completion of each task. Personal litter, bottles, and paper deposited by site personnel shall be removed on a daily basis.

Tree Removal. The permittee shall minimize the removal of trees and shall not remove groves of trees or shelter belts without the approval of the affected landowner.

Site Restoration. The permittee shall, as soon as practical following construction of each turbine, considering the weather and preferences of the landowner, restore the area affected by any LWECS activities to the condition that existed immediately before construction began, to the extent possible. The time period may be no longer than eight months after completion of construction of the turbine, unless otherwise negotiated with the landowner. Restoration shall be compatible with the safe operation, maintenance, and inspection of the LWECS.

Hazardous Waste. The permittee shall be responsible for compliance with all laws applicable to the generation, storage, transportation, clean up and disposal of hazardous wastes generated during any phase of the project's life.

Application of Herbicides. Restrict use to those herbicides and methods approved by the Minnesota Department of Agriculture. The permittee must contact landowner prior to application.

Public Safety. The permittee shall provide educational materials to landowners within the site boundaries and, upon request, to interested persons, about the Project and any restrictions or dangers associated with the LWECS Project. The permittee shall also provide any necessary safety measures, such as warning signs and gates for traffic control or to restrict public access to turbine access roads, substations and wind turbines.

Fire Protection. Prior to construction, the permittee shall prepare a fire protection and medical emergency plan in consultation with the fire department having jurisdiction over the area prior to LWECS construction. The permittee shall register the LWECS in the local government's emergency 911 system.

Native Prairie. Native prairie plan must be submitted if native prairie is present and will be impacted by the project. The permittee shall, with the advice of the DNR and any others selected by the permittee, prepare a prairie protection and management plan and submit it to the county and DNR Commissioner 60 days prior to the start of construction. The plan shall address steps to be taken to identify native prairie within the Project area, measures to avoid impacts to native prairie, and measures to mitigate for impacts if unavoidable. Wind turbines and all associated facilities, including foundations, access roads, underground cable and transformers, shall not be placed in native prairie unless addressed in the prairie protection and management plan. Unavoidable impacts to native prairie shall be mitigated by restoration or management of other native prairie areas that are in degraded condition, or by conveyance of conservation easements, or by other means agreed to by the permittee, DNR and PUC or county.

Electromagnetic Interference. Prior to beginning construction, the permittee shall submit a plan for conducting an assessment of television signal reception and microwave signal patterns in the Project area prior to commencement of construction of the Project. 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 reception or microwave patterns in the event residents should complain about such disruption or interference after the turbines are placed in operation. The assessment shall be completed prior to operation of the turbines. 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 LWECs and associated facilities so as to cause microwave, television, radio, telecommunications or navigation interference contrary to Federal Communications Commission (FCC) regulations or other law. In the event the LWECs and its associated facilities or its operations cause such interference, the permittee shall take timely measures necessary to correct the problem.

Turbine Lighting. Towers shall be marked as required by the Federal Aviation Administration (FAA). There shall be no lights on the towers other than what is required by the FAA.

Pre-Construction Biological Preservation Survey: The permittee, in consultation with DNR and other interested parties, shall request a DNR Natural Heritage Information Service Database search for the project site, conduct a pre-construction inventory of existing wildlife management areas, scientific and natural areas, recreation areas, native prairies and forests, wetlands, and any other biologically sensitive areas within the site and assess the presence of state- or federally-listed or threatened species. The results of the survey shall be submitted to the permitting authority (PUC or county) and DNR prior to the commencement of construction.

Archeological Resource Survey and Consultation: The permittee shall work with the State Historic Preservation Office (SHPO) at the Minnesota Historical Society and the State Archaeologist as early as possible in the planning process to determine whether an archaeological survey is recommended for any part of the proposed Project. The permittee will contract with a qualified archaeologist to complete such surveys, and will submit the results to the permitting authority (PUC or county), the SHPO and the State Archaeologist. The SHPO and the State Archaeologist will make recommendations for the treatment of any significant archaeological sites which are identified. Any issues in the implementation of these recommendations will be resolved by permitting authority (PUC or county) in consultation with SHPO and the State Archaeologist. In addition, the permittee shall mark and preserve any previously unrecorded archaeological sites that are found during construction and shall promptly notify the SHPO, the State Archaeologist, and the permitting authority (PUC or county) of such discovery. The permittee shall not excavate at such locations until so authorized by the permitting authority (PUC or county) in consultation with the SHPO and the State Archaeologist.

If human remains are encountered during construction, the permittee shall immediately halt construction at that location and promptly notify local law enforcement authorities and the State Archaeologist. Construction at the human remains location shall not proceed until authorized by local law enforcement authorities or the State Archaeologist.

If any federal funding, permit or license is involved or required, the permittee shall notify the MHS as soon as possible in the planning process to coordinate section 106 (36 C.F.R 800) review.

Prior to construction, 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 any archaeological sites are found during construction, the permittee shall immediately stop work at the site and shall mark and preserve the site and notify the permitting authority (PUC or county) and the MHS about the discovery. The permitting authority (PUC or county) and the MHS shall have three working days from the time the agency is notified to conduct an inspection of the site if either agency shall choose to do so. On the fourth day after notification, the permittee may begin work on the site unless the MHS has directed that work shall cease. In such event, work shall not continue until the MHS determines that construction can proceed.

Project Energy Production: The permittee shall, by July 15 of each year, report to the PUC on the monthly energy production of the Project and the average monthly wind speed collected at one permanent meteorological tower selected by the PUC during the preceding year or partial year of operation.

Site Plan: Prior to commencing construction, the permittee shall submit to the permitting authority (PUC or county) a site plan for all turbines, roads, electrical equipment, collector and feeder lines and other associated facilities to be constructed and engineering drawings for site preparation, construction of the facilities, and a plan for restoration of the site due to construction. The permittee may submit a site plan and engineering drawings for only a portion of the LWECS if the permittee is prepared to commence construction on certain parts of the Project before completing the site plan and engineering drawings for other parts of the LWECS. The permittee shall have the right to move or relocate turbine sites due to the discovery of environmental conditions during construction, not previously identified, which by law or pursuant to this Permit would prevent such use. The permittee shall notify the permitting authority (PUC or county) of any turbines that are to be relocated before the turbine is constructed on the new site.

Pre-construction Meeting: Prior to the start of any construction, the permittee shall conduct a preconstruction meeting with the person designated by the permitting authority (PUC or county) to coordinate field monitoring of construction activities.

Extraordinary Events: Within 24 hours of an occurrence, the permittee shall notify the permitting authority (PUC or county) of any extraordinary event. Extraordinary events include but shall not be limited to: fires, tower collapse, thrown blade, collector or feeder line failure, injured LWECS worker or private person, kills of migratory, threatened or endangered species, or discovery of a large number of dead birds or bats of any variety on site. In the event of extraordinary avian mortality the DNR shall also be notified within 24 hours. The permittee shall, within 30 days of the occurrence, submit a report to the permitting authority (PUC or county) describing the cause of the occurrence and the steps taken to avoid future occurrences.

Complaints: Prior to the start of construction, the permittee shall submit to the permitting authority (PUC or county) the company's procedures to be used to receive and respond to complaints. The permittee shall report to the permitting authority (PUC or county) all complaints received concerning any part of the LWECS in accordance with the procedures provided in permit.

As-Built Plans and Specifications: Within 60 days after completion of construction, the permittee shall submit to the county and PUC a copy of the as-built plans and specifications. The permittee must also submit this data in a geographic information system (GIS) format for use in a statewide wind turbine database.

Decommissioning Plan. As part of its permit application, the permittee must submit a decommissioning plan describing the manner the permittee plans on meeting requirements of Minnesota Rule 7836.0500, subpart 13.

Special Conditions: Pursuant to Minnesota Statute 216F.04 and Minnesota Rule 7836.1000, the permitting authority (PUC or county) may adopt special permit conditions to LWECS site permits to address specific issues on a case-by-case basis.

STATE OF MINNESOTA)
)SS
COUNTY OF RAMSEY)

AFFIDAVIT OF SERVICE

I, Margie DeLaHunt, being first duly sworn, deposes and says:

That on the 11th day of January, 2008 she served the attached
ORDER ESTABLISHING GENERAL WIND PERMIT STANDARDS.

MNPUC Docket Number: E,G-999/M-07-1102

XX By depositing in the United States Mail at the City of St. Paul, a true and correct copy thereof, properly enveloped with postage prepaid

XX By personal service

XX By inter-office mail

to all persons at the addresses indicated below or on the attached list:

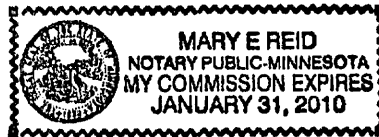
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Eric Witte
Marcia Johnson
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Bob Cupit
Bret Eknes
Mary Swoboda
Jessie Schmoker
Sharon Ferguson - DOC
Julia Anderson - OAG
Curt Nelson - OAG

Margie DeLaHunt

Subscribed and sworn to before me,

a notary public, this 11th day of

January, 2008
Mary E. Reid
Notary Public



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**BEFORE THE
OFFICE OF ADMINISTRATIVE HEARINGS
for the
MINNESOTA PUBLIC UTILITIES COMMISSION**

In the Matter of the Application of Freeborn
Wind Farm, LLC for a Large Wind Energy
Conversion System Site Permit for the 84
MW Freeborn Wind Farm in Freeborn
County.

**PUC Docket No. IP-6946/WS-17-410
OAH Docket: 80-2500-34633**

ASSOCIATION OF FREEBORN COUNTY LANDOWNERS

INITIAL BRIEF

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The Association of Freeborn County Landowners is an informal association of over 100 landowners and residents in and adjacent to the site footprint of the above-captioned Freeborn Wind Farm (hereinafter “Freeborn Wind”). The Association of Freeborn County Landowners have offered Initial and Reply comments in this docket, comments on the Draft Site Permit, have intervened to participate as full parties and offered testimony, and prepared and filed a Petition with roughly 470 signers, 78% of local residents and landowners, who are opposed to the project. Freeborn Wind is an industrial wind project wishing to move into an established agricultural and residential community. The community does not consent to this project, and strongly objects.

This project is the first to be intentionally reviewed under Minnesota siting criteria of the Power Plant Siting Act. The project is now designed to fit on a much smaller and spotted footprint than originally planned, and there is no room for any alteration in turbine locations. Environmental review, agency comments, Freeborn County ordinances and public comments should “reflect priorities and standards of the community.” Public comments and agency comments, particularly those of the Dept. of Health, have been given short shrift, and the review and analysis by the Department of Commerce EERA has been inadequate. The community does not consent, and firmly objects. This project, as proposed, should not be granted a site permit.

I. **SYSTEMIC PROBLEMS OF WIND SITING IN MINNESOTA DEMAND PREVENTATIVE AND PRECAUTIONARY SITING**

The State of Minnesota has systemic flaws in its wind siting process and mandated rules have not been promulgated, resulting in projects sited with inadequate and incomplete consideration of criteria, siting which violates permit conditions, puts landowners and residents at risk, and steals landowners’ use and enjoyment of their property. The Commission must address these systemic problems in issuing any wind permits, and must determine corrective action for previously permitted projects.

A. MINNESOTA LAW PROVIDES SOME EXEMPTIONS FOR WIND PROJECTS – BUT NOT SITING CRITERIA.

Under Minnesota’s Chapter 216F, Wind Energy Conversion Systems, wind projects are granted exemptions from the Power Plant Siting Act, EXCEPT for several sections which DO apply, most notably the siting criteria of the Power Plant Siting Act’s (PPSA) Minn. Stat. §216E.03, Subd. 7:

216F.02 EXEMPTIONS.

(a) The requirements of chapter 216E do not apply to the siting of LWECS, except for sections [216E.01](#); [216E.03, subdivision 7](#); [216E.08](#); [216E.11](#); [216E.12](#); [216E.14](#); [216E.15](#); [216E.17](#); and [216E.18, subdivision 3](#), which do apply.

In addition to being the first wind project sited using a contested case proceeding, the Freeborn Wind Project’s application is the first project in Minnesota to declare use of Minn. Stat. §216E.03, Subd. 7 siting criteria. FR-1, Application, p. 3. In addressing siting criteria and authority, the Draft Site Permit makes no mention of Minn. Stat. §216E.03, Subd. 7, expressly applicable, and only names Minn. Stat. Ch. 216F and Minn. R. Ch. 7854. EERA-8, Comments and Recommendations, p 3; Draft Site Permit, §1.0, p. 1; see also Davis, Tr. Vol. 2, p. 168, l. 4 – 169, l. 23. Minn. Stat. Ch. 216F and Minn. R. Ch. 7854 have no siting criteria. The legislature mandated that rules be promulgated addressing siting criteria to include addressing impact on humans and the environment, environmental review, and procedures. Minn. Stat. §216F.05. This has not been done. The error of citing Minn. Stat. Ch. 216F and Minn. R. Ch. 7854 for siting is common to each site permit reviewed, and the Commerce EERA boilerplate regarding authority and siting criteria is in error.

B. THE POWER PLANT SITING ACT SITING CRITERIA DOES APPLY.

The Applicants, Association of Freeborn County Landowners, and this court agree that the Power Plant Siting Act criteria for siting a project in Minn. Stat. §216E.03, Subd. 7 is

applicable to this project. See Minn. Stat. §216F.02. The Commission, by statute and rule, is to “determine that the project is compatible with environmental preservation, sustainable development, and the efficient use of resources, and the applicant has complied with this chapter.” See Minn. Stat. §216F.03 ; Minn. R. 7854.0500. Although there is a legislative mandate to develop wind siting criteria, among other things, and promulgate rules, that has not yet occurred. Minn. Stat. §216F.05.

While some provisions of Minn. Stat. §216E.03, Subd. 7 are not applicable, most are:

Subd. 7. Considerations in designating sites and routes (selected -- language not pertaining to wind generators has been eliminated).

(a) The commission's site and route permit determinations must be guided by the state's goals to conserve resources, minimize environmental impacts, minimize human settlement and other land use conflicts, and ensure the state's electric energy security through efficient, cost-effective power supply and electric transmission infrastructure.

(b) To facilitate the study, research, evaluation, and designation of sites and routes, the commission shall be guided by, but not limited to, the following considerations:

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

(2) environmental evaluation of sites and routes proposed for future development and expansion and their relationship to the land, water, air and human resources of the state;

(3) evaluation of the effects of new electric power generation and transmission technologies and systems related to power plants designed to minimize adverse environmental effects;

(5) analysis of the direct and indirect economic impact of proposed sites and routes including, but not limited to, productive agricultural land lost or impaired;

(6) evaluation of adverse direct and indirect environmental effects that cannot be avoided should the proposed site and route be accepted;

(7) evaluation of alternatives to the applicant's proposed site or route proposed pursuant to subdivisions 1 and 2;

(9) evaluation of governmental survey lines and other natural division lines of agricultural land so as to minimize interference with agricultural operations;

(11) evaluation of irreversible and irretrievable commitments of resources should the proposed site or route be approved; and

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

(c) If the commission's rules are substantially similar to existing regulations of a federal agency to which the utility in the state is subject, the federal regulations must be applied by the commission.

(d) No site or route shall be designated which violates state agency rules.

Minn. Stat 216F.05.

Power Plant Siting Act criteria is mandated for review and siting of this project.

C. THE LEGISLATIVE MANDATE FOR WIND SITING RULES HAS BEEN IGNORED FOR OVER TWENTY YEARS.

In 1995, the legislature passed a mandate directing the Environmental Quality Board to develop wind siting rules, amended in 2005 to reflect that the Commission was now in the role of siting utility infrastructure in the stead of the EQB.

216F.05 RULES.

The commission shall adopt rules governing the consideration of an application for a site permit for an LWECS that address the following:

(1) criteria that the commission shall use to designate LWECS sites, which must include the impact of LWECS on humans and the environment;

- (2) procedures that the commission will follow in acting on an application for an LWECS;
- (3) procedures for notification to the public of the application and for the conduct of a public information meeting and a public hearing on the proposed LWECS;
- (4) requirements for environmental review of the LWECS;
- (5) conditions in the site permit for turbine type and designs; site layout and construction; and operation and maintenance of the LWECS, including the requirement to restore, to the extent possible, the area affected by construction of the LWECS to the natural conditions that existed immediately before construction of the LWECS;
- (6) revocation or suspension of a site permit when violations of the permit or other requirements occur; and
- (7) payment of fees for the necessary and reasonable costs of the commission in acting on a permit application and carrying out the requirements of this chapter.

Minn. Stat. §216F.05. Rules addressing these points have not been promulgated, and the rules in Ch. 7854 are notably silent regarding these topics. The wind standards adopted by the Commission were not developed in a rulemaking process and are not rules. AFCL requests the court take administrative notice that there are no wind specific siting rules addressing these points of the legislative mandate.

D. WIND PROJECTS ARE NOT EXEMPT FROM ENVIRONMENTAL REVIEW.

Wind projects, as above, are expressly exempt from the Power Plant Siting Act's (PPSA) environmental review found in Minn. Stat. 21E.03, Subd. 5:

216F.02 EXEMPTIONS.

(a) The requirements of chapter 216E do not apply to the siting of LWECS, except for sections [216E.01](#); [216E.03, subdivision 7](#); [216E.08](#); [216E.11](#); [216E.12](#); [216E.14](#); [216E.15](#); [216E.17](#); and [216E.18, subdivision 3](#), which do apply.

The PPSA's 216E.03, Subd. 5 is part of the PPSA from which wind siting is exempted:

Subd. 5.Environmental review.

(a) The commissioner of the Department of Commerce shall prepare for the commission an environmental impact statement on each proposed large electric generating plant or high-voltage transmission line for which a complete application has been submitted. The commissioner shall not consider whether or not the project is needed. No other state environmental review documents shall be required. The commissioner shall study and evaluate any site or route proposed by an applicant and any other site or route the commission deems necessary that was proposed in a manner consistent with rules concerning the form, content, and timeliness of proposals for alternate sites or routes.

The wind siting chapter has no provision for environmental review, and despite the 1995 legislative mandate of rulemaking, specifically including development of environmental review for wind projects, that has not been addressed, and there are no wind rules regarding environmental review for siting of wind turbines. Minn. Stat. §216F.05; Minn. R. Ch. 7854. However, much of the expressly applicable PPSA criteria for siting does have an environmental component. Those that are applicable to wind projects address environmental considerations, including agency review which often has an environmental component:

Subd. 7. Considerations in designating sites and routes (language not pertaining to wind generators has been eliminated).

(a) The commission's site and route permit determinations must be guided by the state's goals to conserve resources, minimize **environmental** impacts, minimize **human settlement and other land use conflicts**, and ensure the state's electric energy security through efficient, cost-effective power supply and electric transmission infrastructure.

(b) To facilitate the study, research, evaluation, and designation of sites and routes, the commission shall be guided by, but not limited to, the following considerations:

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

- (2) environmental evaluation of sites and routes proposed for future development and expansion and their relationship to the land, water, air and human resources of the state;
- (3) evaluation of the effects of new electric power generation and transmission technologies and systems related to power plants designed to minimize adverse environmental effects;
- (5) analysis of the direct and indirect economic impact of proposed sites and routes including, but not limited to, productive agricultural land lost or impaired;
- (6) evaluation of adverse direct and indirect environmental effects that cannot be avoided should the proposed site and route be accepted;
- (7) evaluation of alternatives to the applicant's proposed site or route proposed pursuant to subdivisions 1 and 2;
- (9) evaluation of governmental survey lines and other natural division lines of agricultural land so as to minimize interference with agricultural operations;
- (11) evaluation of irreversible and irretrievable commitments of resources should the proposed site or route be approved; and
- (12) when appropriate, consideration of problems raised by other state and federal agencies and local entities.

(c) If the commission's rules are substantially similar to existing regulations of a federal agency to which the utility in the state is subject, the federal regulations must be applied by the commission.

(d) No site or route shall be designated which violates state agency rules.

Minn. Stat. §216E.03, Subd. 7 (selected, emphasis added).

Admittedly, it's problematic to analyze the environmental factors and criteria above when no environmental document has been completed and reviewed.

Where Commerce EERA is not reviewing and analyzing this project in light of applicable siting criteria, and where the siting criteria has environmental components, failure to address these environmental issues is contrary to the intent of the Minnesota Environmental Policy Act

(MEPA). Minn. Stat. Ch. 116D. See e.g., Minn. Stat. 116D.02 (State responsibilities), Subd. 2; Minn. Stat. 116D.04, Subd. 2a (Where there is potential for significant environmental effects resulting from any major governmental action, the action shall be preceded by a detailed environmental impact statement prepared by the responsible governmental unit.).

State agencies have specific responsibilities under MEPA:

Subd. 2.Duties.

All departments and agencies of the state government shall:

- (1) on a continuous basis, seek to strengthen relationships between state, regional, local and federal-state environmental planning, development and management programs;
- (2) utilize a systematic, interdisciplinary approach that will insure the integrated use of the natural and social sciences and the environmental arts in planning and in decision making which may have an impact on the environment; as an aid in accomplishing this purpose there shall be established advisory councils or other forums for consultation with persons in appropriate fields of specialization so as to ensure that the latest and most authoritative findings will be considered in administrative and regulatory decision making as quickly and as amply as possible;
- (3) identify and develop methods and procedures that will ensure that environmental amenities and values, whether quantified or not, will be given at least equal consideration in decision making along with economic and technical considerations;
- (4) study, develop, and describe appropriate alternatives to recommended courses of action in any proposal which involves unresolved conflicts concerning alternative uses of available resources;
- (5) recognize the worldwide and long range character of environmental problems and, where consistent with the policy of the state, lend appropriate support to initiatives, resolutions, and programs designed to maximize interstate, national and international cooperation in anticipating and preventing a decline in the quality of the world environment;
- (6) make available to the federal government, counties, municipalities, institutions and individuals, information useful in restoring, maintaining, and enhancing the quality of the environment, and in meeting the policies of the state as set forth in Laws 1973, chapter 412;

(7) initiate the gathering and utilization of ecological information in the planning and development of resource oriented projects; and

(8) undertake, contract for or fund such research as is needed in order to determine and clarify effects by known or suspected pollutants which may be detrimental to human health or to the environment, as well as to evaluate the feasibility, safety and environmental effects of various methods of dealing with pollutants.

Minn. Stat. 116D.03, Subd. 2.

In this docket, state agencies, and in particular the Department of Commerce EERA, have a heightened responsibility to review the proposed project with a broad, inquisitive, searching, and protective perspective as required by MEPA and the PPSA criteria. That has not occurred.

E. MINNESOTA AGENCIES ARE NOT WILLINGLY TESTIFYING ABOUT COMMENTS MADE IN SITING DOCKETS.

Minnesota agencies resisted offering testimony in this hearing regarding their own comments, project siting developments, and project specific and general concerns. Previously agency staff attended hearings and offered testimony, yet in this case, AFCL had to subpoena DNR, Commerce, and Health -- all objected.¹ The goal of AFCL in requesting the subpoenas was to assure that agency comments and concerns are part of the record, and the intensity of each agency's resistance was surprising. The agency Motions and AFCL responses, as well as Orders, are part of the record.² Minn. R. 1405.1800, Subp. 2.

¹ See Commerce Motion to Quash and Agreement with AFCL; MDH Motion to Quash and Agreement; DNR Motion to Quash, Commerce Motion to Exclude.

² Motions are part of the hearing record:

| Document ID | Docket # | On Behalf Of | Document Type | Received Date |
|---------------------------------|----------|---|--|---------------|
| 20181-138532-01 | 17-410 | ASSOCIATION OF FREEBORN COUNTY LANDOWNERS | LETTER--CORRESPONDENCE AND AFFIDAVITS AND ACCEPTANCE OF SERVICE OF SUBPOENAS | 1/2/2018 |
| 20181-139001-01 | 17-410 | DOC EERA | MOTION | 1/16/2018 |
| 20181-139130-01 | 17-410 | DOC EERA | OTHER--AGREEMENT OF DOC EERA AND AFCL REGARDING SUBPOENAS | 1/19/2018 |
| 20181-139379-01 | 17-410 | DOC EERA | MOTION--. | 1/26/2018 |
| 20181-139493-01 | 17-410 | ASSOCIATION OF FREEBORN COUNTY LANDOWNERS | MOTION--RESPONSE TO EERA MOTION TO EXCLUDE BENT TREE DATA | 1/30/2018 |
| 20181-139546-01 | 17-410 | ASSOCIATION OF FREEBORN COUNTY LANDOWNERS | LETTER--REQUEST TO THE AGENDA RE DNR TIME CERTAIN | 1/30/2018 |

Failure of agencies to participate in the evidentiary hearing is important because agency comments and recommendations are not being addressed by the applicant. For example, the MPCA’s October 4, 2017 comment was withheld and not eFiled and made public until February, parties were not aware of the Comment until it was filed, and MPCA was not a participant in the hearing. Comment Letter from MPCA, eFiled 2/7/2018 ([20182-139859-01](#)) . Another example is the Dept. of Health, which resisted testifying regarding its comments, yet Invenergy’s Hankard admittedly did not provide modeling as recommended in Dept. of Health “Public Health Impacts of Wind Turbines” 2009 report, nor was the modeling performed for isopleths for dB(C) - dB(A) greater than 10 dB. Hankard stated that “These recommended isopleths are not typically provided on wind turbine projects and have not been produced... and that noise from the Project is not considered to have any significant quantities of LFN.” FW-13, Hankard Rebuttal, Schedule 1 (AFCL-IR33); see also AFCL-31, IR-89. The applicant should not be free to dismiss agency concerns

It is the job of the agencies to review projects and provide comments. The late filing of comments and agency resistance to providing simple testimony regarding relevant agency

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|---------------------------------|--------|---|--|-----------|
| 20181-139547-01 | 17-410 | ASSOCIATION OF FREEBORN COUNTY LANDOWNERS | MOTION--REFILE RESPONSE MOTION TO EXCLUDE - SERVICE LIST | 1/30/2018 |
| 20181-139611-01 | 17-410 | ASSOCIATION OF FREEBORN COUNTY LANDOWNERS AND MN DEPARTMENT OF HEALTH | LETTER--LETTER STIPULATION AND AFFIDAVIT - AFCL AND MDH | 1/31/2018 |
| 20182-139859-01 | 17-410 | DOC-EERA | COMMENTS--COMMENT LETTER FROM MPCA | 2/7/2018 |
| 20182-139915-01 | 17-410 | MINNESOTA DEPARTMENT OF NATURAL RESOURCES | MOTION--LISA JOYAL_PART 1 OF 3 | 2/9/2018 |
| 20182-139915-02 | 17-410 | MINNESOTA DEPARTMENT OF NATURAL RESOURCES | MOTION--MEMO_PART 2 OF 3 | 2/9/2018 |
| 20182-139915-03 | 17-410 | MINNESOTA DEPARTMENT OF NATURAL RESOURCES | MOTION--AFFIDAVIT_PART 3 OF 3 | 2/9/2018 |
| 20182-139916-01 | 17-410 | MINNESOTA DEPARTMENT OF NATURAL RESOURCES | MOTION--KEVIN MIXON_PART 1 OF 3 | 2/9/2018 |
| 20182-139916-02 | 17-410 | MINNESOTA DEPARTMENT OF NATURAL RESOURCES | MOTION--MIXON-MEMO_PART 2 OF 3 | 2/9/2018 |
| 20182-139916-03 | 17-410 | MINNESOTA DEPARTMENT OF NATURAL RESOURCES | MOTION--MIXON AFFIDAVIT_PART 3 OF 3 | 2/9/2018 |
| 20182-140003-01 | 17-410 | ASSOCIATION OF FREEBORN COUNTY LANDOWNERS | REPLY BRIEF--AFCL RESPONSE TO DNR MOTION TO QUASH AND AFF OF OVERLAND AND EXHIBITS | 2/12/2018 |
| 20182-139981-01 | 17-410 | MINNESOTA DEPARTMENT OF NATURAL RESOURCES | OTHER--AFFIDAVIT OF SERVICE | 2/12/2018 |
| 20182-140121-01 | 17-410 | OAH | ORDER--DENYING MOTIONS TO QUASH | 2/15/2018 |

comments and agency reports raising concerns about projects should be noted. Under the siting criteria, there should be “consideration of problems raised by other state and federal agencies and local entities.” Minn. Stat. §216E.03, Subd. 7.

F. MINNESOTA’S SITING STANDARDS AND RULES ARE ARBITRARY AND LAX WHEN COMPARED TO OTHER JURISDICTIONS

Minnesota has “siting standards” but they are not specific, and setbacks for residences are established on a case by case basis in permitting. Despite Commerce EERA claims that “[t]he rules to implement the permitting requirements for LWECs are in Minn. Rule 7854, that is false. There are no statutory siting criteria or rules for siting. Minn. Stat. Ch. 216F; Minn. R. ch. 7854. There are siting standards which were developed a decade ago, in a rushed hybrid process that was not a rulemaking. AFCL-8, Wind Siting Standards. The origin of the commonly used 1,000 foot setback, as found in Section 4.2 of the Freeborn Wind draft Site Permit, is not based in statute, rule, or standards, is arbitrary and is unknown:

Q: ... it lists 1,000 feet as a setback from residences. Where does that number come from? It’s for the SDP template. Where do you get that number?

A: For the template or for what we’ve submitted for the preliminary?

Q: Both, really. But where do you get – where does the thousand foot come from?

A: Thousand foot. I don’t know exact – the exact location of where that comes from. But in the most recent site permit applications that have been approved in the most recent site permits that have been issued by the Commission, that has been the standard distance that they’ve approved, along with the consideration of noise standards being met.

Davis, Vol. 2, p. 171-173; see also EERA-8, DSP, p. 3.

However, setbacks can be much larger:

Q: Are you familiar of any siting permits that provided for one-half-mile setbacks?

A: I am.

Q: And how many times – or explain?

A: I know of only one in Minnesota, and actually this hearing was the first place that I’d ever heard of it, is Lakewinds up in Clay County, Minnesota where

they have half-mile setbacks. And I do not know the basis of those setbacks. I don't know the discussions that led to them.

Davis, Tr. Vol 2, p. 173, l. 5-14.

As found in studies provided as exhibits by Invenergy's witness Roberts, setbacks in other jurisdictions are larger and more protective and preventative than typically found in Minnesota. From Roberts' Schedules:

- The "Massachusetts study," recommended more restrictive noise levels be adopted by the state. FW-6, Roberts, Sched. 6, p. 17 & 80 of 164.
- A study from German, reviewed projects with setbacks of 150, 300, and 700 meters. FW-6, Roberts, Sched. 9, pps. 19, 23.
- A study from Japan reviewed projects where noise limits were 35-40 dBA, far below the 50 dBA in Minn. R. 7030. FW-6, Roberts, Sched. 10, p. 8-9.
- A study from France has setbacks of 500 and 1,500 meters. FW-6, Roberts, Sched. 11, p. 1-2, 7-12, 13, 14.
- A study from Denmark, has setbacks of four times the total height of the turbine, which in this case would be 1772 feet for a Vestas V110 and 1812 feet for a Vestas 116. This Denmark study recognized weak infrasound as a nuisance. FW-6, Roberts, Schedule 12, p. 11.
- As above, in the Lakeswind docket, the Commission ordered ½ mile setbacks. Davis, Tr. Vol 2, p. 173, l. 5-14; McNamara P-20, Lakeswind site map.

In light of existing issues with wind siting in Minnesota, and setbacks and noise limitations in other jurisdiction, preventative and precautionary siting is required.

G. MPCA NOISE RULES ADDRESS ONLY A WEIGHTED SOUND

Wind projects must comply with the MPCA's noise rules, Minn. R. Ch. 7030, but the noise rules regulate industrial facilities using an A weighted scale, which do not capture the noise of wind turbines, which requires monitoring of both A and C weighted scales. Minn. R. 7030.0040, but c.f. Bent Tree noise study protocol, AFCL-11, Bent Tree Noise Monitoring and

Noise Study Phase I, Appendix A; see also Bent Tree Noise Report, Phase II, p. 10 of Comment of Stephanie Richter, 3/15/2019 ([20183-141042-01](#)).

Efforts have been made to address this deficiency. When a rulemaking petition was filed with the MPCA for rules to specifically address wind turbine noise, both A and C weighted scales, the petition was denied:

After consulting with colleagues at the Minnesota Departments of Health and Commerce, I have concluded that the current understanding of wind turbine noise and its potential effects is insufficient to support rule making at this time.

Public Hearing Exhibit P. 20, p. 15-16, quoting MPCA Commissioner Stine, 9/12/2016 ([20169-124844-01](#)).

H. IN PRACTICE, DECOMMISSIONING PLANS ARE NOT DRAFTED OR EVEN PROPOSED UNTIL AFTER A PERMIT IS ALREADY GRANTED, CONTRARY TO APPLICATION RULES AND LEAVING NO OPPORTUNITY TO ADDRESS DECOMMISSIONING SECURITY IN THE PERMITTING PROCESS.

Under current practice, decommissioning information is not provided in the application, EERA does not raise this omission to the Commission, and the Commission blithely declares Applications complete without any acknowledgement of the omission of decommissioning information – a systemic problem. In this case, decommissioning information was not included in the application, and the decommissioning plan isn't being drafted and filed until after a permit is issued. Under the rules, decommissioning information including cost and financial assurance plan should be provided in the Application:

Decommissioning and restoration.

The applicant shall include the following information regarding decommissioning of the project and restoring the site:

- A. the anticipated life of the project;
- B. the estimated decommissioning costs in current dollars;
- C. the method and schedule for updating the costs of decommissioning and restoration;

- D. the method of ensuring that funds will be available for decommissioning and restoration; and
- E. the anticipated manner in which the project will be decommissioned and the site restored.

Minn. R. 7854.0500, Subp. 13.

Freeborn County also has requirements for decommissioning in its wind ordinance that requires a decommissioning plan and financial assurance. FR-1, Application, Appendix /. Despite inclusion of the Ordinance in the Application, EERA was not aware that Freeborn County has decommissioning requirements in its wind ordinance. Davis, Tr. Vol. 2, p. 175, l. 13 – p. 176, l. 2.

The Freeborn Wind application did not include the information required in an application by Minn. R. 7854.0500, Subp. 13. FR-1, Site Permit Application. The application was submitted, the question of completeness was opened for comment, the application was reviewed by EERA and Commerce staff, and inexplicably declared complete at the August 10, 2018 meeting, and in the Order issued August 31, 2017.

AFCL received Invenergy's response to its questions about decommissioning, which were not reassuring, and which instead left decommissioning issues for later. When asked several specific questions regarding the Application sections on decommissioning, Invenergy's response was only:

Freeborn Wind will comply with the terms of the Site Permit as it relates to the preparation, content and distribution of a decommissioning plan. See Section 11.0 of the Draft Site Permit.

AFCL 21, Freeborn Wind Response to AFCL IR 16.

When asked about decommissioning costs, Invenergy's Litchfield testified that:

A: I don't feel I can answer that question. I've never looked at actual costs of actual wind decommissioning. I know it's happened, I've talked to people who have been a part of those projects, but I've not seen the numbers. I don't – I've

been a part of projects where we provide decommissioning cost estimates and they're a deconstruction cost proposal, so – and they're usually provided by same types of vendors that do wind farm construction. So I wouldn't have any real reason to doubt them.

Q: Has Invenergy been involved in any wind decommissioning?

A: Not to my knowledge.

Litchfield, Tr. Vol. 1A, p. 46, l. 13-25. Despite this lack of knowledge, Litchfield is serving on a PUC decommissioning work group. Litchfield, Vol. 2, p. 100, l. 13-19.

Invenergy's Litchfield also testified that there is no decommissioning plan for this project at this point, there is no cost estimate for decommissioning at this point, and there is "no form of financial assurance for the purpose of decommissioning the facility at this time. Litchfield, Tr. Vol. 1A, p. 43, l. 8-17; see also Tr., Vol. 2, p. 101, l. 7-9.. There is also no specific plan for financial assurance, although Litchfield anticipated that a site permit condition would require financial assurance. Litchfield, Tr. Vol 2, p. 99, l. 18 - 100, l. 12.

Despite the rule, the decommissioning information was not required to be provided, and was not submitted as an exhibit in the hearing. Minn. R. 7854.0500, Subp. 13. EERA proposes in Comments and in the Draft Site Permit that the Decommissioning Plan not be provided until after permitting, citing Minn. R. 7854.0500, Subp. 13! See EERA-8, Draft Site Permit, p. 8 Comments (requiring post-permitting "Special Condition" of update of Decommissioning Plan every 5 years). That rule cited by EERA in the Draft Site Permit, as above, is what "[t]he applicant shall include the following information regarding decommissioning of the project and restoring the site." Id. The "special condition" is only applicable after permitting, despite the express language of Minn. R. 7854.0500, Subp. 13.

To date the decommissioning information has not been provided, instead only statements

that the information will be provided after permitting. The decommissioning information required by the rule was obviously not included in the application, yet both EERA and the Commission missed this omission, and the application was declared complete. The application should not have been accepted, should not have been declared complete, and should not have moved forward without this specifically required decommissioning information. This flagrant disregard of the rules, by the Applicant, by EERA and by the Commission, and moving forward without any knowledge of how to decommission the project is irresponsible. How are the as yet unknown costs of decommissioning to be guaranteed? How can financial assurance be secured without knowledge of costs and process of decommissioning? What if project goes bankrupt or permit is revoked? These issues were raised by Wayne Brandt in a public Comment, where he brought a copy of his wind lease agreement, with an “Effect of Termination” clause that stated:

If Grantee fails to remove such Windpower Facilities within twelve (12) months of termination of the Easement, or such longer period as Owner may provide by extension, Owner may do so, in which case grantee shall reimburse Owner for reasonable and documented costs of removal and restoration incurred by Owner.

AFCL-35, Wayne Brandt Public Comment from Public Hearing, p. “15;” see also Brandt, Public Hearing, p. 133-139. That contract also provides for “Security for Removal of Windpower Facilities” with financial assurance to the landowner, which will remain in force for the term of the agreement. *Id.*; see also FR-19, Freeborn Wind Easement Form (Effect of Termination and Security for Removal of Windpower Facilities clauses are identical); see also Litchfield, Tr. Vol. 2, p. 90-101. This agreement puts the onus on the landowner if the company disappears and does not decommission, leaving it to the landowner to recover expenses. AFCL-35, Wayne Brandt Public Comment from Public Hearing, p. “15;” see also FR-19, Affidavit of Dan Litchfield, Freeborn Wind Easement Form.

We are at this late stage in permitting without that required and necessary information.

No permit should be granted until this information has been provided, opened for comment, and reviewed by Commerce, the public, and the Commission, as contemplated by the requirement that decommissioning information be included in the application.

I. THE COMPLAINT PROCESS NEEDS AN OVERHAUL BEFORE ADDITIONAL PERMITS ARE ISSUED.

The complaint process, part of all Permits, is dysfunctional. Complaints are made and often not resolved even after years of problems, i.e., Bent Tree and Big Blue wind projects, and with pipeline and transmission line projects as well. The complaint process must be revised. According to EERA's Davis, the questions and comments about the complaint process in this docket is the way to get a revision moving. Davis, Tr. Vol 2, p. 176-180.

II. FREEBORN'S WITNESSES ARE NOT CREDIBLE

Dr. Mark Roberts is a professional witness, with roughly 85% of his time spent at this activity, and testimony over such a wide variety of topics that it seems there are few subjects he does not testify about. FW-6, Roberts Direct, Schedule 1, C.V.; AFCL-33 and Roberts, Tr. Vol. 1B, p. 127-128. Roberts has had no special training or education regarding wind health impacts. FW-6, Roberts Direct, Schedule 1, C.V.; Roberts, Tr. Vol. 1B, p. 128, l. 18-25. His testimony is focused on causation, which is not at issue in this proceeding, and which serves as a distraction from issues before us, that of noise and siting the project such that the project is in compliance with Minnesota noise standards. He has attached an great number of studies to support his claims, but when scratching the surface of those studies, it's apparent that Roberts is telling only part of the story, and the rest of the story shows that his testimony is most generously characterized as misleading.

A. ROBERTS' TESTIMONY WAS UNINFORMED, MISLEADING, AND FALSE.

i. Causation is not at issue

Roberts mistakenly and misleadingly focused on causation in his testimony. This docket is an administrative proceeding, where the applicant has the burden of proof to show that under the criteria of Minn. Stat. §216E.03, Subd. 7, it should be granted a siting permit. There is no burden on the Intervenors to demonstrate causation, that wind projects, via noise, shadow flicker, or any other means, cause harm. Intervenors are not plaintiffs in a personal injury case.

Roberts frames his testimony as a causation issue, summarizing his testimony in 5 points, 4 of which focus on causation. He uses the word “cause” 34 times, and the word “causation” 21 times in just 20 pages of testimony, he is distracting from the dockets purpose -- evaluation of the project Minn. Stat. §216E.03, Subd. 7. Roberts’ testimony is not on point nor is it credible. Roberts’ testimony should be given very little weight.

ii. Roberts misrepresented the Massachusetts study

Regarding Schedule 6, the “Massachusetts study,” Roberts’ testimony was that “... they concluded that “there is insufficient evidence that the noise from wind turbines is directly (i.e. independent from an effect on annoyance or sleep) causing health problems or disease.” FW-6, Direct p. 115, l. 404-409. Finding, or attempting to find, causation was not in the charge to the study committee. FW-6, Sched. 6, p. vi, ES-2; 53-57 (p. 73-77 of 164). The sentence quoted by Roberts was not the conclusion of the study, nor was it a main finding. That sentence was found in 4 pages of Findings, this one was point 5 of four pages of findings, with categories of Noise, Shadow Flicker, Ice Throw, and Other Considerations. The quoted sentence was point 5 of 9 under the Noise subheading Health Impacts of Noise and Vibration, with 9 findings in the subheading having an additional 7 subpoints, so 16 findings in that section. FW-6, Sched. 6, p. vi, ES-2; 53-57 (p. 73-77 of 164). The sentence was one point of many, Freeborn admits that

“[i]t has a number of findings, and anybody could count them.” Tr. Vol. 1B, p. 144, l. 9-10. It is in no way a conclusion by the study committee. The findings should be reviewed and counted. Roberts’ summary sentence is a gross misrepresentation and mischaracterization of the study.

A more important point that Roberts did not mention is that the study produced “Promising Practices” in line with its charge that recommended specifically that the following noise limits be adopted by the state of Massachusetts:

Promising Practices for Nighttime Sound Pressure Levels by Land Use Type

| Land Use | Sound Pressure Level, dB(A) Nighttime Limits |
|---------------------------------------|--|
| Industrial | 70 |
| Commercial | 50 |
| Villages, mixed usage | 45 |
| Sparsely populated areas, 8 m/s wind* | 44 |
| Sparsely populated areas, 6 m/s wind* | 42 |
| Residential areas, 8 m/s wind* | 39 |
| Residential areas, 6 m/s wind* | 37 |

**measured at 10 m above ground, outside of residence or location of concern*

FW-6, Roberts, Sched. 6, p. 17 & 80 of 164. These noise limits are far more restrictive than those of the MPCA R. 7030, although the Minnesota rules are a floor, and permits can have more restrictive special conditions. Minn. Stat. §216F.04(d).

iii. Roberts was unaware of standards and setbacks in the studies he cited

Roberts cited studies as proving that there was “no causation” of health effects, but the situations in those studies was nothing like the Freeborn Wind proposed project. For example, Roberts quoted an Australian study which concluded that “wind turbines do not pose a threat to health if planning guidelines are followed.” FR-6, Roberts, Schedule 2, Wind Turbines and Health...” However, he testified that he did not know what the guidelines were, he had not reviewed them. Roberts, Vol. 2, p. 135, l. 18 – p. 136, l. 6.

Regarding Schedule 4, he quoted from the 2010 Chief Medical Officer of Health of Ontario which stated that “the sound level from wind turbines at common residential setbacks is not sufficient to cause hearing impairment or other direct health effects, although some people may find it annoying.” FW-6, Roberts Direct, p. 13, l. 389-392; Sched. 4. Roberts had not looked with the Ministry of Environmental Guidelines referenced in that report. Roberts, Tr. Vol. 2, p. 139, l. 2-7. When asked if the common residential setbacks referred to in that report is 550 meters, he was not familiar with it. FW-6, Roberts Schedule 4, p. 232. He then testified that he heard the setback for this Freeborn Wind project was 1,500 feet. Id., p. 140, l. 25.

Roberts testified regarding Schedules 6, 9, 10, 11, 12, 13, 14, 15, and 16 “concluded that infrasound levels are multiple orders of magnitude below the threshold of human hearing.: FW-6, Roberts Direct, p. 17, l. 491-504. However, the “Massachusetts study,” as above, recommended more restrictive noise levels be adopted by the state. FW-6, Roberts, Sched. 6, p. 17 & 80 of 164. Schedule 9, a study from German, reviewed projects with setbacks of 150, 300, and 700 meters. FW-6, Roberts, Sched. 9, pps. 19, 23. In the Schedule 10 study, from Japan, noise limits were 35-40 dBA, far below the 50 dBA in Minn. R. 7030. FW-6, Roberts, Sched. 10, p. 8-9. Schedule 11, a study from France, has setbacks of 500 and 1,500 meters. FW-6, Roberts, Sched. 11, p. 1-2, 7-12, 13, 14. Schedule 12, a study from Denmark, has setbacks of four times the total height of the turbine, which in this case would be 1772 feet for a Vestas V110 and 1812 feet for a Vestas 116. Of note is that the Denmark study recognized weak infrasound as a nuisance. FW-6, Roberts, Sched. 12, p. 11. Roberts states that “wind turbine noise is not an issue caused by super-low frequency range.” FW-6, Roberts Direct, p. 17, l. 503.504 referencing Sched. 17. However, that same study identifies areas susceptible to environmental impact as one kilometer from a wind turbine. FW-6, Roberts, Sched. 17, p. 4.

By using these studies without recognition of the situations at play, the different siting guidelines and noise limitations in those jurisdiction, Roberts loses credibility, and his arguments are misleading, and are misrepresentations and mischaracterizations at best.

iv. Roberts didn't know of more current studies because no one told him or gave to him, or he didn't look.

A review of the schedules attached to Roberts' testimony shows that only 14 of 31 are less than 5 years old, and 11 are 2010 or older. Roberts testified that he did not know about updates to studies he had cited, testified about, and attached to his testimony. As Schedule 2, Roberts used the 2010 Australian National Health and Medical Research Council study from 2010, and when asked if he was aware there was a 2014 update and 2015 revision, he testified, "I have not seen it yet." Roberts, Tr. Vol. 1B, p. 136, l. 7-12. As Schedule 4, he used a 2010 study from the Chief Medical Officer of Health in Ontario, but was not aware it had been updated, and when asked if he had looked, he testified, "No, I haven't." Roberts, Vol. 2B, l. 4-9.

v. Roberts testified regarding project specific issues which he had insufficient knowledge and had not adequately investigated.

Roberts submitted a letter from the Minnesota Dept. of Health to Per Anderson, from the Lakeswind docket, which stated that there must be an environmental study. FW-6, Roberts Direct, Sched. 30; see also McNamara, Public Testimony, Tr. Public Hearing, p. 189, 192; McNamara's Exhibit P. 20, p. 2, Lakeswind ½ mile setbacks map. When asked whether he was aware that there is no Environmental Impact Statement or Environmental Assessment, no environmental study, before us in this docket, Roberts response was, "I have not reviewed this docket material you're referring to." Roberts, Tr. Vol 1B, p. 133, l. 8-16. Roberts also volunteered that the setback for this project was 1,500 feet, that he thought that's what the rules were, but again, "I haven't looked at the proposal." Roberts, p. 140-141.

vi. Roberts testified in agreement with an EERA’s Comments and Recommendations statement regarding “a causal link,” a statement that does not exist

Roberts testified that he agreed with a statement in EERA’s Comments and Recommendation that accompanied the Draft Site Permit:

Most recently, the Minnesota Department of Commerce, Energy Environmental Review and Analysis (“EERA”) in its Comments and Recommendations on the Preliminary Draft Site Permit for Freeborn Wind Energy LLC agreed with the MDH report’s summation of the available “research and literature” regarding “wind turbine noise, i.e., the lack of scientific evidence supporting a causal link between wind turbines and disease.”¹ However the EERA Comments and Recommendations did note that the “conclusions and recommendations drawn in the 2009 White Paper [MDH report]” were not supported by the research and data that was available at the time.”² I agree with EERA’s statement.

FR-6, Roberts Direct, p. 15, l. 432-440, claiming to cite the EERA Comments at 19-20.

However, the EERA Comments did not contain the words: “wind turbine noise, i.e., the lack of scientific evidence supporting a causal link between wind turbines and disease.” The EERA Comment as cited by Roberts stated:

Department of Health 2009 White Paper

Comments referenced the Minnesota Department of Health 2009 White Paper as a “study.” For clarification purposes and to provide factual information the 2009 White Paper written by the Minnesota Department of Health (MDH) was not a study looking at the potential impacts of infrasound and low frequency noise generated by wind turbines. The 2009 White Paper was a review of research and literature on the topic of potential wind turbine noise available at the time, and it provides some analysis of the available research and recommendations. DOC-EERA staff has reviewed the 2009 White Paper several times, and would agree with MDH’s summation of available research and literature. However, the conclusions and recommendations drawn in the 2009 White Paper do not appear to be supported by the research and data that was available at the time of writing the 2009 White Paper. As the research identified by MDH identified no consistent pattern of health impacts related to wind turbines.

EERA-8, Comments and Recommendations on a Preliminary Draft Site Permit, p. 19-20.

Fabricated comments regarding causation are not helpful.

As an expert witness, Roberts has a responsibility to make sure that his testimony factual and is up to date and accurate. His schedules are primarily outdated studies, and he does not reference or seem to have awareness of updates and revisions, and has little knowledge of the project for which he is testifying. Through false and misrepresented statements of others, use of studies without checking to see if the studies he used were current or if there were updated versions, Roberts loses credibility. His arguments are misleading, and are misrepresentations and mischaracterizations at best and should be given very little weight.

B. ELLENBOGEN’S TESTIMONY MISPLACED A FOCUS ON CAUSATION AND MISREPRESENTED THE MASSACHUSETTS STUDY AND HIS EXAMINATION OF PLAINTIFFS

i. Causation is not at issue.

As with Roberts above, Ellenbogen focused on causation, which is not at issue. This docket is an administrative proceeding, where the applicant has the burden of proof to show that under the criteria of Minn. Stat. §216E.03, Subd. 7, it should be granted a siting permit. There is no burden on the Intervenor to demonstrate that there is causation, that wind projects, via noise, shadow flicker, or any other means, cause harm. When asked why he picked the one finding on causation to highlight, Ellenbogen stated:

I felt that particular point was the point most salient to my participation in this proceeding.

Ellenbogen, Tr. p. 65, p. 2-3.

By framing his testimony as a causation issue, using the word cause or causation 9 times in just 8 pages of testimony, he is distracting from the evaluation of the project through applicable siting criteria. Minn. Stat. §216E.03, Subd. 7. Viewed through this distraction, his testimony is not on point nor is it credible.

ii. Ellenbogen’s examination of plaintiff’s was not sufficient to establish

or disprove causation

Ellenbogen's brief paragraphs about his Defendants' examination of people complaining of symptoms related to wind turbines was not sufficient to establish or disprove causation (which is irrelevant, because as above, causation is not at issues). FR-7, Ellenbogen Direct, p. 6-8.

Roberts, in his Direct testimony, laid out the several steps necessary for demonstration of causation. FR-6, Roberts Direct, p. 7-12. The Ellenbogen Defendants' examination did not have the thoroughness or depth necessary, in fact, although the patients were directly examined, there were no tests ordered, as he "was not given the opportunity to conduct further testing beyond that." Ellenbogen, Tr. Vol. 2, p. 70. A file review of 4 patients is not adequate to demonstrate causation or lack thereof, and has no bearing in this proceeding.

iii. Ellenbogen misrepresented, as did Roberts, the "conclusion" of the Massachusetts study.

Ellenbogen was a participant in the Massachusetts study panel. FV-6, Roberts Schedule 6. Ellenbogen also testified about causation and mischaracterized the findings of the study:

Q: Please explain the Study's key finding with respect to noise.

A: We concluded that there is insufficient evidence that noise from the wind turbines is directly causing health problems or disease...

As above, finding, or attempting to find, causation was not in the charge to the study committee. FR-7, Ellenbogen Direct, p. 2-3; FW-6, Sched. 6, Massachusetts Study, p. vi, ES-2; 53-57 (p. 73-77 of 164). The study did not have a "key finding," with respect to noise or any other matter. Again, that finding using the word "causing" was point 5 contained within 4 pages of Findings. FW-6, Sched. 6, p. vi, ES-2; 53-57 (p. 73-77 of 164). The sentence was one point of many and is in no way the conclusion by the study committee generally or specifically regarding noise. The claim of a "conclusion" regarding causation is a misrepresentation and mischaracterization of the study.

The same is found regarding “the Study’s finding with respect to shadow flicker.” FW-7, Ellenbogen Direct, p. 5, l. 136-149. The study had five findings regarding shadow flicker.

Ellenbogen also failed to mention that the study produced “Promising Practices,” in line with its charge, that recommended noise limits be adopted by the state of Massachusetts, noise limits which are much lower dB(A) levels than those in Minnesota rules.:

Promising Practices for Nighttime Sound Pressure Levels by Land Use Type

| Land Use | Sound Pressure Level, dB(A) Nighttime Limits |
|---------------------------------------|--|
| Industrial | 70 |
| Commercial | 50 |
| Villages, mixed usage | 45 |
| Sparsely populated areas, 8 m/s wind* | 44 |
| Sparsely populated areas, 6 m/s wind* | 42 |
| Residential areas, 8 m/s wind* | 39 |
| Residential areas, 6 m/s wind* | 37 |

**measured at 10 m above ground, outside of residence or location of concern*

FW-6, Roberts, Sched. 6, p. 17 & 80 of 164.

C. HANKARD OMITTED THE REQUIRED AMBIENT NOISE LEVELS FROM HIS MODELING

Invenergy’s Hankard did not include ambient noise levels in his Noise Study, attached to the application. FW-1, Appendix B, Noise Analysis. Under EERA’s Guidance for Large Wind Energy Conversion System Noise Study Protocol and Report, ambient noise modeling is necessary. EERA-9, Guidance for Large Wind Energy Conversion System Noise Study Protocol and Report, Appendix A. Though not technically required, the MPCA Comment states:

Developers should not propose projects where the total noise is estimated to exceed the noise standards at receptor property. Modeling wind farms before construction should include total noise – turbine noise and background noise as datasets.

Id. This modeling was not produced until a week after the hearing, and there was no opportunity for cross-examination.

D. JIMENO'S TESTIMONY LACKED CREDIBILITY

Invenergy's Jimeno's testimony lacked credibility because his "facts" were not verifiable. Under cross-examination by KAAL, it was determined that the numbers of viewers in the area were determined in a way that could not be verified, and those numbers were favorable to Freeborn Wind, and not consistent with KAAL's viewer numbers. See, e.g., Jimeno, Tr. Vol. 2, p. 16-28.

I don't recall the exact formula, I guess, that was used to calculate the households. Id., p. 23, l. 22-23. In an effort to determine how viewing households was determined, Jimeno's workpapers were requested, and received. Id., p. 26; FR-17, Affidavit of Dennis Jimeno and Work Papers.

E. LITCHFIELD TESTIFIED ABOUT MATTERS THAT DEFIED THE LAWS OF PHYSICS

Invenergy's Litchfield claims the project will reduce emissions, replace fossil fuel, "avoid up to 11 million tons of CO2 emissions." FW-4, Litchfield Direct, p. 10-11, 25. When asked what fossil generation will be reduced, what fossil generation will be replaced, what emissions will be avoided, when asked to substantiate these claims and provide a direct link, there was no direct link.

There are no specific agreements/contracts that can be identified. AFCL-27, Freeborn Wind Response to AFCL IR 26. The laws of physics are clear -- only way to reduce emissions is to stop burning. This project will not stop burning, it will only not generate CO2 and other emissions. While decreasing CO2 and other emissions is a necessary and good thing, there is no direct link between this project and reduction, avoidance or replacement.

F. GIAMPOLI LACKS ESPERTISE TO CREDIBLY TESTIFY ABOUT ENVIRONMENTAL MATTERS

Invenergy’s Giampoli is not credible as an environmental witness. She is not a biologist, ecologist, or any other “gist” that would lend to environmental work. She has a BA in Communication Arts and Spanish, and a JD from Rutgers University School of law. She is the “environmental manager overseeing the wildlife and wetland survey work and permitting for the Freeborn Wind Farm.” FR-8, Giampoli Direct, p. 1-2. Giampoli’s training has been on-the- job with promotion from a specialist to a management position. She also oversees the environmental consultants and biologists. Giampoli, Tr. Vol. 1B, p. 26, l. 17-19; p. 27, l. 1-3. Nothing in her resume shows any expertise in this area.

Giampoli did not know who gathered and drafted the information in the sections of the application for which she was responsible. Giampoli, p. 36, l. 22- 37, l. 12. Giampoli was not aware whether a yet to be completed wetland delineation could affect turbine placement. Id., p. 29, l. 9 – p. 30, l. 5.

As Freeborn Wind’s environmental witness, there is too much that Ms. Giampoli is not familiar with, and with such large areas of unfamiliarity, is not qualified to supervise consultants and judge the quality of their work.

III. COMMERCE – EERA IS NOT SUFFICIENTLY FAMILIAR WITH SITING CRITERIA TO REVIEW APPLICATION OR PREPARE DRAFT SITE PERMIT

EERA staff responsible for project review and drafting of the Draft Site Permit cited statutory and rules as authority for siting, and omitted the Power Plant Siting Act criteria applicable for this project. EERA-8, Commerce Recommendations, p. 3, and Draft Site Permit, p. 1. Staff further admitted unfamiliarity with the statutory criteria of the Power Plant Siting Act. Davis, Tr. Vol. 2, p. 168 – 170. Without a working knowledge of the criteria, without

understanding of its applicability, on its face, the proffered Comments and Recommendation and Draft Site Permit are inadequate.

A. COMMERCE ADMITS UNFAMILIARITY WITH PPSA CRITERIA

EERA proved unequipped to evaluate the Freeborn Wind proposal because Davis was not familiar with the criteria to review this project and upon which permitting would be based.

When asked about adding the statutory criteria to the parts of EERA Comments and Recommendations and the Draft Site Permit, Davis stated that he wasn't clear why a reference to Minn. Stat. §216E.03, Subd. 7 should be added to the Comments and Recommendations and Draft Site Permit. Davis, Tr. Vol. 2, p. 158-170; see also Minn. Stat. §216E.03, Subd. 7.

I would question whether our permit does not meet that already and our review does not meet that.

Davis, Tr. Vol. 2, p. 169, l. 19-22. Davis states that a template is used, but he does not know the origin of the most basic terms, such as the 1,000 foot setback. Davis, Tr. Vol. 2, /. Use of a template with terms that are not understood or justified is not acceptable. Further, the person charged with reviewing and analyzing the project proposal must be very well acquainted with the statutory criteria. There is also no excuse for omission of "Minn. Stat. §216E.03, Subd. 7" from the "Regulatory Process and Procedures" in the Comments and Recommendations and section 1.0 Site Permit, where Minnesota Statutes Chapter 216F and Minnesota Rules Chapter 7854 are cited as authority for permitting.

B. THIS PROJECT HAS NOT BEEN PROPERLY REVIEWED UNDER THE MINN. STAT. §216E.03, SUBD. 7 SITING CRITERIA.

Before the Freeborn Wind project, the state's Department of Commerce and the Public Utilities Commission had not used the applicable siting criteria, that of Minn. Stat. §216.03, Subd. 7 (see Minn. Stat. §216F.02 Exemptions). Freeborn Wind appropriately acknowledges

the applicability of the Power Plant Siting Act's criteria in its application. However, in testimony, Commerce's Rich Davis was asked to amend Commerce's Comments and Draft Siting Permit to include reference to the siting criteria, and he testified that he was not familiar with Minn. Stat. §216E.03, Subd. 7. When Commerce staff, responsible to the Commission for review and analysis and a recommendation of the project, is admittedly not familiar with the applicable siting criteria, EERA's Comments and Recommendations and the Draft Site Permit have little value and little weight. Commerce has not done its job.

The Department of Commerce EERA and the Commission must site wind projects using the statutory criteria, and ultimately, the Commission must address systemic problem of all previous permits that were sited without applying the statutory criteria. The Department of Commerce's analysis is deficient because the project has not been reviewed, nor have EERA's Comments and Recommendations nor the Draft Site Permit been prepared with the statutory criteria in mind. See EERA-8, EERA Comments p. 3 and Draft Site Permit, p. 1. A permit should not be issued without review and analysis of the project using the applicable criteria. The review process for this project, as a state government action, as well as all wind projects sited thus far in Minnesota, is not compliant with the Minnesota Environmental Policy Act. Minn. Stat. Ch. 116D.

IV. ISSUES SPECIFIC TO THE FREEBORN WIND PROJECT HAVE NOT BEEN RESOLVED SUFFICIENTLY TO ALLOW A PERMIT TO BE ISSUED

In light of the systemic issues in siting wind turbines detailed above, the lack of credibility of many witnesses, and the specific issues raised by AFCL and others, below, the Commission should not issue a siting permit for any wind project until these systemic and specific problems are corrected. Freeborn Wind has not complied with guidelines and rules, and

has not preventatively addressed the problems raised. The Commission, through recent experience, is well aware that there are siting problems and the need for caution. That experience shows the need for careful, preventative siting and attention to the siting criteria.

A. INADEQUATE NOISE MODELING AND PROJECT DESIGN THAT PROVIDES NEITHER MARGIN OF ERROR NOR TURBINE LOCATION ALTERNATIVES REQUIRES PREVENTATIVE SITING.

Minnesota siting criteria requires consideration of noise related issues. Noise is related to the criteria focused on the state's goal of minimizing human settlement and other land use conflicts; evaluation of research and investigations regarding facilities' impacts on public health and welfare; environmental evaluation of sites and relationship to human resources, minimization of adverse environmental effects; evaluation of adverse direct and indirect environmental effects that cannot be avoided; evaluation of alternatives to the applicant's proposed site, evaluation of irreversible and irretrievable commitments of resources, consideration of problems raised by other state and federal agencies and local entities, and not to designate a site that violates state agency rules. See Minn. Stat. §216E.03, Subd, 7 (a), (b)(1), (2), (3), (6), (7), (11), (12), (d). Of particular importance is "evaluation of irreversible and irretrievable commitments of resources," because once a wind project is permitted and constructed, it's difficult to move, modify, or mitigate impacts of the project.

The applicant's focus on causation related to noise is distraction. What is at issue in this proceeding is whether the project will comply with the noise limitations of MPCA noise regulations. Noise is admittedly annoying, and can interfere or even rob landowners of the use and enjoyment of their property. Noise and the annoyance and take away their enjoyment of their lives. The origin of the 1,000 foot setback utilized in EERA's Draft Site Permit template is unknown. Davis, Tr. Vol. 2, p. 172, l. 11 – p. 173, p. 4.. The Commission has ordered setbacks

on a case by case basis, and notably ½ mile setbacks in the Lakeswind docket. McNamara, P. 20, Lakeswind site map’ Davis, Tr. Vol. 2, p. 172, l. 5-14. Other jurisdictions have set larger distance setbacks, such as 550 meters in Australia, or lower noise limitations, such as 40 dBA recommendations of WHO and the Massachusetts study, and the Minnesota Department of Health’s recognition that a ½ mile setback would reduce complaints, all in an effort to be protective, preventative, and precautionary in siting. See FW-9, Roberts Direct Schedule 1, Schedule 6, pps. ES-10 & 60; Schedule 7 . The Commission has no set setbacks, only a floor, with siting from residences ostensibly designed to provide compliance with noise standards. AFCL-8, MN Wind Siting Standards, Appendix A. Experience and Commission dockets show that the 1,000 foot distance often used is not distance enough, with Minnesota projects demonstrating exceedences requiring Commission action. AFCL-11, Bent Tree Noise Monitoring and Noise Study, Phase I; see also Bent Tree Noise Report, Phase II, p. 10 of Comment of Stephanie Richter, 3/15/2019 ([20183-141042-01](#)); AFCL 15, Hansen Rebuttal, Schedule F, Big Blue – PUC Letter - Request for Response to Alleged Site Permit Violations and to Show Cause. These examples are reason to use preventative and precautionary siting going forward. Once a project is built, mitigation is difficult and costly, and neither the Commission nor developers want to be in the position of attempting mitigation through buyouts, moving nearly 500 foot turbines with 55 foot foundations, or suspension or revocation of permits.

Wind on the Wires, the industry lobbying association, of which Invenenergy is a member, advocated in an eFiled Comment for interpretation of the Minn. R. 7030 noise standard and “supports the consistent application of the Rule on a going forward basis using the interpretation that has been applied to date to wind farm permits in the State of Minnesota.,” claiming that the issue in this docket is the rule, and **“how it has been interpreted to date for wind farm**

permits.” WOW Comment, 3/15/2018 ([20183-141082-01](#)). It appears WOW is not aware of wind turbine siting issues and steps the Commission has taken to address proven noise problems.

The Public Utilities Commission is on notice that noise has been a problem for residents living within wind projects, that complaints have been made, that the complaint process is broken, and that noise violations have been documented. AFCL-11, Bent Tree Noise Monitoring and Noise Study, Phase I; see also Bent Tree Noise Report, Phase II, p. 10 of Comment of Stephanie Richter, 3/15/2019 ([20183-141042-01](#)); AFCL 15, Hansen Rebuttal, Schedule F, Big Blue – PUC Letter - Request for Response to Alleged Site Permit Violations and to Show Cause. Not only is noise specifically regulated by MPCA rule, but it is a factor within the PPSA criteria, particularly where the criteria seeks to minimize environmental impacts, minimize human settlement and other land use conflicts, public health and welfare, adverse direct and indirect environmental effects, irreversible and irretrievable commitments, consideration of problems raised by agencies, and state agency rules. See Minn. Stat. §216E.03, Subd. 7 (a), (b) (1), (2), (3), (5), (6), (11), (12), (d). Wind projects have not performed adequate modeling prior to construction, and post-construction noise modeling has shown that at least two projects thus far are not compliant with noise rules and permit conditions.

Wind projects must comply with the MPCA’s noise rules, Minn. R. Ch. 7030, but the noise rules regulate industrial facilities using an A weighted scale, which do not capture both A and C weighted scales, the noise emitted by wind turbines. Minn. R. 7030.0040.

Hankard did not provide modeling as recommended in Dept. of Health “Public Health Impacts of Wind Turbines” 2009 report, nor was the modeling performed for isopleths for dB(C) - dB(A) greater than 10 dB, apparently because it is Hankard’s position that “These recommended isopleths are not typically provided on wind turbine projects and have not been

produced... and that noise from the Project is not considered to have any significant quantities of LFN.” FW-13, Hankard Rebuttal, Schedule 1 (AFCL-IR33); see also AFCL-31, IR-89.

Wind projects also have the direction of the “Guidelines for Large Wind Energy Conversion System Noise Study Protocol and Report.” EERA-9. Commerce’s noise monitoring guidelines states that project proposals should include modeling of ambient and turbine noise – Hankard testified that it’s a “requirement of that document.” Hankard, Vol. 2, p. 104, l. 19-25. Freeborn did not include ambient noise in its impacts section of its application, and it was not provided until after the hearing ended. See Id., p. 105, l. 10-15. The guidelines are very specific regarding ambient noise modeling:

- a) Modeling. **Developers should not propose projects where total noise is estimated to exceed the noise standards at receptor property.** Modeling wind farms before construction should include total noise-turbine noise and background noise as datasets. Then the total monitored noise can be compared to the total monitored noise. If only turbine noise were modeled, then monitored background noise must be applied to adjust the measured noise in order to compare the noise from turbines to the modeled estimates. The monitored noise values are used to compare to the model estimates. They are also used to measure compliance.

EERA-9 Guidance for Large Wind Energy conversion system Noise Study Protocol and Report. Appendix A (emphasis added).

Freeborn Wind’s project proposal was not compliant with 2012 Dept. of Commerce Guidelines for noise monitoring. “... our modeling refers to turbine-generated noise levels.”

Hankard, Tr. Vol 1B, p. 99, l. 19 – p. 100, l. 9. Under the guidance, projects should not be proposed without pre-construction modeling of both ambient noise and wind turbine noise.

EERA-8, Guidance. And EERA admits that the noise modeling for this project didn’t meet the guidelines:

Q: And to your knowledge was the modeling provided in compliance with the guidance?

A: From what I've seen, no, it is not.

Davis, Tr. Vol. 2, p. 173, l. 19-21.

Inclusion and consideration of all noise is a key to preventative siting, but Freeborn did not produce it before the hearing, and only submitted it upon request, after Freeborn's omission was raised during the hearing. The ambient noise modeling was promptly provided. FW-18. This exhibit was not subject to cross-examination.

In the application, section 8.3-2, drafted by Hankard, it states that at no location are noise levels greater than 50 dBA under any condition. In live testimony, he "corrected" that to state "... wind-turbine-only noise levels will not exceed 50 dBA." Id., p. 101, l. 14-15. Logically, given that correction, wind-turbine-only noise and ambient noise levels may exceed 50 dBA. "All sources" in Hankard's view does not include ambient noise. Id., p 104, l. 6-8. Commerce EERA and the MPCA have a different view – that "all sources" would include ambient noise.

Given the +/- 3 dB(A) "margin of error, although chose conservative assumptions, the modeling could still result in values over 50 dB(A). See Hankard, Tr., Vol. 1B, p. 113

Doubling of sound energy, or sound pressure level, is 3 dB. "They do not perceive it as a doubling of loudness, until the – until the increase in the decibels is 10. Tr., Vol. 1B, p. 115. Doubling of sound energy doesn't mean a perception of doubling of sound. But the numbers are what matters, in this case the 50 dB(A) of the MPCA 7030 rule.

Invenergy's Hankard agreed to produce noise modeling that included ambient noise, which was provide one week after the hearing adjourned. FR-18. This round of modeling appears to show that where ambient noise levels are at 45 dB(A), there are 4 locations with 50 dB(A) levels, 21 locations at 49 dB(A), and 15 locations at 48 dB(A), totaling 40 locations where the +/- 3 dB(A) would put the project out of compliance. This is concerning.

EERA's Davis notes that larger turbines are noisier, the longer the blades, the noisier the turbines because the larger the turbines are, the faster the tips rotate.

6. The Bent Tree Wind Farm is a 200 MW project, consisting of 122 Vestas V82

1.65 MW, each with a hub height of only 80 meters and a rotor diameter of 82 meters. These are an older generation of turbines [fn. omitted]. The Freeborn Wind Farm, on the other hand, is proposed to consist in Minnesota of only 42 of a more modern generation of Vestas V116 and V110 – 2 MW turbines. These new model Vestas turbines are proposed to be constructed with a hub height of 80 meters and rotor diameters of 110 to 116 meters [fn omitted].

7. It is generally understood that turbine noise output increases with higher blade tip speeds. The wind turbines at the Bent Tree Wind Farm utilize “active stall” blade designs as their “air brake,” to maintain a maximum blade rotational speed during high wind speed conditions [fn omitted]. Wind turbines with active stall blade designs produce, under higher wind speeds, a higher maximum noise output than turbine models that utilize a more modern “blade feathering and pitch cylinders” technology to maintain maximum blade rotational speeds. I understand that the two turbine models proposed for the Freeborn Wind Farm will utilize full blade feathering and pitch cylinders rather than active stall rotor blade designs [fn omitted].

Aff. of Davis, EERA Motion³, [20181-139379-01](#).⁴

If a project is not in compliance with a noise standard, if modeling shows that within the margin of error there could be a compliance problem, and if a noise standard is a permit condition, “the Dept. of Commerce assists Commission staff in enforcement of the site permit conditions...” Davis, Tr. Vol 2, p. 187, l. 13-20. However, enforcement is difficult, given the cost, size, weight, and production, project owners will not be eager to mitigate the situation. Preventative, careful siting is the best path forward.

Why be concerned? There is a demonstrated problem in two projects where the Commission has had to begin steps toward suspension or revocation of a permit – the Bent Tree and Big Blue projects. See AFCL-11, Bent Tree Noise Monitoring and Noise Study, Phase I; see

³ Motions are part of the hearing record. Minn. R. 1405.1800, Subp. 2.

⁴ Davis does not state the source of this information. Invenergy's Litchfield testified that he does not have manuals for Vestas 110 and 116, perhaps Davis has such manuals.

also Bent Tree Noise Report, Phase II, p. 10 of Comment of Stephanie Richter, 3/15/2019 ([20183-141042-01](#)); AFCL 15, Hansen Rebuttal, Schedule F, Big Blue – PUC Letter - Request for Response to Alleged Site Permit Violations and to Show Cause. Others may be in the pipeline. Wind on the Wires urges an interpretation that it claims is consistent with past practice, but that is not correct. WOW states that “The 50 dBA L₅₀ **does not include ambient background noise but is limited to the source.**” WOW Comment, 3/15/2018, [20183-141082-01](#). This comment further states that “Minnesota wind farms have been found to be in compliance with Minnesota Noise Standards when the wind farm noise levels have been at or below the standards required by Minn. Rule 7030.0040, Subd. (sic) 2.” Id. However, the opposite is true, that Minnesota wind farms have been found to **NOT** be in compliance with Minnesota Noise Standards when the wind farm noise levels have been at or below the standards required by Minn. Rule 7030.0040, Subp. 2 (emphasis added). WOW unreasonably argues that:

Any other interpretation of the Rule that includes ambient background noise within the 50 dBA L₅₀ would have a chilling effect on wind development in the State of Minnesota, thereby depriving the state of the benefits wind development can provide...

Id. Just WOW! Wind projects are by design moving into communities, and as evidenced with Big Blue and Bent Tree, violating the state noise rule, necessitating Commission action. WoW worries about a chilling impact on the wind industry, but gives no consideration to the chilling impact that noise violations have on residents use and enjoyment of their property, their homes. WoW had best help work toward preventative and respectful siting, because continued violations of the state noise rule will put wind development in the deep freeze. Developers and owners will not want to invest in a project if as a result of poor siting practices it risks expensive mitigation such as moving a turbine, curtailment 12 hours daily such as now at Bent Tree, suspension of a permit or even revocation for non-compliance.

Wind noise modeling guidance and post-construction modeling is inclusive of ambient sound. EERA-8, Guidance; AFCL-11, Bent Tree Phase 2; Minn. R. 7030. It's good to know that "WOW supports the consistent application of the Rule on a going forward basis using the interpretation that has been applied to date to wind farm permits in the State of Minnesota." WOW Comment, 3/15/2018, [20183-141082-01](#). The extensive Bent Tree noise monitoring reports have been performed by industry consultants "using the interpretation that has been applied to date." Setbacks must be sufficient to provide a margin of error because experience shows that turbines can be noisier than modeling predicts. Wind siting standards are inadequate, wind siting rules have yet to be promulgated, and it's long past time to start that process. If the wind industry wants to continue developing projects, the siting process will have to change, i.e., utilize the correct siting criteria as in this proceeding, and consider impacts on human settlement and environmental factors under that criteria.

B. CLAIMED BENEFITS AND COSTS OF THIS PROJECT DO NOT ADD UP.

Economics are a subject for review under the criteria of Minn. Stat. §216E.03, Subd. 7, specifically the "analysis of the direct and indirect economic impact of proposed sites... including, but not limited to, productive agricultural land lost or impaired. Freeborn Wind claim that this project provides both economic and environmental benefits, and some measure of costs are disclosed, but the claims of the applicants do not add up. Environmental costs and benefits are also subject to review, specifically, that the criteria of Minn. Stat §216E.03, Subd. 7 (a); (b)(1), (2), (3), (6), (9), (11), (12); and (d). Of particular importance is "evaluation of irreversible and irretrievable commitments of resources," because once a wind project is permitted and constructed, it's difficult to move, modify, or mitigate impacts of the project.

For example, Freeborn Wind claims that:

Compared to fossil generation, the Project will reduce emissions of air pollutants including carbon dioxide (CO₂), nitrogen oxides (NO_x), sulfur dioxide (SO₂), particulate matter (PM₁₀), volatile organic compounds (VOC) and carbon monoxide (CO). Just to take a few, the Project's generation over 30 years would reduce CO₂ emissions by over 11 million tons relative to coal-fired electricity, or reduce CO₂ emissions by over 4.5 million tons relative to gas-fired electricity. And these numbers are just for the Minnesota portion of the Wind Farm. The entire 200 MW Wind Farm would reduce CO₂ emissions by approximately 26 million tons relative to coal-fired electricity over 30 years. Replacing fossil fuel generation with renewable sources also has a significant positive impact on health and healthcare costs. Studies conducted by the Union of Concerned Scientists ("UCS") have determined that the decrease in pollutant emissions from fossil fuels is linked to a reduction of early mortality, a loss of workdays, and overall healthcare costs. That same study estimates that healthcare costs in the United States related to impacts from fossil fuels in 2015 ranged between \$361 and \$886 billion (UCS, 2017).

However, that argument turns on "replacement" and "reduction," and there is no direct link. What fossil generation will be reduced? What fossil generation will be replaced? When asked to substantiate the claim that the project provides environmental benefits through reduction of CO₂ emissions and other pollutants, and provide a direct link, such as agreements committing to reduction or replacement of fossil generation in exchange for Freeborn Wind generation, the response was:

There are no specific agreements/contracts that can be identified.

AFCL-27, Freeborn Wind Response to AFCL IR 26. The direct link cannot be identified because there is no direct link from construction of a wind project to claimed benefits of replaced fossil generation, or reduced or avoided emissions of fossil generation.

Wind on the Wires, a wind industry lobbying association, of which Invenenergy is a paying member, makes this same argument. While the increase in wind and solar generation nationwide is changing the nature of electrical generation, and the reduction of production costs makes it an economical choice, and while wind is not generating pollutants as fossil fuel generation does,

there is no direct replacement or reduction of fossil fuel generation, only an increase in non-fossil fuel generation, an increase in non-fossil percentages. Id.

Invenergy also obtained a glowing endorsement from Rep. Tim Walz, in support of his “constituent Melville Nickerson, Director of Government Relations for Invenergy,” of Chicago, claiming benefits of the project, but Invenergy’s Litchfield admitted that Walz letter was a mistake. AFCL-26, Letter to Dan Wolf from Rep. Tim Walz, 2-16-2018; Litchfield, Tr., Vol. 1A. Rep. Walz sent another letter correcting this mistake, and noted:

Furthermore, since my initial correspondence, I have heard directly from my constituents in Freeborn County who have serious concerns about the siting of turbines in the Invenergy proposal. It is my wish that these concerns receive full and fair consideration as your Commission works through its permitting process...

... I also firmly believe that we must balance our development of renewables with respect for individuals whose quality of life could be adversely affected by a specific project. I am confident that you and your Commission share this belief and will conduct your review of this matter in an open and transparent manner.

Rep. Walz Comment Letter, 3/15/2018 ([20183-141076-01](#)).

Freeborn Wind also claims there are economic benefits. Under the siting criteria, there must be “analysis of the direct and indirect economic impact of proposed sites... including, but not limited to, productive agricultural land lost or impaired.” Minn. Stat. §216E.03, Subd. 7. A cost benefit analysis has not been conducted, the costs disclosed not substantiated, and claims of benefits have not been vetted.

Economic benefits claimed by Freeborn Wind do not add up. Much of Freeborn’s claims are based on its estimate of the capacity factor of the turbines at 45-52%. When questioned about whether that projection is realistic, Invenergy’s Litchfield testified, “Yes.”

Q: Are you aware of projects operating that have reached that capacity factor?

A: Yes.

Q: In Minnesota?

A: I’m not aware of a specific project in Minnesota...

Q: Can you name a project that has achieved that capacity factor?

Litchfield Vol. 1A, p. 39-40.

A benefit to Freeborn Wind is that with the sale to Xcel Energy, the timeline for construction moved up. ACL – 24, IR 24. The amount of that benefit has not been quantified.

Freeborn claims economic development benefits of investment and job creation during construction; permanent wind technician jobs during operations; landowner revenue; and local tax revenue. FW-4, Litchfield Direct, p. 11. Litchfield does not detail “investment” benefits. The application does not address benefits generally in the “Local Economics” section, although tax payments are addressed specifically, claiming \$9,400 per turbine per year, totaling \$397,000, a Minnesota tax. See also FW-4, Litchfield Direct, p. 13.

Another way to look at local economic benefits is explained in the Comment of Stephanie

Richter:

| | |
|-----------------------------------|-------------------|
| Year One | |
| \$2.2 landowners payments | |
| Freeborn county 42% of turbines | \$924,000 |
| Production tax to Freeborn county | \$ 0 |
| 10 potential jobs (42%) | <u>\$231,000</u> |
| Year one-Freeborn county | \$1,155,000 |
| | |
| Year Two (add production Tax) | |
| 45% capacity production | \$ 397,353 |
| And increase \$1.155 mill by 2% | <u>\$ +23,100</u> |
| | \$1,575,453 |

Comment of Richter, 3/15/2018 ([20183-141042](#)).

Production tax payments in Minnesota are split with 80% going to Freeborn County and 20% to the townships. FW4, Application, p. 108-109. There are an estimated 200 temporary construction jobs, of which “some” will be local workers, and this is for the project, so roughly 42% of the jobs would be Freeborn County work. See FW-4, Litchfield Direct, p. 11. Leases with landowners address crop damage payments and drain tile repair, and those items are not

“benefits,” but would instead repair damage and make the landowners whole. See FW-4, Litchfield Direct, p. 12. Landowner royalties, which include the repair and damage amounts, are expected to be \$800,000/year, for a total of “\$35 million over the 30-year life of the project.” FW-4, Litchfield Direct, p. 12. However, \$35 million x 30 years = \$24 million, not \$35.

It appears Freeborn Wind is grossly overstating economic benefits of the project.

The costs of the project have not been vetted. Freeborn Wind claims “installed capital costs are estimated to be approximately \$300 million, including wind turbines, associated electrical and communication equipment and systems, and access roads. The Minnesota portion of the Project would be approximately \$126 million for operations and maintenance costs, and administrative costs are estimated to be approximately \$7-8 million per year in total and \$3 million per year for the Minnesota portion of the project.” FW-4, Litchfield Direct, p. 8; FW-1, Application, p. 108. It is not clear whether costs of this proceeding are included in this estimate. The costs of decommissioning, and the costs of decommissioning assurance are another part of the project not accounted for. As above, the cost of agreements to address crop damage payments and drain tile repair, are project costs. See FW-4, Litchfield Direct, p. 12.

The claimed “environmental benefits” of CO₂ and emissions reduction and avoidance are illusory, because the project itself does not provide these benefits, it only does not contribute to emissions. That is an important distinction. The claimed economic benefits are not verifiable, and due to conflicting evidence, are subject to debate. There is not enough information in the record to make a determination regarding direct and indirect economic impacts of the project, nor to compare benefits with costs.

C. FREEBORN WIND ARGUES THAT ITS PROJECTED SHADOW FLICKER IS “CLOSE ENOUGH” AND IT SHOULD NOT HAVE TO COMPLY.

Minnesota siting criteria requires consideration of issues related to shadow flicker.

Shadow flicker is an environmental impact, and one that has an impact on humans and human settlement, public health and welfare, a factor in environmental evaluation of sites, evaluation of effects of new electric power generation technologies and minimization of adverse environmental effects, direct and indirect economic impact, evaluation of adverse direct and indirect environmental effects that cannot be avoided should the proposed siting be accepted, irreversible and irretrievable commitments of resources, and consideration of problems raised by state, federal and local agencies. Minn. Stat. §216E.03, Subd. 7. The Freeborn Wind project shadow flicker modeling shows impacts far above the Freeborn County Ordinance limits of 30 hours annually. Shadow flicker and its impacts are a factor to be considered under the PPSA's statutory criteria which seeks to minimize environmental impacts, minimize human settlement and other land use conflicts, public health and welfare, adverse direct and indirect environmental effects, irreversible and irretrievable commitments, consideration of problems raised by agencies, and state agency rules. See Minn. Stat. §216E.03, Subd. 7 (a), (b) (1), (2), (3), (5), (6), (11), (12), (d).

Shadow flicker occurs when the turbines block the sun and is limited for nearby homes to 30 hrs/yr. Wind developers perform shadow flicker monitoring, but shadow flicker occurs, whether someone is a "receptor" or not. Wind companies propose "mitigation" using blinds and shades, leaving people to sit in the dark in daytime, or as Freeborn's Litchfield suggested in writing, "go to Florida for the winter." See Public Comment, Kathy Nelson, 7/3/2017 ([20177-133467-02](#)).

Freeborn Wind admits that as shown by its shadow flicker modeling, some residents, both participants and non-participants will receive more than 30 hours per year of shadow flicker:

The figures in the Application, e.g. Figure 2 and Figure 3, depict a layout consistent with Freeborn County's shadow flicker requirements. The three

participant and four non-participant residences that were modeled above 30 hours per year will be examined in more detail considering site-specific factors such as trees and buildings that were not accounted for in the realistic modeling scenario (because it was still fundamentally conservative), and if so, how those existing visual buffers would affect potential shadow flicker reception. We have attempted to mitigate this by gaining landowner acceptance at these participating homes, but they have declined. So we will achieve the 30 hour limit by using Turbine Control Software to shut down a specific turbine or turbines as necessary.

AFCL-19, Freeborn Wind Response to AFCL IR 7.

However, looking at the modeling provided by Invenergy, the hours of shadow flicker inflicted on residents adds up to far more than 30 hours annually. FR-11, Litchfield Rebuttal, Schedule 1, Response to AFCL IR 17. One of the affected landowners, Kathy Nelson, added up the impacts of the four turbines surrounding her home:

| Turbine number | # with flicker | Minutes/day | Total Hours/Yr |
|-----------------------|-----------------------|--------------------|------------------------|
| Turbine 40 | 118 | 30 | 59 hrs |
| Turbine 41 | 118 | 60 | 118 hrs |
| Turbine 42 | 30 | 30 | 15 hrs |
| Turbine 43 | 25 | 40 | 16.6 hrs |
| Turbine 44 | 25 | 30 | <u>12.5 hrs</u> |
| Grand total | | | 221.1 hours |

The numbers of days may be off a day or two according to the narrative but the minutes per day is what Dan Litchfield has testified to. This is outrageous. Turbines 40 and 41 are also noted as having no significant obstruction to the view.

Public Comment, Kathy Nelson, Comments – Exceedances of Shadow Flicker to Home, 3/13/2015 ([20183-141036-01](#))(some hours may have been missed in one Nelson comment).

On p. 2 of 16, using the numbers to identify the home, then referring to the shadow flicker graphical calendar, for home 282, based on the graph on p. 3 of 16, there would be 102 hours of shadow flicker. Similarly, for home 315, based on the graph on p. 7 of 16, there would be an estimated 156.4 hours of shadow flicker. For home 317, based on the graph of p. 11 of 16, there would be an estimated 238.6 hours of shadow flicker. For home 326, based on the graph on p. 14 of 16, there would be an estimated 116 hours. See Public Comment, Darla Robbins,

3/14/2018, ([20183-141040-01](#)). In each case, that's quite a few more hours than 30 hours. FR-11, Litchfield Rebuttal, Schedule 1, Response to AFCL IR 17. As stated in the IR 17 response:

This chart shows this home can receive shadow flicker from 5 nearby turbines:

1. Turbine #40, located to the west-southwest of the home, can cause shadow flicker on the home briefly in the late afternoon (4:30-5:00 PM) from late October through mid February. No significant obstruction to the view of this turbine is expected.
2. Turbine #41, located to the southwest of the home, can cause shadow flicker on the home in the morning (3:40-4:40 PM) from late October through mid February. No significant obstruction to the view of this turbine is expected.
3. Turbine #42, located to the southeast of the home, can cause shadow flicker on the home briefly in the morning (8:40-9:10 AM) from early December to early January. While this turbine is a minor contributor to the overall flicker total, as can be seen in the photos to follow, both the view of this turbine and any shadow flicker will be obscured by the mature trees to the southeast of the home, albeit limited because they are deciduous trees and will be in a leaf-off condition when the flicker occurs.
4. Turbine #43, located to the east-southeast of the home, can cause shadow flicker on the home briefly in the morning (7:10-7:50 AM) from mid February to early March and again in mid October, at a slightly later time. While this turbine is a minor contributor to the overall flicker total, as can be seen in the photos to follow, both the view of this turbine and any shadow flicker will be obscured by the mature trees southeast of the home, albeit limited because they are deciduous trees and will be in a leaf-off condition when the flicker occurs.
5. Turbine #44, located east of the home, can cause shadow flicker on the home in the morning (7:10-7:40 AM) mid-March through early April and again in mid September. While this turbine is a minor contributor to the overall flicker total, as can be seen in the photos to follow, both the view of this turbine and any shadow flicker will be obscured by the mature trees east of the home, albeit limited because they are deciduous trees and will primarily be in a leaf-off condition when the flicker occurs.

Id., p. 4 of 6, Comment of Kathy Nelson, 3/15/2018 ([20183-141092-01](#))(some hours of flicker may have been missed in comment); see also Litchfield, Tr. Vol. 1A, p. 33 – 35; Gaston, Public Hearing, p. 94 (shadow flicker rises from 22 hours and 2 minutes to 50 hours).

Invenergy's Litchfield testified that the company would shut down turbines as necessary to comply with the 30 hour rule. AFCL-19; Tr. Vol 1A, p. 33, l. 12-15. However, there would

not be real time monitoring, but instead “be a complaint resolution issue if it’s presented by a landowner to the project.” Id., l. 16-23. That means that a resident would have to experience the shadow flicker, know how to make a complaint, make a complaint, and wait for action to be taken. Instead, where modeling shows non-compliance is likely, the turbines should not be sited in the proposed non-compliant location and should be relocated. Freeborn Wind claims they have sufficient land rights to build the project. FW-4, Litchfield Direct, p. 8, l. 226-229. However, as noted by Applicants, there is no room to move any turbine.

Shadow flicker is covered in the criteria focused on the state’s goal of minimizing human settlement and other land use conflicts; evaluation of research and investigations regarding facilities’ impacts on public health and welfare; environmental evaluation of sites and relationship to human resources, minimization of adverse environmental effects and effects that cannot be avoided; evaluation of alternatives to the applicant’s proposed site, evaluation of irreversible and irretrievable commitments of resources, consideration of problems raised by other state and federal agencies and local entities, and not to designate a site that violates state agency rules. See Minn. Stat. §216E.03, Subd, 7 (a), (b)(1), (2), (3), (6), (7), (11), (12), (d). Of particular importance is “evaluation of irreversible and irretrievable commitments of resources,” because once a wind project is permitted and constructed, it’s difficult to move, modify, or mitigate shadow flicker impacts. Shadow flicker is also predicted to extend far beyond the county ordinance limits. The project, as proposed should not be permitted due to the applicant’s extremely high predictions of shadow flicker.

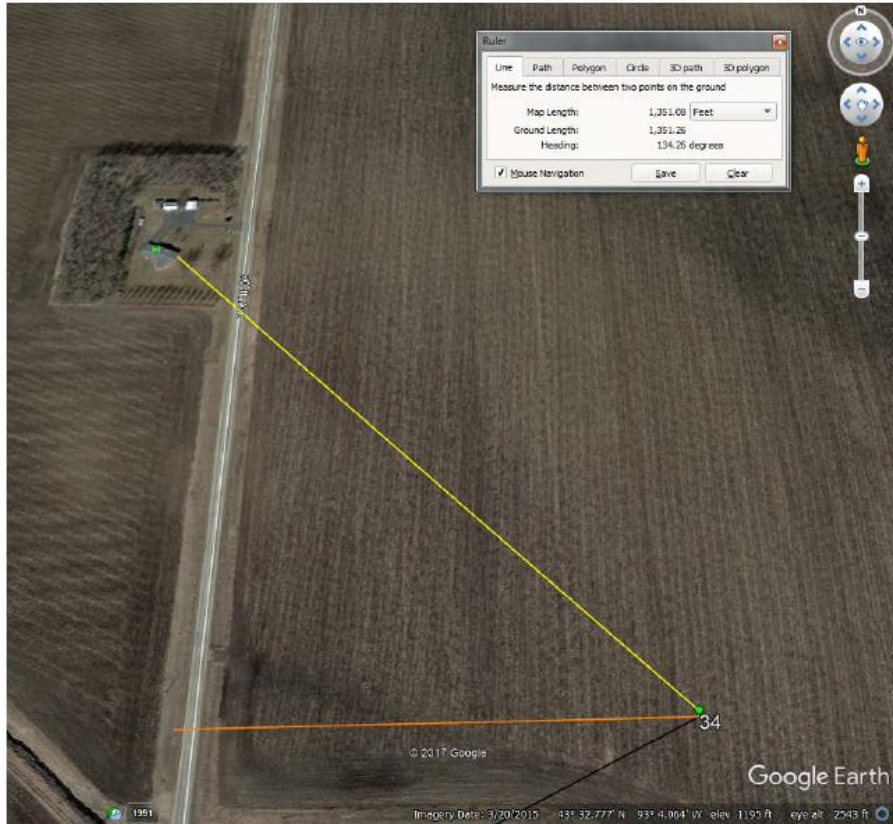
D. VISUAL AESTHETICS AND AESTHETIC VALUES ARE IMPORTANT TO THE COMMUNITY .

Minnesota siting criteria requires consideration of aesthetics and environmental issues. Aesthetics is a criteria focused on the state’s goal of minimizing human settlement and other land

use conflicts; evaluation of research and investigations regarding facilities' impacts on public health and welfare and aesthetic values; environmental evaluation of sites and relationship to human resources, minimization of adverse environmental effects; evaluation of adverse direct and indirect environmental effects that cannot be avoided; evaluation of alternatives to the applicant's proposed site, evaluation of irreversible and irretrievable commitments of resources, consideration of problems raised by other state and federal agencies and local entities, and not to designate a site that violates state agency rules. See Minn. Stat. §216E.03, Subd, 7 (a), (b)(1), (2), (3), (6), (7), (11), (12), (d). Again, consideration and "evaluation of irreversible and irretrievable commitments of resources," is particularly important, because once a wind project is permitted and constructed, it's difficult to move, modify, or mitigate impacts of the project.

A wind project is visible for many miles. Freeborn's turbines are proposed to be as close to homes as 1,200 feet. Landowners live within the project, surrounded by multiple turbines, which are very tall and visible in their locations directly adjacent to picture windows, visible outside from any location on their property, towering over their homes and clashing with the community's rural setting. This intrusion is unavoidable and can rob landowners of their use and enjoyment of their property.

A look at the shadow flicker exhibits produced in an Information Request, with arrows between turbines demonstrates the visibility of turbines for those living nearby. FW-11, Litchfield Rebuttal, Sched. 1, AFCL IR 17. Freeborn's overhead photos say it best -- it's difficult to ignore nearly 500 foot turbines placed nearby homes, visible from windows and anywhere in the yard:



FW-11, Litchfield Rebuttal, Sched. 1, AFCL IR 17.

The visual aspects, aesthetics and aesthetic values must be considered, and under the

PPSA criteria, the project as proposed should be rejected.

E. TOWNSHIPS HAVE GONE TO GREAT LENGTHS TO DRAFT ROAD ORDINANCES, AND FREEBORN MUST COMPLY WITH LOCAL REGULATIONS, NOT PROCEED WITHOUT AN AGREEMENT.

Road upgrades and repairs to facilitate construction, maintenance, emergency response, and decommissioning are significant issues in a rural community with few transportation options. Building and maintaining roads is a primary function of townships, and a township has primary jurisdiction over its roads, a county has primary jurisdiction over its roads. Roads and road use should be considered under the PPSA criteria regarding minimization of human settlement and other land use conflicts, effects on land use, environmental evaluation of sites and relationship to the land, adverse direct and indirect environmental effects that cannot be avoided, evaluation of irreversible and irretrievable commitments of resources, and consideration of problems raised by other state agencies. Minn. Stat. §216E.03, Subd. 7.

Towns and counties often enact road ordinances, and enter into road agreements, and in this project area, have done so. Litchfield, Tr. Vol 1A, p.26; Litchfield Direct, Schedule 2, Worth County Road and Drainage Easement and Maintenance Agreement; AFCL- 20, IR re: Road Agreements. The presumed impacts on roads are demonstrated in the need for sections on roads in the Draft Site Permit boilerplate. See EERA-8, Draft Site Permit, §5.2..12-14, Public, Turbine Access, and Private Roads. The Minnesota DOT also has its Policy of Accommodation, referenced in its October 6, 2017 comment, which is guidance on siting near roads under DOT jurisdiction.⁵ DOT Comment, 10/6/2017 ([201710-136205-01](http://www.dot.state.mn.us/policy/operations/op002.html)). However, in considering turbine locations near state roads, it should be noted that this is a “Utility Accommodation Policy,” to accommodate siting of utility infrastructure. Freeborn Wind is not a utility, and after transfer to

⁵ DOT Utility Accommodation Policy, online at <http://www.dot.state.mn.us/policy/operations/op002.html>

Xcel Energy as owner, it will remain “Freeborn Wind, LLC,” a Limited Liability Company, and not a Public Service Corporation.

Township and county roadways would require significant rebuilding to handle the heavy weight of truck traffic with cranes and turbines, which would come at significant cost. The roads would need to be widened and corners expanded so equipment could make the turns, and roads must be returned to previous condition, which may not be wise considering necessary turbine maintenance, replacement, rehab, and removal costs. FW-4, Litchfield Direct, p. 6, l. 152-167; see also Schedule 2.

In an IR asking about status of road agreements with Hayward, London, Oakland and Shell Rock townships, Freeborn was asked and responded:

Q: Does Freeborn agree that these agreements must be reached and executed as a condition of a site permit?

A: No. Draft Site Permit condition 5.2.12 requires the Permittee to “make satisfactory arrangements with the appropriate state, county, or township governmental body having jurisdiction over the 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.” While the road agreements would satisfy this condition, the road agreements are not the only means by which the condition could be satisfied.

AFCL 18, Freeborn wind Response to AFCL IR20.

When asked what he meant when stating, “While the road agreements would satisfy this condition, the road agreements are not the only means by which the condition could be satisfied,” Litchfield responded that the best means is “a road agreement, bilateral or multi-lateral, of all the townships AND the county,” but if there is no agreement, Freeborn Wind would proceed without an agreement. Litchfield, Tr. Vol. 1A, p. 27-28. The Draft Site Permit, however, states that:

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.

EERA-8, Draft Site Permit, p. 9, 5.2.12, Public Roads. Proceeding without an agreement is not an option under the permit. While the Draft Site Permit states that “[t]he Permittee shall prior to the use of such roads, make satisfactory arrangements...” it only requires notification to the Commission of such arrangements upon request. This is inadequate. The Draft Site Permit must be amended to require that the Permittee file agreements with the Commission before beginning construction.

F. DRAINTILE SYSTEMS ARE THE LITERAL FOUNDATION OF THIS AGRICULTURAL COMMUNITY AND MUST BE PROTECTED.

The foot print proposed for the Freeborn Wind project is an agricultural area, with an extensive system of drain tile to facilitate crop production. Consideration of impacts on land use and agriculture, relationship of project to the land, direct and indirect impact of proposed sites including productive agricultural land lost or impaired, direct and indirect environmental impacts, and minimization of interference with agricultural operations is required under the PPSA criteria. See Minn. Stat. §216E.03, Subd. 7 (a), (b) (1), (2), (3), (5), (6), (11), (12), (d). The presumption of damage to drain tile systems is such that it is a boilerplate point in a Draft Site Permit. See EERA-8, Draft Site Permit, §5.2.19 Drainage Tiles; see also Litchfield Direct, Schedule 2, Worth County Road and Drainage Easement and Maintenance Agreement.; AFCL-22, Freeborn Response to AFCL IR 23.

Drain tile systems will likely be damaged, and due to the interconnected nature of drain tile, damage from debris and silt in the system could migrate beyond the immediate construction

area, and construction damage may not become apparent until long after the project is built.

Freeborn states:

[I]f such damage does occur, Freeborn Wind will comply with the terms of Draft Site Permit condition 5.2.24. Freeborn Wind anticipates doing so by first offering the affected landowners the same terms it offers participating landowners for such damages. If a voluntary agreement cannot be reached on those terms, the issue will be handled following the complaint procedure included in the Draft Site Permit.

AFCL-22, Freeborn Response to AFCL IR 23.

While Freeborn Wind draws a distinction between participating and non-participating landowners, the Draft Site Permit makes no such distinction:

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.

EERA-8, Draft Site Permit, p. 12, §5.2.24, Damages.

This is an issue that extends beyond participants property boundaries, and must be fairly addressed in any permit.

G. CONSTRUCTION OF FREEBORN WIND WOULD END AERIAL SPRAYING AND SEEDING.

A specific impact on agricultural operations is the project's bar to continuation of aerial spraying and seeding. As above, consideration of impacts on land use and agriculture, relationship of project to the land, direct and indirect impact of proposed sites including productive agricultural land lost or impaired, direct and indirect environmental impacts, and minimization of interference with agricultural operations is required under the PPSA criteria. See Minn. Stat. §216E.03, Subd. 7 (a), (b) (1), (2), (3), (5), (6), (11), (12), (d).

There was testimony at the public hearing regarding aerial spraying, first by a former pilot who testified about aerial spraying near a wind turbine, but admitted he had no experience

doing so, that wind turbines were just being installed at the time he quit flying. Rauenhorst, Public Hearing, p. 77-84. Another pilot currently in the agricultural spraying business, with decades of agricultural flights, heard Mr. Rauenhorst's comments, and later testified that he would not fly near wind turbine projects, and he would not allow his pilots to fly in such circumstances.

I have 39 years of aerial application experience, totaling, oh, 13,500 hours of ag time. And I'm here to tell you you cannot safely fly within a wind farm. I will not put myself or any pilots that help us risk that for them or their families... But once you get within that farm, inside that facility, there's turbulence, the blade's moving, you lose your depth perception, and it is not safe to be within that facility. I think – I did not want there to be a misconception about that for this panel.

Thisus, Public Hearing, p. 90-91.

With the turbines presenting an effective prohibition on aerial spraying and seeding, farmers would have to find other ways to accomplish this, and it would be a more costly and time consuming method, interfering with and impairing agricultural operations.

Under the PPSA, the impacts on land use, agricultural impacts, and interference with agricultural operations must be considered, and the project as proposed should be rejected.

Minn. Stat. §216E.03, Subd. 7.

H. ICE THROW IS A DANGEROUS SIDE EFFECT OF WIND GENERATION, AND THE SETBACKS DO NOT ADEQUATELY PROTECT PEOPLE AND PROPERTY.

Public safety, public health and welfare, is a consideration under the factors of the PPSA criteria. Minn. Stat. §216F.03, Subd. 7 (b)(1).

Ice throws are a literal direct impact, most recently experienced on February 22, 2018, as the Freeborn Wind hearing had ended, when a Bent Tree turbine threw ice over Highway 13 and

it hit a semi tractor, scraping the door and taking a large piece out of the driver's side faring between the steer and drive axels, right over the fuel tank.



See Comment, Dan Beshan, Freeborn County Commissioner, 3/15/2018, (20183-140987-01); see also DOT Comment, 10/6/2017 ([201710-136205-01](#)).



Saturday 2-24-18
Albert Lea
Tribune

Turbines temporarily shut down after ice strikes semi

By Sam Wilmes
sam.wilmes@albertleatribune.com

Alliant Energy shut down about a dozen of its turbines in Bent Tree Wind Farm after a report that ice from a turbine struck a semi Thursday on Minnesota Highway 13.

The turbines were described by Alliant Energy Spokesman Justin Foss as "select turbines" near Highway 13. The turbines have been inspected and had not been turned on as of Friday afternoon.

Foss, who said such incidents are not common, noted part of the reason why the turbines were temporarily shut down was to give Freeborn County residents who are sensitive to wind an extra sense that they are investigating.

Goodhue County resident Marie McNamara said she and a friend were heading home from an evidentiary hearing for the Freeborn Wind Farm ON Thursday when they received a call from a passerby in the area that ice had struck a vehicle.

McNamara said turbines encounter more problems the older they get, so sufficient distances between turbines and highways and homes are needed. She called Minnesota setback standards "insufficient."

Freeborn County Sheriff Kurt Freitag confirmed the ice struck the vehicle and said it was an unusual event. No houses were in jeopardy because they were at a far enough distance from the turbines.

Wind speed and direction is expected to dictate which turbines are turned on.

Public Comment, Bonita Belshan, 3/15/2018 (ID # [20183-141038-01](#)).

Public health and safety is a criteria to be considered in review of this project, as is direct environmental effects, as well as environmental evaluation of sites. See Minn. Stat. §216E.03, Subd. 7 (a), (b) (1), (2), (3), (5), (6), (11), (12), (d). The road setback standard is not sufficient to prevent damages to property and risks to public safety – that much has been demonstrated.

I. THERE IS GREAT RISK THAT THE TURBINES WILL INTERFERE WITH OVER THE AIR BROADCAST SIGNALS, CELL AND LAND LINE PHONES, AND INTERNET ACCESS.

Wind turbines can interfere with over the air broadcast signals, cell phone signals, land line phones, and internet access. This was such a concern to KAAL that it intervened in this

proceeding to assure that this potential was considered. Interference with these signals has an impact on human settlement, public health and welfare, a direct and indirect economic impact, likely irreversible and irretrievable commitment of resources if project does interfere. See Minn. Stat. §216E.03, Subd. 7 (a), (b) (1), (2), (3), (5), (6), (11), (12), (d).

While Commerce has the duties of review and analysis of a project proposal, Commerce staff does not have specific expertise in over-the-air signals. Davis, Tr. Vol. 2, p. 181, l. 11-12.

AFCL has many members who rely on radio and television over-the-air signal, cell phone reception, and internet, and are concerned that there is great risk for interference with signals and reception. Because AFCL has no expertise and little knowledge of these matters, AFCL adopts as if fully related herein all arguments and evidence produced by KAAL in this matter.

J. APPLICANTS ARE NOT TAKING SUFFICIENT NOTICE OF WILDLIFE ISSUES AND POTENTIAL HARMS TO WILDLIFE.

Impacts on wildlife are a consideration for review under the PPSA criteria.

Considerations of wildlife issues and potential impacts and harms to wildlife is found in the state's goal of minimizing environmental impacts land use conflicts; evaluation of research and investigations regarding facilities' impacts on animals and minimizing impacts; environmental evaluation of sites, evaluation of adverse direct and indirect environmental effects that cannot be avoided; evaluation of alternatives to the applicant's proposed site, evaluation of irreversible and irretrievable commitments of resources, consideration of problems raised by other state and federal agencies and local entities, and not to designate a site that violates state agency rules. See Minn. Stat. §216E.03, Subd, 7 (a), (b)(1), (2), (3), (6), (7), (11), (12), (d). See Minn. Stat. §216E.03, Subd. 7 (a), (b) (1), (2), (3), (5), (6), (11), (12), (d).

AFCL has repeatedly raised concerns about impacts of the project on wildlife, including specifically eagles and bats. If the project were permitted, wildlife habitat would decrease, and it

would encroach on important species. Eagle nests and foraging areas are within and surrounding the project footprint. AFCL has reported multiple eagle nests to Freeborn Wind, DNR, and USFWS, but several remain unacknowledged. Bat monitoring was not conducted on agency recommended schedule. These issues are well and thoroughly documented in the record. See e.g., Hansen, Comment 3/15/2018 ([20183-141043-01](#)).

At this point, unknown whether an eagle take permit will be recommended by U.S. Fish and Wildlife, they have yet to weigh in. Giampoli, Tr. Vol. 1B, p. 29-30.. Applicants have made no inquiries regarding whether any eagle carcasses have been found near a turbine in the area or in the Riverland parking lot near that facility's turbine. Tr., Vol. 1B, p. 47-48.

The wildlife concerns raised by AFCL must be considered in light of the state's PPSA criteria, and based on the record and unresolved concerns, the project should not go forward.

K. THE APPLICANTS HAVE NOT DESIGNED IN ANY ROOM TO MOVE TURBINES IF SITING ISSUES BECOME APPARENT.

Design factors, and impacts on human settlement and land use, minimization of direct and indirect impacts, and consideration o problems raised by other state and federal agencies and local entitiets are factors of the PPSA criteria. See Minn. Stat. §216E.03, Subd. 7 (a), (b) (1), (2), (3), (5), (6), (11), (12), (d). This project has inadequate land rights to afford design micrositing options to move turbine locations if issues present, such as potential noise and shadow flicker exceedences, wetland encroachment, and interference with eagle nests and/or foraging habitat.

This project has been designed with no ability to adjust locations if siting proves problematic. For example, the DNR requested 5-6 alternate turbine sites should issues arise that prohibit use of locations proposed. FR-1, Application, Appendix A, Agency Correspondence, p. 3-5, 14-17. Mixon of the DNR testified at the hearing that was not aware of alternate sites provided. Mixon, Tr. Vol. 2, p. 48, l. 15-22. There is no room to adjust turbine locations, and

no alternate sites proposed. Freeborn has testified that they have no room to move the Minnesota turbine locations. Litchfield, Tr. Vol. 1A, / Freeborn states:

It is a two-state project that will be comprised of 100 turbine locations. All alternative turbine locations are in Iowa. Freeborn Wind has identified 42 valid turbine locations in Minnesota and is seeking a Site Permit for all 42.

AFCL-3, Litchfield, Response to AFCL to Freeborn IR3.

Because the Freeborn County wetland setback is problematic for the Applicants, Freeborn Wind is requesting the Commission find “good cause” to pre-empt the local ordinance.

FR-4, Litchfield Direct, p. 16-17. This request is based on Minnesota statute:

APPLICATION OF COUNTY STANDARDS.

A county may adopt by ordinance standards for LWECS that are more stringent than standards in commission rules or in the commission's permit standards. The commission, in considering a permit application for LWECS in a county that has adopted more stringent standards, shall consider and apply those more stringent standards, unless the commission finds good cause not to apply the standards.

Minn. Stat. 216F.081. Invenergy’s argument is, essentially, “close enough.” No, “close enough” isn’t.

The project also plans an Operations and Maintenance facility next to the project substation. FW-1, Application, p. 4. However, an Operations and Maintenance facility is not allowed under the County Ordinance. Belshan, Public Hearing, p. 160. Freeborn Wind also asks to override the County’s land use ordinance to allow that facility.

The project should not be sited by overruling the community preferences and ordinances. If it cannot comply with community preferences and ordinances, the proposal should be rejected.

L. DECOMMISSIONING INFORMATION MUST BE PROVIDED AND REVIEWED PRIOR TO ISSUING ANY PERMIT

In this specific case, decommissioning information was not included in the application, and the decommissioning plan isn’t being drafted and filed until after a permit is issued. EERA

did not raise this omission to the Commission, and the Commission blithely declared the Application complete without any acknowledgement of the omission of decommissioning information – a systemic problem, but in this case, a problem for this project. Under the rules, decommissioning information including cost and financial assurance plan should be provided in the Application, and as above, it was not. Supra Section I.E. No permit should be granted until this information has been provided, opened for comment, and reviewed by Commerce, the public, and the Commission, as contemplated by the requirement that decommissioning information be included in the application.

M. THE COMPLAINT PROCESS IN THE DRAFT SITE PERMIT IS INADEQUATE AND MUST BE REVISED TO PROVIDE TIMELY INVESTIGATION OF COMPLAINTS AND PERMIT ENFORCEMENT.

The Commission’s complaint process is broken. The Commission is aware that there have been problems with the Bent Tree and Big Blue projects, but it takes years for complaints that are not resolved to work their way to the Commission. See Testimony of Cheryl Hagen, Public Hearing Tr. p. 108-111; Testimony of Bernie Hagen, p. 112-115.

The complaint process proposed for this project is the same boilerplate language used in every wind project, and there have only been nominal revisions over time. Davis, Tr. Vol. 2, p. 180, l. 14-17. The Draft Site Permit includes the complaint process, located at the very end of the document. EERA-8, Draft Site Permit – p. 72 of 77. This complaint process is found at the end of each permit issued and if a permit is issued in this docket, a copy of the permit is mailed to “everyone that is notice of the issuance of the permit.” Davis, Vol. 2, p. 179-180.

The complaint process is complex and is subject to revision:

Q: What would it take to initiate a review of the complaint process?

A: This is when you would provide a comment on it. It’s part of the draft site permit, so—

Q: So right now?

A: So this is when comments should be submitted, yeah.

Davis, Tr. Vol 2, p.180.

Complaints regarding over-the-air may be problematic, because unless someone identifies the wind project as the source of the interference and knows how to and does in fact make a complaint under the permit's complaint process, there may be no record of the problem. Commerce does not receive complaints from the television signal, and people experiencing over-the-air interference may not know why they have interference. Davis, Tr. Vol. 2, p. 181, l. 13- p. 183, l. 8. Although Davis does not know of any complaints, Cheryl Hagen testified regarding their trouble with over-the-air TV reception due to Bent Tree at the Public Hearing. Testimony of Cheryl Hagen, Public Hearing Tr. p. 108-109.

No permit should be issued without thorough review and revision of the complaint process.

N. PER MPCA, APPLICATION DOES NOT DISCLOSE NOR ADEQUATELY ADDRESS POTENTIAL EFFECTS OF PROJECT.

PPSA siting criteria directs that "... the commission shall be guided by, but not limited to, the following considerations... (12) when appropriate, consideration of problems raised by other state and federal agencies and local entities." Minn. Stat. §216E.03, Subd. 7 (b)(12). According to the MPCA, the application does not adequately address several factors:

- The Site Permit does not adequately address how the Project will avoid adverse effects during construction that may contribute to the impairments of the Shell Rock River and Woodbury Creek. The Project proposer will need to comply with requirements for additional best management practices (BMPs) for special and impaired waters in Appendix A Part C of the National Pollutant Discharge Elimination System/State Disposal System (NPDES/SDS) Construction Stormwater Permit (CSW Permit).
- The Site Permit Application does not describe the amount of new impervious surfaces that will be created by the Project and how the effects of increased stormwater from the impervious surfaces will be mitigated. The site will need to

comply with requirements for permanent stormwater management for new impervious surfaces that result in 1 acre or more as specified in Part III. D. of the CSW Permit.

- If the project will result in a total disturbance of 50 or more acres, the Stormwater Pollution Prevention Plan must be submitted for review by the MPCA 30 days prior to beginning construction.

EERA-5, Agency Comments ([20182-139859-01](#)). The MPCA Comment is dated October 4, 2017, addressed to Richard Davis, EERA, but EERA did not file it until four months later, on February 7, 2018. It is unknown whether these issues raised by the MPCA have been addressed. A site permit should not be issued until they are.

IV. ECONOMIC IMPACTS ALONE ARE NOT SUFFICIENT TO OVERRIDE ENVIRONMENTAL CONSIDERATIONS

As an argument against having to comply with the Freeborn County preference for a 1,500 foot residential setback, Freeborn Wind’s Litchfield testifies that if that is necessary, a turbine would be eliminated and there would be an economic impact, that the participant would be financially harmed. FR-4, Litchfield Direct, p. 19-20. The project also increases noise levels for non-participants to site near a wetland, where “good cause” not to observe the Freeborn County wetland setback is claimed “because only stock ponds are affected, the wetland remains adequately protected from impacts, the deficiency is just five percent of the setback and this minor deficiency comes with benefits to non-participating residents elsewhere.” Id., p. 16-17.

The Minnesota Environmental Rights Act clarifies the role of economic arguments and the balance with environmental concerns, providing that “Economic considerations alone shall not constitute a defense hereunder.” Minn. Stat. §116B.04, Subd. Because an economic benefit is provided to Freeborn Wind and participants, that is not sufficient reason to invoke the “good cause” argument to avoid compliance with county setbacks and community standards.

V. PREVENTATIVE AND PRECAUTIONARY SITING IS NECESSARY BECAUSE IF SITING ERRORS ARE MADE, OR A PROJECT IS NOT IN COMPLIANCE, THERE IS LITTLE PRACTICAL RECOURSE ONCE WIND PROJECT IS BUILT.

There is no statutory mechanism in place to address situations where projects are built and residents have lost the use and enjoyment of their property. “Buy the Farm,” Minn. Stat. §216E.12, Subd. 4, is instructive, and applies to wind projects (see Minn. Stat. 216F.02, Exemptions). Minnesota should adopt the Power Plant Siting Act’s “Buy the Farm” and Minn. Stat. Ch. 117 eminent domain compensation for landowner buy-outs where the wind farm has moved into the neighborhood. No permit should be issued without a plan in place to sufficiently address permit violations, landowner complaints, and provide landowner opt-out choices.

VI. FREEBORN WIND MUST NOT BE GRANTED A SITING PERMIT

A wind project moving in changes the character of the community forever with a shift from agricultural to industrial: **COMMUNITY CONSENT IS NECESSARY!** The people who live in what is now the potential Freeborn Wind project footprint chose to live here, to stay here, for many reasons. Most grew up here, and their land has been in the family for generations. Many want a quiet rural way of life. Entry of wind turbines into this community would shift away from the established and flourishing agricultural base. It’s important to note that the wind project moving into a community, but not mindful or respectful of those living in the area, and landowners have not consented. This project would take away use and enjoyment of their property. Building this project in the area proposed would remove some of the most productive agricultural land from production. Construction activities would disrupt with noise, high traffic, disrupted and rebuilt roadways and drainage systems. Operation would disrupt with continual flashing red lights, turbine noise, maintenance activities. The community would become an industrial, not rural agricultural, area.

AFCL requests the court take administrative notice that Minn. R. 7854, Site Permit, Large Wind Energy System, does not address the mandated siting issues as set forth in Minn. Stat. §216F.05, and that there are no wind siting rules addressing these points.

As the applicant, Freeborn Wind has the burden of proof to demonstrate that it has met the criteria for a siting permit. Minn. Stat. §216E.03, Subd. 7; see also Minn. Stat. §216F.02. Freeborn Wind should not be granted a permit. The above factors affect siting of individual turbines and siting of the project as a whole. At the risk of sounding like a broken record, “evaluation of irreversible and irretrievable commitments of resources,” is particularly important, because once a wind project is permitted and constructed, it’s difficult to move, modify, or mitigate impacts of the project. Another consideration is that Freeborn Wind does not have land rights in Minnesota to move turbines to comply with siting requirements and alleviate siting concerns. Prevention and precaution is needed in siting such large infrastructure in a community. The PUC should not issue a siting permit to Freeborn Wind.

In the alternative, the Commission may in its discretion, adopt special permit conditions. Minn. Stat. §216F.04. If the Commission wishes to issue a permit, it should adopt special permit conditions of ½ mile setbacks as with the Lakeswind project, and noise limits as recommended as Promising Practices in the Massachusetts Study. A special permit should require shadow flicker be in compliance with the Freeborn County ordinance limit of 30 hours annually, and provide opt-out choices for affected landowners.



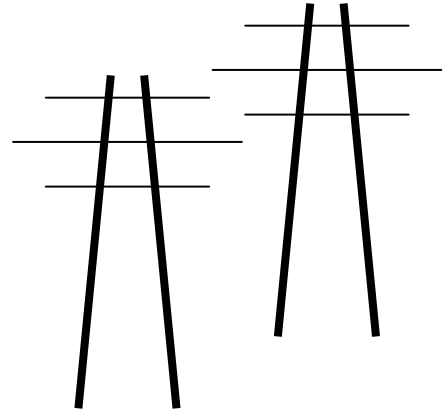
March 20, 2018

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June 8, 2018

Dan Wolf
Executive Secretary
Public Utilities Commission
121 – 7th Place East, Suite 350
St. Paul, MN 55101

eFiled and eServed

RE: AFCL - Exceptions and Request for Oral Argument
Freeborn Wind, LLC
MPCU Docket: IP-6946/WS-17-410

Dear Mr. Wolf:

On behalf of Association of Freeborn County Landowners, please find Exceptions to Recommendation of Administrative Law Judge and request for Oral Argument at the Commission meeting for deliberation regarding the above-entitled docket.

Please let me know if you have any questions or require anything further.

Very truly yours,

Carol A. Overland
Attorney at Law

Enclosures

cc: Association of Freeborn County Landowners

**STATE OF MINNESOTA
BEFORE THE
MINNESOTA PUBLIC UTILITIES COMMISSION**

**Nancy Lange
Dan Lipschultz
Matt Schuerger
Katie Sieben
John A. Tuma**

**Chair
Commissioner
Commissioner
Commissioner
Commissioner**

In the Matter of the Application of Freeborn
Wind Energy, LLC for a Large Wind Energy
Conversion System Site Permit for the 84
MW Freeborn Wind Farm in Freeborn County

PUC Docket No. IP6946/WS-17-410

**EXCEPTIONS OF ASSOCIATION OF FREEBORN COUNTY LANDOWNERS TO
FINDINGS OF FACT, CONCLUSIONS OF LAW, AND RECOMMENDATION
OF THE ADMINISTRATIVE LAW JUDGE**

The Association of Freeborn County Landowners (AFCL), requests that the Freeborn Wind permit be denied. AFCL, pursuant to Minn. Stat. §14.61 and Minn. R. 7829.2700, submits the following exceptions to the report of the Administrative Law Judge in the above captioned proceeding. The Association of Freeborn County Landowners are affected parties as landowners in Freeborn County, an area targeted for this project, and as Intervenors with granted full party status, request that the Commission take these Exceptions under consideration. The community does not consent to this project.

The Association of Freeborn County Landowners (AFCL) adopts the Exceptions of KAAL as if fully incorporated herein.

The Association of Freeborn County Landowners respectfully requests oral argument in the above-captioned matter when it comes before the Commission.

I. SYSTEMIC PROBLEMS OF WIND SITING IN MINNESOTA DEMAND PREVENTATIVE AND PRECAUTIONARY SITING, AND ULTIMATELY, A REVAMPING OF WIND SITING PROCESS AND PROCEDURES.

The Commission and Commerce – EERA are well aware of the systemic flaws in the wind siting process. These flaws inevitably result in siting issues for new projects, as evidenced in this case, and result in problems with existing projects that have been improperly sited. Bent Tree and Big Blue are existing projects before the Commission with multiple complaints and noise monitoring ordered, issues that would have been avoided with more rigorous siting review.¹ Others are in the pipeline and will follow.

AFCL requests that the Commission begin now, with this Freeborn Wind case, to practice respectful and preventative wind siting, in compliance with and utilizing the existing applicable wind and noise siting rules and standards to protect the public from potential permit violations and protect developers from permit violations and difficult mitigation. These wind and noise siting rules and standards, as noted by the Administrative Law Judge in her Recommendation of denial of the permit, call the applicant's project into question. The applicant has not demonstrated that it can meet existing siting rules and standards. The permit should be denied.

This is the first Minnesota wind project to be properly sited, using the siting criteria of the Power Plant Siting Act. Minn. Stat. §216E.03, Subd. 7. This is the first Minnesota wind project to be reviewed in a contested-case proceeding, as requested by AFCL and agreed to by Freeborn Wind. The importance of these two factors of the PPSA criteria and this contested case proceeding cannot be overstated. Yet with the resulting Recommendation that the permit be denied, wind developers are up in arms, wringing their hands, and quaking, arguing for

¹ AFCL-11, Bent Tree Noise Monitoring and Noise Study, Phase 1; ACL 15, Hansen Rebuttal, Schedule D, Bent Tree Phase 2, beginning p. 55 of 152; See also AFCL-15, Hansen Rebuttal, Schedule F, PUC Letter – Show Cause, Big Blue Wind Project, PUC Docket IP-6851/WS-10-1238, p. 147 of 152.

continuance of prior lax rule interpretations, improper siting procedures, and ineffective regulatory oversight.²

Dan Lichfield, an Invenergy senior manager, objected to Schlatter's interpretation of Minnesota's noise regulations, saying it "is impossible to meet for a wind farm. ... Every other wind farm in the state has not been subject to this interpretation."³

Yes, Invenergy's Litchfield has a point. Every other wind farm in the state of Minnesota has been sited improperly. Every other wind farm in Minnesota has a permit stating that the project was reviewed and sited under authority, under jurisdiction, of the wind siting statutes, Chapter 216F, and Minnesota Rules 7854. Not one wind permit lists the legally applicable parts of the Power Plant Siting Act, particularly the siting criteria of Minn. Stat. §216E.03, Subd. 7. However, there is no evidence that profitable wind projects cannot be sited in compliance with existing wind siting statutes, rules and standards. The Commission will ultimately have to wrestle with these siting issues, and until then, the Commission will have applications for wind projects to consider.

For now, the immediate issue is this Freeborn Wind permit, and this permit should be denied. It is time for developers to provide noise studies in the application as required by rules and guidelines; for setbacks to provide sufficient distance for modeling margin-of-error; for decommissioning plans to be set forth in the application and subject to public review and comment; for the Draft Site Permit template to conform to rules and standards; for the complaint process to be revised; for regulators to conscientiously review applications for completeness; for information to be provided up front, and for regulators to require it rather than allow it to be

² See, e.g., EDF Renewables [20186-143638-01](#). Many more such "Exceptions" from developers are expected. Note those filed in this docket, from EDF Renewables, RES, WOW, Vestas and AWEA have cut and paste language and footnotes. Form letters have little weight.

³ Administrative law judge says PUC should reject Freeborn County wind project, Star Tribune May 17, 2018, <http://www.startribune.com/administrative-law-judge-says-puc-should-reject-freeborn-county-wind-project/482980081/>

provided after permitting, if at all; for reviewing agencies to do their job by providing comments and showing up to assure comments and concerns are part of the hearing record. It is time for the Commission to site respectfully, using the regulatory tools at hand to prevent foreseeable problems that have cropped up with other projects, such as noise violations, shadow flicker disturbances, avian mortality and need for take permits, and economic harm to agriculture, property values, tourism and recreation, and public safety services and infrastructure.

The Commission is in a rough spot, but that's regulation. On one hand there are industry promotional groups such as Wind on the Wires (WoW) touting economic benefits to participants and local governments, ignoring the legitimate siting issues that make wind siting, and living within a wind project, difficult.⁴ On the other hand, lobbying groups such as Center of the American Experiment invade the project area with billboards and radio ads claiming wind is the driving factor of high electricity rates, countered by WoW radio ads in the project area. These diametrically opposed claims both ignore the legitimate siting issues clamoring for attention, issues that bring consternation to the Commission and which have communities in uproar.⁵ Multiple rulemaking petitions to the Commission and MPCA regarding these legitimate siting issues have been filed and dismissed out of hand.⁶ The Draft Site Permit template does not comport with wind "standards" and uses arbitrary setbacks. Legislatively mandated rulemaking resulted not in a rulemaking proceeding, but the 2008 "Wind Siting

⁴ WOW Public Comment of Soholt, Public Hearing, Tr. p. 183-187 ("and if it were an option, which unfortunately it's not, I would eagerly and willingly live among a wind farm."); WOW filed Comment, 3/15/2018, [20183-141082-01](#).

⁵ See "American Experiment's Wind Energy Campaign Comes to Freeborn County," <https://www.americanexperiment.org/2018/03/american-experiments-wind-energy-campaign-comes-freeborn-county/>; WOW Public Comment of Soholt, Public Hearing, Tr. p.187, l. 5 – 11. ("So we – we had a statement out about the Center of the American Experiment Report. We talked to reporters, and we are correcting this information that the – that's on Center of the American Experiment that's out. We had a small budget in our main budget for renewable – for radio ads the last two years.")

⁶ See, e.g., eDocket 20169-124844-01 and Public Hearing Exhibit P. 22, p. 15-16, 20183-149052-07, quoting MPCA Commissioner Stine's response to Overland's Rulemaking Petition, 9/12/2016 ([20169-124844-01](#)).

Standards,”⁷ leading to projects sited with inadequate and incomplete siting which sets up violation of permit conditions. This puts landowners and residents at risk, and robs landowners of their use and enjoyment of their property – the nuisance comes to the community. If developers want projects to be sited, they must assure projects have a low risk of violating rules or standards and must have a low risk of nuisance, depriving landowners of their use and enjoyment of their property.

The Commission must address these systemic problems in issuing any individual wind permits, and going forward, must also continue to determine corrective action for previously permitted projects. In this climate of regulatory flux, it may indeed be very difficult to site any wind project. Thorough systemic review and revamping of the wind siting process is decades overdue, and we need to get to work on that. But for now, in this docket, the Commission must act within the existing regulatory framework, use the existing tools, and with consideration that prior interpretations of regulation may have developed into lax review and improper permitting and permitting procedures.

AFCL strongly urges the Commission’s acceptance of the Administrative Law Judge’s Recommendation of denial of the Freeborn Wind site permit. The applicants have not met their burden of proof – they have not demonstrated that they will meet the noise standard and rule. This is a particularly important action in light of the complaints and potential violations that have come before the Commission recently, and those that will likely be presented to the Commission in the future. Poor siting is not easily remedied.

In addition to our strong support of the ALJ’s Recommendation of denial of the Freeborn Wind site permit, and the specific Exceptions, below, there are several other related issues the

⁷ AFCL-8, Wind Siting Standards, PUC Docket 07-1102 (note 5/17 in Trimont (IP6907/WS-13-258) agenda item at 4:03, Mr. Swanson’s comment, “It is a standard set in a generic wind standards docket, it’s not a rule... it can be varied” Comments at 4:03: http://minnesotapuc.granicus.com/MediaPlayer.php?view_id=2&clip_id=739

Commission should consider:

II. IN PRACTICE, DECOMMISSIONING PLANS ARE NOT PART OF THE APPLICATION, CONTRARY TO APPLICATION RULES, WHICH PROVIDES NO OPPORTUNITY TO ADDRESS DECOMMISSIONING SECURITY IN THE PERMITTING PROCESS.

The ALJ's Findings of Fact regarding decommissioning and restoration are found at paragraphs 507 to 532, and Conditions in paragraphs 550 and 551.

Under current practice, decommissioning information is not provided in the application, EERA does not raise this omission to the Commission, and the Commission declares applications "substantially complete" without any acknowledgement, and perhaps without any knowledge, of the omission of decommissioning information – a systemic problem. In this case, requisite decommissioning information was not included in the application, and according to Freeborn Wind and Commerce-EERA the decommissioning plan isn't being drafted and filed until after a permit is issued!

Under the rules, decommissioning information including cost and financial assurance plan should be provided in the Application:

Decommissioning and restoration.

The applicant shall include the following information regarding decommissioning of the project and restoring the site:

- A. the anticipated life of the project;
- B. the estimated decommissioning costs in current dollars;
- C. the method and schedule for updating the costs of decommissioning and restoration;
- D. the method of ensuring that funds will be available for decommissioning and restoration; and
- E. the anticipated manner in which the project will be decommissioned and the site restored.

Minn. R. 7854.0500, Subp. 13.

The Freeborn Wind application did not include the information required in an application

by Minn. R. 7854.0500, Subp. 13.⁸ The Wind Siting Standards reinforce the requirement that the decommissioning information of Minn. R. 7854.0500, Subp. 13 be included in the application.⁹

Freeborn Wind's application was submitted, the question of completeness was opened for comment, the application was reviewed by EERA and Commerce staff, and inexplicably declared complete at the August 10, 2018 meeting, and in the Order issued August 31, 2017.

AFCL received Invenergy's response to its questions about decommissioning, which were not reassuring, and which instead left decommissioning issues for later. When asked several specific questions regarding the Application sections on decommissioning, Invenergy's response was only:

Freeborn Wind will comply with the terms of the Site Permit as it relates to the preparation, content and distribution of a decommissioning plan. See Section 11.0 of the Draft Site Permit.¹⁰

When asked about decommissioning costs, Invenergy's Litchfield testified that:

A: I don't feel I can answer that question. I've never looked at actual costs of actual wind decommissioning. I know it's happened, I've talked to people who have been a part of those projects, but I've not seen the numbers. I don't – I've been a part of projects where we provide decommissioning cost estimates and they're a deconstruction cost proposal, so – and they're usually provided by same types of vendors that do wind farm construction. So I wouldn't have any real reason to doubt them.

Q: Has Invenergy been involved in any wind decommissioning?

A: Not to my knowledge.¹¹

Invenergy's Litchfield also testified that there is no decommissioning plan for this project at this point, there is no cost estimate for decommissioning at this point, and there is "no form of financial assurance for the purpose of decommissioning the facility at this time."¹² There is also

⁸ FR-1, Site Permit Application.

⁹ AFCL—8, Wind Siting Standards, App. A (p. 15).

¹⁰ AFCL 21, Freeborn Wind Response to AFCL IR 16.

¹¹ Litchfield, Tr. Vol. 1A, p. 46, l. 13-25.

no specific plan for financial assurance, although Litchfield anticipated that a site permit condition would require financial assurance.¹³ This is exactly the situation where a decommissioning plan is most needed.

The ALJ's Recommendation infers that it is the job of an Intervenor to object to the applicant's failure to file the decommissioning information required by rule, and that AFCL should have filed a Motion for Reconsideration if the Commission declares an application "substantially complete" when some required information is not in the application. ALJ Recommendation, FoF 518. The Commission's Completeness determination, however, is only acceptance of the application as "substantially" complete. It's absurd to put responsibility for assurance of a complete application on an intervenor that was not even a party at the time! This is the job of Commerce-EERA and the job of the Commission. It is EERA and the Commission that missed Freeborn Wind's omission or let it slide.

Decommissioning plans have been pushed back by Commerce-EERA to a post-permit pre-operational stage, out of public view. The Commission should bring a halt to the practices of declaring "completeness" of applications and granting of permits where applications are not in compliance with application requirements, and end the consistent failure to allow public review and comment of decommissioning plans.

AFCL urges the Commission to require compliance with Minn. R. 7854.0500, Subp. 13 now, and require that this information be filed for agency and public review and a hearing; and in the alternative, to provide that information for agency public review and comment. No permit should be issued without the opportunity to address the decommissioning plan.

¹² Litchfield, Tr. Vol. 1A, p. 43, l. 8-17; see also Tr., Vol. 2, p. 101, l. 7-9.

¹³ Litchfield, Tr. Vol 2, p. 99, l. 18 - 100, l. 12.

III. THE PERMIT COMPLAINT PROCESS IS INADEQUATE AND MUST BE REVISED TO PROVIDE TIMELY INVESTIGATION OF COMPLAINTS AND ENFORCEMENT.

The ALJ's Findings of Fact regarding the complaint process are found at paragraphs 533 to 539, and Conditions in paragraphs 545 regarding interference complaints.

The Commission's complaint process is broken. The Commission is well aware that there have been problems with the Bent Tree and Big Blue projects, but it takes years for complaints that are not resolved to work their way to the Commission.¹⁴ The complaint process proposed for this project is the same boilerplate language used in every wind project, and there have only been nominal revisions over time.¹⁵ The ALJ recognized that changes may be imminent, but did not recommend any specific changes.¹⁶ Each Site Permit includes a complaint process, located at the very end of the document.¹⁷ A copy of the permit is mailed to everyone that is given notice of the issuance of the permit – this is how landowners are informed of their rights.¹⁸ The complaint process is complex and is subject to revision:

Q: What would it take to initiate a review of the complaint process?

A: This is when you would provide a comment on it. It's part of the draft site permit, so—

Q: So right now?

A: So this is when comments should be submitted, yeah.¹⁹

AFCL strongly advocates that “right now” is the time to initiate a review of the complaint process. The Commission has direct knowledge that the complaint process is inadequate. No permit should be issued without thorough review and revision of the complaint procedures.

IV. THE FREEBORN WIND PERMIT SHOULD BE DENIED

¹⁴ See Testimony of Cheryl Hagen, Public Hearing Tr. p. 108-111; Bernie Hagen, p. 112-115.

¹⁵ Davis, Tr. Vol. 2, p. 180, l. 14-17.

¹⁶ FoF para. 533-539.

¹⁷ EERA-8, Draft Site Permit – p. 72 of 77.

¹⁸ Davis, Vol. 2, p. 179-180.

¹⁹ Davis, Tr. Vol 2, p.180.

The Administrative Law Judge has recommended the Freeborn Wind permit be denied. We are at this late stage in permitting without essential and required information, review, and process. No permit should be granted unless and until the applicant can sufficiently demonstrate that it can meet the noise and shadow flicker rules and standards; decommissioning information has been provided; the complaint process revised; both decommissioning and complaint process opened for comment and reviewed by Commerce, the public, and the Commission.

AFCL requests that the Commission begin now, with this Freeborn Wind case, to begin respectful and preventative wind siting, utilizing the existing applicable siting standards to protect the public from potential permit violations and difficult mitigation. These siting rules and standards, as noted by the Administrative Law Judge in her Recommendation of denial of the permit, call the permit into question. The applicant has not met its burden of proof and has not demonstrated that it can meet existing siting rules and standards.

Association of Freeborn County Landowners respectfully requests oral argument in the above-captioned matter when it comes before the Commission.

Respectfully submitted,

DATE: June 8, 2018



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LINE ITEM EXCEPTIONS

60. A public hearing was held in Albert Lea, Minnesota, on February 20, 2018. All applicant and agency witnesses and many members of the public were sworn or affirmed on oath.

93. In the Application, the anticipated construction start was May 2020, with commercial operations commencing in the fourth quarter of 2020.¹⁵⁷ However, Freeborn Wind reports that Xcel Energy intends to advance the construction timetable and start construction in the fall of 2019, with commercial operations still commencing in the fourth quarter of 2020.¹⁵⁸ The commencement of construction is dependent on several factors, including changes in production tax credit availability.¹ The commercial operations date is dependent on several factors,¹⁵⁹ including weather, permitting, and other development activities.

114. There was no testimony regarding independent verification of signatures on agreements or testimony alleging that any person continued to be bound by the terms of an agreement based on misrepresentations of the fired agent.

116. The Administrative Law Judge finds that there is insufficient evidence to determine whether Freeborn Wind has secured its land rights in a manner free from coercion due to misrepresentations of the fired agent.

151. Minn. Stat. 216E.12, Subd. 4 does specifically apply to projects sited under Minn. Stat. Ch. 216F, although this is not a situation where eminent domain would be used. Minn. Stat. §216F.02, Exemptions.

152 (et seq.) Freeborn Wind states that project facilities will be sited and constructed predominantly on leased agricultural lands owned by participating landowners. According to Freeborn Wind, these participating landowners will be compensated for the use of their property, yielding increased valuations on the farmland due to the harvest of electricity along with traditional agricultural products that underpin the value of the land.²³² Therefore, Freeborn Wind anticipates that there will be no unmitigated impacts to the property values of participating landowners.²³³

~~154. There was conflicting testimony regarding the ability of agricultural pilots to conduct aerial spraying within the perimeter of a wind farm.²³⁷ –AFCL provided no expert testimony regarding the impact of wind turbines on neighboring agricultural property or practices. (see FoF 434 – 440).~~

184. This section concerns the Project's compliance with Minnesota noise regulations and whether the Draft Site Permit's provisions relating to noise are sufficient, both are at issue in this proceeding. The potential for the Project to cause adverse health effects more generally is

¹ AFCL – 24, IR 24

discussed at section H of this Report although causation is not at issue in this administrative permitting proceeding.

202. The Minnesota Pollution Control Agency (MPCA) enforces the state's noise rules (Minn. R. Ch. 7030), but only for those projects for which it issues a permit. In the case of wind siting permits, it is the Commission that issues the permit with noise conditions. Enforcement of Commission-issued site permits is within the jurisdiction of the Commission and the Department of Commerce EERA, not the MPCA.² Freeborn Wind looks to Minn. Stat. Ch. 116 (2016), the chapter that establishes the MPCA, for a definition of "noise." That chapter defines "noise" to mean "any sound not occurring in the natural environment, including, but not limited to, sounds emanating from aircraft and highways, and industrial, commercial, and residential sources."³¹⁰ Freeborn Wind contends that because "noise" is any sound not occurring in the natural environment, the noise limits in subpart 2 of Minn. R. 7030.0400 apply to wind turbine noise alone, and that the rule regulates only the noise emissions of non-natural sources considered individually, not the total amount of noise a receptor experiences.

213. Freeborn Wind did not follow this guidance "because the frequency spectrum of noise from wind turbines is relatively fixed, and once one part of the spectrum becomes limited, so does every other part of the audible spectrum."³²⁶ The 50 dB(A) limit for receptors was attained modeled by placing the wind turbines at certain distances from the receptors. For the Project, the 50 dB(A) limit at residences controls Project LFN levels to about 60 dB(C) or less at residences, and limits-models infrasound to-at levels orders of magnitude below the human hearing threshold."³²⁷

214. While the record evidence legitimates concerns over the Project's potential to generate harmful LFN and infrasound, opponents of the Project are correct that Minnesota's noise standards do not address them. DOC-EERA did not recommend the addition of any conditions or special conditions specific to infrasound or low frequency noise.³²⁸ While the Commission, the Department of Health, the Department of Commerce, and the Pollution Control Agency all acknowledge public complaints concerning wind turbine generated infrasound and LFN merit concern, in 2012, the MPCA Commissioner, in response to a rulemaking Petition, stated that "After consulting with colleagues at the Minnesota Departments of Health and Commerce, I have concluded that the current understanding of wind turbine noise and its potential effects is insufficient to support rule making at this time,"³ and in 2016, that "the present knowledge of the potential health effects of infrasound does not lend itself to the development of an appropriate standard at this time."³²⁹ No rulemaking has been initiated regarding wind noise.

216. The Commission's General Permit Standards requires that the "Project must meet Minnesota Noise Standards, Minnesota Rules Chapter 7030, at all residential receivers (homes). Residential noise standard NAC 1, L₅₀ 50 dB(A) during overnight hours. Setback distance

² See AFCL-11, Bent Tree Noise Monitoring and Noise Study Phase I; ACL 15, Hansen Rebuttal, Schedule D, Bent Tree Phase 2, beginning p. 55 of 152; AFCL 15, Hansen Rebuttal, Schedule F, Big Blue – PUC Letter - Request for Response to Alleged Site Permit Violations and to Show Cause.

³ eDocket 20169-124844-01 and Public Hearing Exhibit P, 22, p. 15-16, 20183-149052-07, quoting MPCA Commissioner Stine's response to Overland's Rulemaking Petition, 9/12/2016 (20169-124844-01).

calculated based on site layout and turbine for each residential receiver.”³³¹ The Commission prescribed a minimum setback of “[t]ypically 750 – 1500 ft. is required to meet noise standards depending on turbine model, layout, site specific conditions.”³³² The Standards minimum setback from homes is “500 ft + distance required to meet state noise standard.” Id.

233. Mr. Hankard predicts that the total nighttime noise standard (ambient plus wind turbine noise) L_{50} will be exceeded at times when ambient noise levels are 50 dB(A) and above.³⁶¹ The average background noise L_{50} levels, including both ambient and turbine noise, range from 33 to 57 dB(A), under conditions during which the turbines would operate (“Critical” and “Full Power” turbine operations). The average background noise L_{10} levels range from 37 to 60 dB(A) under conditions during which the turbines would operate (“Critical” and “Full Power” turbine operations). This information was not provided with Freeborn Wind’s original Application. It was provided as a post-hearing exhibit following questioning by DOC-EERA during which it became apparent that Freeborn Wind interpreted Minn. R. 7030.0040 to require only the measurement of the proposed additional source of noise, not including ambient noise.³⁶²

The parties stipulated to receipt of this exhibit, and there was no opportunity for cross-examination regarding this post-hearing exhibit.

236. The methodology Mr. Hankard employed has a margin of error to its noise level measurements of plus or minus three dB.³⁶⁶ An increase of three dB corresponds to a doubling of sound power but only a slightly noticeable increase in loudness. Mr. Hankard contends that, by using the most conservative values for the model’s parameters, the margin of error with respect to underestimating sound levels is much smaller than three dB.³⁶⁷ An increase of three dB applied to the post hearing modeling would result in many receptors with levels at or greater than 50 dB.

238. Another cause for uncertainty is the absence of certain empirical data. That is, sound measurements are not made when one would expect the loudest levels to occur. As Mr. Hankard pointed out, the American National Standards Institute (ANSI) “discourages measurements when the local wind speed is 11 miles an hour or greater. - And that’s because what you’re actually measuring at that point is distortion of the microphone and not actual sound in the air.”³⁶⁹ Accordingly, Mr. Hankard did not include any noise monitoring results over 11 miles per hour. Minnesota noise monitoring protocol also excludes noise monitoring performed when wind speeds are greater than 11 miles per hour.⁴ The average monthly wind speed in the Freeborn Project Area is greater than 11 miles per hour.³⁷⁰ While the wind speed at the hub height of a turbine may differ from the wind speed near ground level for a variety of reasons,³⁷¹ Freeborn Wind’s Application stated that, at 80 meters above the ground, predicted wind speeds near the Project Area are 6.0 to 8.8 meters per second.³⁷² At 8.8 meters per second, this is just under 20 miles per hour. 6 meters per second is over 13.4 miles per hour, above the exclusionary threshold for noise monitoring.

⁴ Minn. R. 7030.

244. The Administrative Law Judge further recommends that the plan be made available for public and agency comment and a hearing held with a summary report. The Commission should then review and approve a pre-construction noise mitigation plan that best only if it assures that turbine noise will not cause noise levels that exceed Minnesota's noise standards.³⁷⁷

245. Freeborn Wind cannot lawfully operate its turbines if their operation results in total noise at any receptor in excess of the standards in Minn. R. 7030.0400. If the Commission grants a Site Permit and post-construction measurements show that total noise levels exceed L₅₀ dB(A) for any receptor, the Commission shall suspend the permit and Freeborn Wind must adjust its operations, including shutting down one or more turbines, if doing so will result in complying with the standards. The mitigation options should be clarified prior to granting of any permit.

256. The results of the study indicate that, of the 254 receptors modeled, seven were predicted to realistically experience more than 30 hours of shadow flicker per year. Three of the seven receptors were at participating landowners' occupied residences and would experience 40:28, 30:52, and 32:30 hours of shadow flicker. Four non-participating landowners' occupied residences would experience 31:12, 34:35, 34.29, and 45.23 hours of shadow flicker.³⁹³
However, whether landowners are participants or non-participants is not a consideration for limits on shadow flicker.

267. Freeborn Wind asserts the Project will create approximately 200 temporary jobs during the construction phase and approximately ten permanent jobs during operation.⁴⁰⁷

271. The record demonstrates that the Project, if built, will result in both short-and long-term benefits to the local economy. There is no evidence in the record regarding direct or indirect costs of the project to the community.

272. Freeborn Wind maintains that wind farms benefit the environment and health of the regional community by reducing emissions from fossil fuels. Throughout their operational life-cycle, LWECs operations emit the smallest amount of greenhouse gasses (GHGs) compared to other energy generation methods. Wind energy does not emit sulphur oxides (SOx), nitrogen oxides (NOx), particulate matter (PM₁₀), or mercury, and drastically reduces water consumption.⁴¹⁵ When asked what emissions would be avoided, to substantiate the claims and provide a direct link, "There are no specific agreements/contracts that can be identified."⁵

275. The Administrative Law Judge concludes that there is insufficient evidence to make a determination as to whether and how the Freeborn Wind project would generally contribute to public health by helping to reduce the emission of GHG's in Minnesota. - There is no evidence in the record regarding criteria air pollutants of fossil fuel emissions.

291. AFCL argued that much of Freeborn Wind's witness testimony regarding the health effects of wind turbines was not relevant because causation is not an issue in this administrative permitting proceeding. AFCL reasons that causation is not an issue because Freeborn Wind is the

⁵ AFCL-27, Freeborn Wind Response to AFCL IR 26.

applicant, seeking a site permit, and that this is not a personal injury case where proving causation is the burden of a plaintiff. Applicant must demonstrate that its project meets the criteria of Minn. Stat. §216E.03, Subd. 7, and proving that there is no causal link is not among the criteria. ⁴⁵³ bears the burden of proof.

292. The Administrative Law Judge agrees that, as the Applicant, Freeborn Wind bears the burden of proof in this proceeding. However, causation and the burden of proof are two different concepts. Minn. Stat. § 216E.03, subd.7 (2016), lists some of the criteria the Commission must consider in deciding whether to grant a site permit. The subdivision states, in relevant part:

(b) To facilitate the study, research, evaluation, and designation of sites and routes, the commission shall be guided by, but not limited to, the following considerations:

(1) evaluation of research and investigations relating to the effects on land, water and air resources of large electric power generating plants . . . and the effects of . . . electric and magnetic fields resulting from such facilities on public health and welfare⁴⁵⁴

This statutory language contemplates consideration of a causal relationship between the impacts of large electric power generating plants and on public health and welfare, but it does not require demonstration of a causal link or association. It does require consideration of whether the criteria is met and whether the project will comply with statutes, rules, and standards.-

298. The Administrative Law Judge finds that it is not in the best interest of the local community where a wind farm is being located, or of the wind energy industry generally, to locate wind turbines in a manner that annoys, angers, and alienates the people whose lives are most directly affected by the turbines.

300. The Commission approved for release and comment the Draft Site Permit based upon the noise analysis in Freeborn Wind's Application, which included a summary prediction of ambient noise, but no predictions of combined ambient and turbine noise.⁴⁶¹ As discussed in Section XI.D.v. of this Report, the total average background noise L₅₀ levels, including both ambient and turbine nighttime noise levels, exceed those permitted by Minn. R. 7030.0040.⁴⁶²

302. In light of the revised total noise predictions, and the lack of evidence that Freeborn Wind took the required 500 additional feet into account in establishing residential setbacks, the Administrative Law Judge recommends that, if the Commission issues a Site Permit in this docket, the Draft Site Permit conditions be amended to require Residential setbacks of 1500 feet for all non-participating landowners.⁴⁶⁶ The standards do not differentiate between participating and non-participating landowners.

306. Freeborn Wind reported that it is coordinating with applicable emergency and non-emergency response staff in the area, such as regional air ambulance services, sheriff's offices, and fire departments to develop a safety plan during construction and operation of the Project. Freeborn Wind planned to be in contact with local first responders to offer information about the Project.⁴⁷⁰ There is no evidence in the record regarding anticipated costs for these emergency services and first responders and how those costs would be paid.

310. Draft Site Permit Condition 4.4, which provides for a setback of 250 feet from public road ROW and designated public trails (such as the identified snowmobile trail), does not fully address this concern.⁴⁷⁷ The turbine closest to the snowmobile trail (turbine 20) is 538 feet away from the snowmobile trail, exceeding the minimum setback in the Draft Site Permit (250 feet), as well as the setback required by Section 26-51 of the Freeborn County Ordinance (1.1 times the turbine height), and the likely distance the ice was thrown from the turbine at the Bent Tree Wind farm on February 22, 2018.⁴⁷⁸ Based on the estimated distance of the ice throw, if the Commission issues a Site Permit in this docket, the setback from public roads should be a minimum of 350 feet.

316. Several local units of government, local officials, and members of the public raised concerns regarding the potential for Project construction to damage local roads.⁴⁸⁵ Freeborn Wind states it is committed to repair all damage to local roads and to negotiate in good faith with Freeborn County and Hayward, London, Oakland, and Shell Rock Townships to develop an agreement that will address local concerns regarding development, road use, and drainage issues.⁴⁸⁶ However, Freeborn does not accept execution of road agreements as a permit condition,⁶ and testified that if there is no road agreement, Freeborn Wind will proceed without an agreement.⁷

317. The Draft Site Permit contains provisions that adequately address the use of public roads, the construction of turbine access roads, and private roads. For example, the Draft Site Permit requires Freeborn Wind to make satisfactory arrangements with the appropriate road authorities for use, maintenance and repair of the roads that may be subject to increased impacts due to transportation of equipment and Project components.⁴⁸⁷ While this requirement can be satisfied in a number of ways,⁴⁸⁸ Freeborn Wind reports it has begun meeting with local road authorities and offered to negotiate a road use agreement that establishes Freeborn Wind's responsibilities to maintain the roads in safe condition and repair roads and public drainage infrastructure damaged during construction.⁴⁸⁹ As above, however, Freeborn does not accept execution of road agreements as a permit condition,⁸ and testified that if there is no road agreement, Freeborn Wind will proceed without an agreement.⁹

(FoF 319 – 413 – AFCL defers to expertise and knowledge of KAAL)

415. There are Wildlife Management Areas (WMA) and Waterfowl Protection Areas (WPA) within ten miles of the Project Area. The Shell Rock WMA and the Shell Rock Water Trail is-are located adjacent to the Project Area.⁶²⁶ The MPCA expressed concern about impacts to the Shell Rock River.¹⁰

⁶ AFCL 18, Freeborn Wind Response to AFCL IR20.

⁷ Litchfield, Tr. Vol. 1A, p. 27-28.

⁸ AFCL 18, Freeborn Wind Response to AFCL IR20.

⁹ Litchfield, Tr. Vol. 1A, p. 27-28.

¹⁰ EERA-5, Agency Comments (20182-139859-01).

417. Recreational impacts will generally be visual in nature, affecting individuals using public lands near the Project Area for recreation.⁶²⁹ Turbines will be set back from these public lands a minimum of the three RD by five RD setbacks from all non-leased properties per the Commission's siting guidelines, but will be visible from the Shell Rock River, WMA and Shell Rock River Water Trail.⁶³⁰

418. Based on the record, ~~no anticipated there may be~~ adverse impacts to recreational resources ~~have been established, particularly the Shell Rock River,~~ as a result of the Project.

422. In the event that there is damage to agricultural drain tile as a result of the Project, the tile will be repaired according to the agreement between Freeborn Wind and the landowner.⁶³⁵ Freeborn Wind has committed to repairing all agricultural tile damage that occurs during the construction phase of the Project, whether that of participants or non-participants.⁶³⁶ Additionally, the Draft Site Permit contains conditions adequate to address drain tile damage. The conditions require Freeborn Wind to "avoid, promptly repair or replace all tile lines broken or damaged during all phases of the Project," and to fairly restore or compensate landowners for damage to drain tile during construction.⁶³⁷

435. Commenter John Thisius, an experienced aerial crop sprayer with 13,500 hours of ag flying time, testified that you cannot safely fly within a wind farm and he would not put himself or his pilots at risk, and while it is possible to treat crops on the outskirts of a wind facility, it is impossible to safely do so within a wind farm because of the turbulence from the moving blades and problems with depth perception.⁶⁵⁴

436. Commenter Ray Rauenhorst, ~~also an experienced formerly an~~ aerial crop sprayer, testified that wind farms were first appearing as he approached retirement, and thus he is not dexperienced flying near turbines. He had sprayed among widely spaced turbines. He also pointed out that turbines can be turned off to reduce the hazard they pose.⁶⁵⁵

438. AFCL argues based on the testimony of John Thisius, a pilot actively in the business of aerial spraying, that the project will result in barring aerial spraying and seeding in the Project Area causing farmers to incur more expense to accomplish these tasks or the project eliminates the option of aerial spraying and seeding.⁶⁵⁸ AFCL provided no ~~testimony witness~~ on the issue of aerial spraying and seeding.

439. The record contains no evidence that any of the affected landowners use aerial spraying. Nor is there a record of the cost of aerial spraying or its cost relative to other methods. ~~It is unclear from the record how closely Mr. Thisius or Mr. Rauenhorst had studied the Project and considered how its turbine layout would affect aerial spraying.~~ The Administrative Law Judge finds no insufficient basis for recommending a determination that the site permit be denied because of any regarding impacts the Project will have on aerial spraying and seeding.

452. After being notified of possible additional eagle nests in the area, Freeborn Wind conducted several additional surveys of the area but did not find any omitted eagle nests in or near the Project Area.⁶⁹¹ There is no comment in the record from USFWS regarding the list of eagles, nests, and foraging areas provided by AFCL.

453. If any additional new bald eagle or raptor nests isare identified in the Project Area in the future, Freeborn Wind asserts that it will follow the procedures identified in the Avian and Bat Protection Plan (ABPP) and consult with MDNR, USFWS, and DOC-EERA⁶⁹² ~~as necessary~~.

455. Project operation may result in avian mortality from collision with the Project's turbines or other structures.⁶⁹⁷ Post-construction monitoring completed at wind facilities located on agricultural landscapes in southern Minnesota and northern Iowa show avian fatality estimates ranging from 0.27 to 5.59 birds per megawatt produced per year.⁶⁹⁸ Given the lack of unique ecological features within the Project Area that would attract birds, estimated avian fatality rates at the Project would be expected to be within this range or lower.⁶⁹⁹ There is no statement from USAWS in the record regarding whether USFWS recommends an eagle take permit for this project.

494. Throughout their operational life-cycle, LWECS operations emit the smallest amount of greenhouse gasses compared to other energy generation methods by replacing energy generated by fossil fuels. ~~W~~Freeborn claims wind energy production also eliminates emission of SO_x, NO_x, PM₁₀, and mercury, as well as drastically reduces water consumption.⁷⁷¹

When asked what emissions would be avoided, to substantiate the claims and provide a direct link, "There are no specific agreements/contracts that can be identified."¹¹ There is no evidence in the record regarding a comparison of wind energy and solar.

496. Increased deployment of wind and other renewable resources with near-zero life-cycle greenhouse gas (GHG) emissions leads to a ~~direct~~ reduction in the use of fossil fuels like coal and natural gas if fossil fuel generation is not used and is shut down. As described in the comment submitted by Minnesota Center for Environmental Advocacy (MCEA), the Project will aid Minnesota in meeting its statewide GHG emission reduction goals and reducing harmful air pollutants.⁷⁷³

However, no direct link was demonstrated in the record.

497. ~~The~~ Any avoided air emissions from the Wind Farm "will benefit all Minnesotans, especially helping children with asthma, seniors with COPD, and others with respiratory conditions."⁷⁷⁴ A representative from the American Lung Association in Minnesota attended the public hearing and stated that "projects like this are important for avoiding the use of fossil fuels and helping protect the air quality we all breathe."⁷⁷⁵

499. The Administrative Law Judge finds that the Project, if a Site Permit is issued by the Commission, that although the record does not demonstrate a direct link, it will-may not have a negative impact on water-emissionsquality, and will-may have a positive impact on air emissions.

509. Once the Easement terminates, Freeborn Wind is obliged to "remove above-ground and below-ground . . . Windpower Facilities" and to restore the subject property "to a condition reasonably similar to its original condition."⁷⁸⁷

¹¹ AFCL-27, Freeborn Wind Response to AFCL IR 26.

512. The Administrative Law Judge finds that the Easement Agreement requires that any future owners of any wind energy facilities built as part of the Freeborn Wind Project will be required to bear the costs of decommissioning, as defined in ~~the~~ any Site Permit the Commission grants to Freeborn Wind, to the same extent as Freeborn Wind is required to bear those costs.

513. AFCL asserts that Freeborn Wind has not complied with Freeborn County's ordinance regarding decommissioning requirements.⁷⁹⁰ EERA's Davis testified that he was not aware that Freeborn County has decommissioning requirements in its wind ordinance.¹² ~~While~~ The limited comments Freeborn Wind made in its Site Permit Application regarding decommissioning do not meet Freeborn County's requirements, but, the Ordinance has no timeline attached to it. ~~Thus, Freeborn Wind is not in violation of the Ordinance.~~

514. Freeborn Wind testified, and answered IRs, regarding decommissioning, and stated it "will comply with the terms of the Site Permit as it relates to the preparation, content and distribution of a decommissioning plan."¹³ Pursuant to Section 11.1 of the Draft Site Permit, Freeborn Wind will develop a Project decommissioning and restoration plan in accordance with the requirements of Minn. R. 7854.0500, subp. 13, prior to the Project's pre-operation meeting with DOC-EERA.⁷⁹¹ At the end of commercial operation, the Project owners will be responsible for removing wind facilities, and removing the turbine foundations to a depth of four feet below grade.⁷⁹²

515. AFCL objects to Freeborn Wind's proposal to develop its decommissioning and restoration plan after the Site Permit is issued. AFCL argues notes that Minn. R. 7854.0500, subp. 13 requires these plans be submitted with the application.⁷⁹³ AFCL argues the Commission should deny the permit application because Freeborn Wind has not provided these plans.

516. The onus of meeting application requirements is on the applicant, and enforcing compliance rests with EERA and the Commission. Minn. R. 7854.0500 addresses what information must be provided in an application, and subp. 13 regarding decommissioning requires:

The applicant shall include the following information regarding decommissioning of the project and restoring the site:

- A. the anticipated life of the project;
- B. the estimated decommissioning costs in current dollars;
- C. the method and schedule for updating the costs in current dollars;
- D. the method of ensuring that funds will be available for decommissioning and restoration; and
- E. the anticipated manner in which the project will be decommissioned and the site restored.

517. The Wind Siting Standards state:

¹² Davis, Tr. Vol. 2, p. 175, l. 13 – p. 176, l. 2.

¹³ AFCL 21, Freeobrn wind Response to AFCL IR16.

Decommissioning Plan. As a part of its permit application, the permittee must submit a decommissioning plan describing the manner the permittee plans on meeting the requirements of Minnesota Rule 7836.0500, subpart 13 (now 7854.0500, Subpart 13).¹⁴

517518. The Decommissioning Plan-information included in Freeborn Wind’s Application estimates the service life of Project to be thirty years, and states that “[p]roject decommissioning has not yet been determined.”⁷⁹⁴ Freeborn Wind goes on to state that it will create a “thorough decommissioning cost estimate prior to construction begins”⁷⁹⁵ Freeborn Wind’s Litchfield testified regarding cost of decommissioning that “I’ve never looked at actual costs of actual wind decommissioning.”¹⁵ No “estimated decommissioning costs in current dollars” been provided nor has a “method and schedule for updating the costs in current dollars” been provided. No “method of ensuring that funds will be available for decommission and restoration” been provided.¹⁶ The Decommissioning Plan in Regarding “the anticipated manner in which the project will be decommissioned and the site restored” is nominal, the Application includes language stating that Freeborn Wind will remove the improvements from properties, and restore them to their approximate original condition. Specifically, it says that decommissioning “will include the removal of above-ground wind facilities” In addition, “[f]oundations will be removed to a depth of 48 inches below current grade.” Unless landowners want them to remain, access roads will be removed, and disturbances created from the decommissioning itself will be restored.⁷⁹⁶ The record reflects that to Litchfield’s knowledge, Invenenergy has not been involved in any decommissioning.¹⁷

518-519 The Commission issued its Order Finding Application Complete and Varying Time Limits; Notice and Order for Hearing [Order] on August 31, 2017.⁷⁹⁷ The Commission’s Summary notes that “In this Order the Commission finds that Freeborn Wind’s application is substantially complete.” Id. In the Commission Action paragraph, the Order stated, “The Commission concurs with the EERA that the application is substantially complete. The Commission will, however, direct Freeborn Wind to respond to all reasonable requests regarding the project and to facilitate in every reasonable way the continued examination of the issues by the EERA and Commission staff.” Id. Further, Order point 1 states, “The Commission hereby accepts Freeborn Wind Farm, LLC’s site permit application as substantially complete.” AFCL did not raise its decommissioning and restoration plan concerns in comments prior to the issuance of the Order. No one requested reconsideration of the Order. Accordingly, the Commission’s Order is final. There were no intervening parties to this proceeding at the time of the Commission’s comment period or the Commission’s order. Id., VII (C).

519520. The Commission found the application “substantially complete-” and did not address the requirements of Minn. R. 7854.0500, subp. 13.⁷⁹⁸ The Commission’s order was also silent regarding the Wind Siting Standards requirement of a decommissioning plan in the application.¹⁸ The Commission’s order granted variances to the time frames for consideration of application completeness and for issuance of a draft site permit, but did not grant a variance, and none was

¹⁴ AFCL – 8, Order Establishing General Wind Permit Standards, p. 15 of pdf (January 11, 2008, PUC Docket E,G-999/M-07-1102).

¹⁵ Litchfield, Tr. Vol. 1A, p. 46, l. 13-25.

¹⁶ Litchfield, Tr. Vol. 1A, p. 43, l. 8-17.

¹⁷ Litchfield, Tr. Vol. 1A, p. 46, l. 13-25.

¹⁸ AFCL – 8, Wind Siting Standards, p. 15, PUC Docket E,G-999/M-07-1 102, # 4897855

requested, for the submission of developed decommissioning and restoration plans.⁷⁹⁹ Contrary to the rule, ~~the~~ Draft Site Permit contemplates submission and review of decommissioning and restoration plans after construction has been completed but before commencing operations.⁸⁰⁰

This is not consistent with Minn. R. 7854.0500, subp. 13.

520521. The Commission referred this matter to the Office of Administrative Hearings because AFCL had “identified contested issues of fact.”⁸⁰¹ The Commission did not specifically identify decommissioning and restoration plans in its referral. However, the Commission further explained: “The ultimate issue in this case is whether Freeborn Wind’s proposed site application meets the criteria set forth in Minn. Stat. § 216F and Minn. R. ch. 7854. This turns on numerous factors that are best developed in formal evidentiary proceedings.”⁸⁰² The Administrative Law Judge interprets the Commission’s referral to request findings and recommendations as to whether the requirements of ch. 7854 have been met with regard to permit issuance. The Commission’s declaration that the application was substantially complete, and referral to OAH, does not relieve DOC-EERA or the Commission of its responsibility to assure application requirements are met.

521522. DOC-EERA proposed to add language to the Draft Site Permit Section 11.1 that “requires the Permittee to update the decommission plan every five years, and also to identify all sureties and financial securities that are established to ensure site restoration.”⁸⁰³ With DOC-EERA’s proposed language included, Section 11.1 reads:

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 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, subp. 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, substations, 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.⁸⁰⁴

522523. Deferral of drafting and approval of the decommissioning plan to a time after the permit is granted removes this from the public view, where there is no opportunity to

comment. This shift in timing is contrary to the intent of the Commission's process and commitment to public participation.

524. The Commission's referral of this matter to the Office of Administrative Hearings requests findings and recommendations concerning the Draft Site Permit's compliance with Minnesota Rules chapter 7854. Minnesota Rule 7854.0500, subpart 13 requires decommissioning and restoration plans be submitted with the application. The decommissioning information supplied with the application, and subsequently in the record, is not what is required by the rule and siting standards, and is insufficient to constitute a decommissioning plan. The application is not complete and there is not sufficient decommissioning information in the application or the record to support issuance of a permit.

~~523-525~~ Freeborn Wind and DOC-EERA assert that the requirement in section 11.1 of the Draft Site Permit that Freeborn Wind submit a fully-developed plan to comply with subpart 13 at least 14 days prior to commencing operations satisfies subpart 13 sufficiently to allow a permit to issue. This position may be reasonable concerning some details of the decommissioning process that can be more meaningfully developed once construction is completed. It is likely substantially easier to estimate costs of removing structures and restoring the site after construction. Furthermore, as noted above, Freeborn Wind stated in its Application that it would provide a "thorough decommissioning cost estimate prior to construction begins" ⁸⁰⁵
However, this procedure is not compliant with Minn. R. 7854.0500.

525. Subpart 1 of Minn. R. 7854.0900 (2017) requires public notice of draft site permits. It further requires that an informational public meeting be held and offers the opportunity to request a contested case proceeding. ~~No similar n~~ Notice requirements ~~or and~~ procedural rights are implicated by the pre-operation filings of decommissioning and restoration plans where the public is deprived of the opportunity to review and comment on all aspects of the decommissioning plan in meetings, public hearing, comments, and briefing. ⁸⁰⁷

526. Freeborn Wind employee Daniel Litchfield stated that he is a member of a Commission working group on decommissioning. He stated that the Commission is considering whether "they need to change permit conditions on decommissioning" and the working group is considering "establishing some form of financial assurance, independent from just a promise that the project will get removed." ⁸⁰⁸ Mr. Litchfield's testimony was that he had never looked at costs of decommissioning, and that Invenergy has not been involved in decommissioning of a wind project. ¹⁹ This suggests that both regulators and industry participants recognize that financial guarantees should be secured during the permitting process.

527. The Administrative Law Judge concludes that the requirements of chapter 7854 are not met unless Freeborn Wind demonstrates its capacity to guarantee it can fund the decommissioning and restoration of its Project prior to ~~commencing construction~~ issuance of a permit. Furthermore, the Draft Site Permit contains appropriate conditions to ensure proper decommissioning and

¹⁹ Litchfield, Tr. Vol. 1A, p. 46, l. 13-25.

~~restoration of the Project site, with the exception of demonstrating that it has the resources necessary to carry out decommissioning and restoration.~~⁸⁰⁹

538. The Administrative Law Judge finds that the existing complaint procedures, as set forth at Attachment A to the Commission's Draft Site Permit, are insufficient pursuant to the requirements of Minn. R. 7829.1500, .1600, and .1700 (2017), and the Commission should incorporate revised complaint procedures into this permit, if issued. There is insufficient evidence in the record for the Administrative Law Judge to recommend specific changes in the procedures.

~~539. The Administrative Law Judge recognizes that the Commission may develop new procedures which it believes will be more effective in the future and may choose to substitute those procedures for the procedures proposed in the Draft Site Permit. Should the Commission decide to issue a Site Permit in this proceeding, it would be appropriate for it to use either the Complaint Procedures in as attached to the Draft Site Permit, or to use revised procedures currently being developed.~~

548. In light of the revised total noise predictions, and the lack of evidence that Freeborn Wind took the required 500 additional feet into account in establishing residential setbacks, the Administrative Law Judge recommends that Draft Site Permit Condition 4.2 be amended to require Residential setbacks of 1500 feet for all participating and non-participating landowners.⁸¹⁸

BEFORE THE MINNESOTA PUBLIC UTILITIES COMMISSION

| | |
|-------------------|--------------|
| Nancy Lange | Chair |
| Dan Lipschultz | Commissioner |
| Matthew Schuerger | Commissioner |
| Katie J. Sieben | Commissioner |
| John A. Tuma | Commissioner |

In the Matter of Freeborn Wind Energy, LLC
for a Large Wind Energy Conversion System
Site Permit for the 84 MW Freeborn Wind
Farm in Freeborn County

ISSUE DATE: December 19, 2018

DOCKET NO. IP-6946/WS-17-410

ORDER ISSUING SITE PERMIT AND
TAKING OTHER ACTION

PROCEDURAL HISTORY

On June 15, 2017, Freeborn Wind Energy LLC (Freeborn Wind or the Company) filed a site permit application to erect a collection of wind turbines and related facilities (a wind farm) in Freeborn County, capable of generating up to 84 megawatts (the Project).

On June 21, 2017, the Commission issued a request for comments on the matter, with initial comments to be filed by July 6, and reply comments to be filed by July 13.

By July 6, 2017, the Commission had received comments on the application from roughly 50 interested parties.

On August 2, 2017, Freeborn Wind amended its application to reflect a change in the list of landowners who had consented to the Project and those who had not.

On August 31, 2017, the Commission issued its Order Finding Application Complete and Varying Time Limits. In that order, the Commission found that Freeborn Wind substantially complied with the filing requirements for a site permit—even though the application had omitted the Company’s plans for decommissioning the Project and restoring the land to its prior condition. That order also referred this matter to the Office of Administrative Hearings for contested case proceedings and a public hearing to be conducted by an Administrative Law Judge (ALJ).

On September 20, 2017, the Minnesota Department of Commerce (Department) convened a public information meeting in Albert Lea. The Department solicited comments on issues and facts to be considered in the development of a draft site permit, including how the Project might affect people and the environment; how the parties might minimize, mitigate, or avoid those consequences; and the issues and facts the Department should address in the draft permit.

By October 9, 2017, the Commission had received multiple comments on the application. These included comments from various governmental agencies, including the Minnesota Department of Transportation (MnDOT), Minnesota Department of Natural Resources (MDNR), Shell Rock Township, and the London Township Town Board. And they included comments from the Association of Freeborn County Landowners (AFCL), a self-described “informal association of landowners in and adjacent to the site footprint of the [Project].”¹

On December 5, 2017, the Department filed comments and a draft site permit. The Commission issued the draft site permit for comment on January 30, 2018.

On February 2, 2018, the Commission issued a notice of public hearing and draft site permit availability.

On February 20, 2018, ALJ LauraSue Schlatter convened the public hearing in Albert Lea; on February 21 and 22, the ALJ held evidentiary hearings with four parties: AFCL, the Department, Freeborn Wind, and KAAL-TV, LLC (KAAL-TV).

By April 4, 2018, the parties had filed briefs, reply briefs, or both.

On May 14, 2018, the ALJ issued her Findings of Fact, Conclusions of Law, and Recommendations (ALJ Report) recommending that the Commission deny the permit or, alternatively, grant Freeborn Wind time to submit a noise plan.

On June 8, 2018, the parties filed exceptions to the ALJ Report.² Non-parties also filed comments, generally supporting Freeborn Wind’s position that the ALJ mischaracterized the application of applicable noise standards to the Project.

On September 12, 2018, the MPCA filed comments regarding its position on the application of state noise standards (Minn. R. 7030.0040) to LWEC projects. On September 17, Freeborn Wind filed a motion to exclude MPCA’s comments as untimely. On September 18, 2018, AFCL filed comments regarding the late-filed comments and motion.

On September 19, 2018, Freeborn Wind filed proposed alternative Site Permit language addressing pre-construction noise modeling and post-construction noise monitoring.

On September 20, 2018, the Commission met to consider the matter.³

¹ AFCL Petition for Contested Case; Comment on Contested Material Issues of Fact, at 1 (July 6, 2017).

² Minn. R. 7829.2700 does not provide for non-parties to file exceptions to the ALJ Report.

³ The Commission also considered Freeborn Wind’s route permit application to build a transmission line for connecting the Project to the transmission grid. See Docket No. IP-6946/TL-17-322, *In the Matter of the Application of Freeborn Wind Energy LLC for a Route Permit for the Freeborn Wind Transmission Line in Freeborn County*.

FINDINGS AND CONCLUSIONS

I. Summary

In this order the Commission adopts the findings, conclusions, and recommendation of the ALJ Report with modifications.

The Commission will require Freeborn Wind to provide an updated pre-construction noise analysis demonstrating that the Project will comply with revised noise permit conditions. These conditions require the Company to propose a plan demonstrating that the Project will not cause or significantly contribute to an exceedance of the relevant noise standards, to monitor the noise generated by the Project, and to work with the Department to minimize and mitigate turbine noise as necessary.

The Commission has also made changes to the ALJ's proposed findings on shadow flicker, the complaint handling procedures for over-the-air television interference from turbines, and decommissioning, among other things.

Finally, the Commission will issue a site permit for the Freeborn Wind Large Wind Energy Conversion System based on a modified version of the Draft Site Permit authorized by the Commission in its January 30, 2018 order.

II. The Proposed Project

Freeborn Wind proposes to erect a collection of wind turbines capable of generating up to 84 megawatts (MW) in Freeborn County, Minnesota, and up to 116 MW in the neighboring jurisdiction of Worth County, Iowa. In Minnesota, the Project boundary would encompass approximately 26,273 acres,⁴ and would involve erecting up to 42 2.0-MW wind turbines, an electrical and fiber optic communication system, associated equipment, gravel access roads, an operations and maintenance facility, a substation, and a permanent high-voltage transmission line. The Company proposes to use a combination of Vesta V110 or V116 turbine models for this project.

The Project was selected through a Commission-approved bidding process; therefore, under Minn. Stat. § 216B.2422 subd. 5, it is exempt from the certificate of need requirements. In addition, Freeborn Wind has entered into a contract with Northern States Power Company d/b/a Xcel Energy (Xcel) whereby Xcel will purchase the Project after it receives a site permit, and then construct, own, and operate the Project.

III. Legal Standard

Wind energy projects are governed by Minn. Stat. Ch. 216F and Minn. R. Ch. 7854. Minn. Stat. § 216F.01, subd. 2, defines a large wind energy conversion system (LWECS, or wind farm) as a combination of wind energy conversion systems with a combined nameplate capacity of five MW

⁴ Freeborn Wind stated that additional lands may be leased or an easement obtained as necessary to complete the Project.

or more. Minn. Stat. § 216F.03 requires that an LWECS be sited in an orderly manner compatible with environmental preservation, sustainable development, and the efficient use of resources.

In addition, when deciding whether to issue a site permit for a LWECS, the Commission considers the factors set forth in Minn. Stat. § 216E.03, subd. 7, which specifies that the Commission shall be guided by, but not limited to, the following considerations:

- Evaluation of research and investigations relating to the effects on land, water, and air resources of large electric power generating plants 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.
- Environmental evaluation of sites proposed for future development and expansion and their relationship to the land, water, air, and human resources of the state.
- Evaluation of the effects of new electric power generation and transmission technologies and systems related to power plants designed to minimize adverse environmental effects.
- Evaluation of the potential for beneficial uses of waste energy from proposed large electric power generating plants.
- Analysis of the direct and indirect economic impact of proposed sites including, but not limited to, productive agricultural land lost or impaired.
- Evaluation of adverse direct and indirect environmental effects that cannot be avoided should the proposed site be accepted.
- Evaluation of alternatives to the applicant's proposed site.
- Evaluation of governmental survey lines and other natural division lines of agricultural land so as to minimize interference with agricultural operations.
- Evaluation of irreversible and irretrievable commitments of resources should the proposed site be approved.
- Consideration of problems raised by other state and federal agencies and local entities, when appropriate.⁵

To facilitate its review of proposed wind-farm projects, the Commission requires permit applicants to include an analysis of the project's potential consequences, proposed mitigation measures, and any environmental harms that cannot be avoided, with respect to the following categories:

- A. demographics, including people, homes, and businesses;
- B. noise;
- C. visual impacts;
- D. public services and infrastructure;
- E. cultural and archaeological impacts;
- F. recreational resources;
- G. public health and safety, including air traffic, electromagnetic fields, and security and traffic;

⁵ Minn. Stat. § 216E.03, subd. 7(b)

- H. hazardous materials;
- I. land-based economics, including agriculture, forestry, and mining;
- J. tourism and community benefits;
- K. topography;
- L. soils;
- M. geologic and groundwater resources;
- N. surface water and floodplain resources;
- O. wetlands;
- P. vegetation;
- Q. wildlife; and
- R. rare and unique natural resources.⁶

The Commission has the authority to establish conditions in a permit that the Commission determines are reasonable for protecting the environment, enhancing sustainable development, and promoting efficient use of resources.⁷

IV. Comments

A. State Agency Comments

Prior to Freeborn Wind filing its application for a site permit, the record shows that it communicated with MDNR several times. MDNR advised the Company on various state requirements, including avoidance areas, rare features, and avian and bat protection. MDNR filed comments on October 6, 2017, requesting a change to the draft site permit avian and bat protection section. After review of the draft site permit condition, MDNR declined to issue recommendations on the proposed turbine locations. MDNR also filed comments on March 15, 2018, encouraging Freeborn Wind to contact the U.S. Fish and Wildlife Service to discuss the occurrence of bald eagle fatalities in Minnesota.

MnDOT filed comments on the application on October 6, 2017. MnDOT included comments regarding the need to obtain permits or authorization from state road authorities, required setbacks to trunk highway right-of-way, and coordination with the agency to obtain any necessary permits during project construction.

The Minnesota Department of Health (MDH) communicated with Freeborn Wind on May 2, 2017. MDH recommended evaluating two issues that might bear on public health: noise and shadow flicker.

B. Public Comments

Approximately 100 written comments were received during the public comment period. The ALJ Report includes a summary of the public comments as Attachment A. The comments addressed visual impacts, shadow flicker, property values, wildlife impacts, effect on farmland, setback

⁶ Minn. R. 7854.0500, subp. 7.

⁷ Minn. Stat. §. 216F.04 (d); Minn. R. 7854.1000, subp. 4.

distances, interference with communications, noise, procedural concerns about public outreach, and other matters.

At the public hearing, Freeborn Wind, the Department, and Commission staff were available to make presentations and address questions from members of the public. Approximately 163 members of the public attended the hearing and 45 individuals spoke on the record. Participants offered 34 exhibits, which the ALJ received in the record. The ALJ Report includes a summary of the public hearing comments as Attachment B.

All public comments in this matter were filed in the case record. A summary of the public comments on the Draft Site permit is appended to the ALJ Report as Attachment C.

V. The ALJ Report

The ALJ held two days of formal evidentiary hearings and one public hearing. She reviewed the testimony of the parties' witnesses and related hearing exhibits. The ALJ issued the ALJ Report on May 8, 2018.

The ALJ received and reviewed initial and reply post-hearing briefs from the parties. She made 553 findings of fact, 11 conclusions of law, and a recommendation and alternative recommendation. She included a summary of public comments received, information about the proposed project, a procedural history of the matter, and an analysis of the siting criteria as applied to the proposed project. The ALJ Report stated that the draft site permit contains a number of mitigation measures and other conditions that adequately address the potential impacts of the Project on human and natural environments, and that it is reasonable to amend the draft site permit to incorporate additional permit conditions.

The ALJ analyzed each of the requirements in Minn. Stat. § 216E.03, subd. 7. The ALJ concluded that Freeborn Wind failed to demonstrate by a preponderance of the evidence that the proposed project would meet the requirements of the Noise Standards (Minn. R. 7030.0040); accordingly, she found that the Project does not comply with criteria set forth in Minnesota Statutes chapter 216F or Minnesota Rules, chapter 7854.⁸

The ALJ recommended that the Commission either deny Freeborn Wind's application for a site permit or, in the alternative, provide Freeborn Wind with time to submit a plan demonstrating how the Company will comply with the Noise Standards.

Finally, the ALJ recommended, should the Commission decide to issue a site permit, that the Commission make the following changes to the Draft Site Permit language:

1. Amend Section 5.2 (Construction and Operation Practices) to require Freeborn Wind to provide notice of the Project and its potential to interfere with over-the-air (OTA) television service to all "at risk" areas identified in Appendix D of the application and to each household in the

⁸ ALJ Report, Conclusion 5.

communities of Albert Lea, Northwood, Silver Lake, Gordonsville, Glenville, Hayward, and Moscow. (Finding 544)

2. Amend Section 5.2.16 (Interference) to establish procedures for tracking, investigating, and reporting complaints and investigations about OTA TV, and for giving notice to landowners about potential transmission problems. (Finding 545)
3. Amend Section 7.2 (Shadow Flicker) as requested by the Department to require shadow flicker detection system utilization at reception locations, with a modification to require monitoring at houses expected to receive 27 or more hours of shadow flicker per year. (Finding 546)
4. Replace Special Condition 7.4 (Noise Studies) with a requirement for a post-construction noise study to be conducted during the first 12 months of operation. An independent engineer selected by the Department would be charged with developing the scope and conducting the study. In addition to incorporating the Department's Noise Study Protocol,⁹ the study would require determining the extent to which turbine-only noise contributes to the overall decibel level, with emphasis on receptor locations expected to experience the highest turbine noise levels. The consultant would be charged with ensuring that there are no receptors (for example, homes) where ambient noise plus turbine noise exceed the relevant noise standards. Any exceedances would be required to be reported to the Commission within five working days, and a complete post-construction noise study filed with the Commission within 14 months after operations begin. (Finding 547) In addition, the ALJ recommended that the Company's study address low-frequency noise/infrasound. (Finding 243)
5. Amend Section 4.2 (Setbacks and Site Layout Restrictions – Residences) to require a 1500-foot setback to all landowners that have not consented to the Project. (Finding 548)
6. Amend Section 5.2.25 (Public Safety) to require the permittee to inspect all turbines located within 1,200 feet of structures, roads and trails during periods when ice accumulation is likely to occur. Turbines found with ice accumulation would be required to be deactivated until they are free from ice. (Finding 549)
7. Amend Section 11.1 (Special Conditions) with a requirement that the Project's successors or assigns bear the costs of decommissioning the Project. (Finding 550)

⁹ *Guidance for Large Wind Energy Conversion System Noise Study and Report*, Department comments (October 5, 2013).

8. Amend Section 11.1 (Special Conditions) with a requirement that the permittee demonstrate that it can guarantee resources sufficient for decommissioning and restoration at least 45 days prior to beginning construction of the Project. (Finding 551)

VI. Summary of Principal Contested Issues

Parties proposed hundreds of changes to the ALJ Report. The following issues warrant further discussion:

- Setback standards
- Noise
- Public safety and ice throws
- Shadow flicker
- Interference with over-the-air television signals
- Decommissioning

VII. Turbine Setback Standards

A. Introduction

In its application, Freeborn Wind proposed to build its Project with a minimum setback of 1,000 feet from residences and 250 feet from public roads and trails. The Company claimed that the Project's layout follows the wind energy conversion facility siting criteria outlined in the Commission's Order Establishing General Wind Permit Standards (Wind Standards Order)¹⁰ and Freeborn Wind's guidelines and best practices. With one limited exception (related to a wetland), the Project layout conforms to all applicable county ordinances, and where state and local setbacks differ for the same feature, the Company conforms to the more stringent setback standard.

B. The ALJ Report

The ALJ noted that Freeborn County revised its zoning ordinance (Ordinance) to establish a variety of standards for wind turbines, including standards for setbacks. While the Ordinance has no applicability to site permits subject to Commission jurisdiction,¹¹ it expresses community standards. More directly, the ALJ observed, the County also passed a resolution asking the Commission to adopt a 1,500 foot setback for the Project.

¹⁰ See *In the Matter of Establishment of General Permit Standards for the Siting of Wind Generation Projects Less than 25 Megawatts*, Docket No. E,G-999/M-07-1102, Order Establishing General Wind Permit Standards (Jan. 11, 2008).

¹¹ By its terms, the Ordinance applies only to systems that are not otherwise subject to siting and oversight by the Commission. See also Minn. Stat. § 216F.07 (Commission siting jurisdiction preempts local land use regulations).

At Findings 301 and 302, the ALJ claimed that the Commission’s Wind Standards Order adopted a standard for keeping wind turbines “at least 500 feet plus the distance required to meet the state noise standard” from the nearest home. The ALJ then construed this language as requiring a setback of between 750 and 1,500 feet. On this basis, the ALJ adopted Finding 548, recommending that the language of Draft Site Permit Section 4.2 incorporate a requirement that the turbines be set back at least 1,500 feet from any landowner who has not consented to the Project.

C. Positions of the Parties

1. AFCL

AFCL supported honoring Freeborn County’s resolution seeking a 1,500 setback.

2. Freeborn Wind

Freeborn Wind noted that the Commission’s jurisdiction preempts local land use regulations. Nevertheless, the Company also noted that its Project is designed to comply with the new ordinance, with one minor exception: While the ordinance prescribes a setback equal to three times the length of a turbine’s rotor blades, and the Project meets that standard except with respect to one house—unoccupied and, according to the owners, not expected to be occupied—which is 2.9 rotor-blades distant from the Project. Consequently Freeborn Wind saw no need for additional setback requirements.

3. Department

The Department opposed the ALJ’s recommendations regarding setbacks, arguing that the ALJ misconstrued the Wind Standards Order.

D. Commission Action

The Commission concurs with the Department.

First, the Commission observes that the Wind Standards Order pertained to projects generating less than 25 MW, and thus is not directly applicable to the current docket.

Moreover, the ALJ misconstrues the order. That order provides a table summarizing the Commission’s wind turbine permit setbacks and standards for smaller wind projects, briefly stating (a) general permit setback standard and (b) minimum standards. In the row addressing setbacks from homes, the table lists the general standard as “At least 500 ft and sufficient distance to meet state noise standards.” (Emphasis in original). And because the space for listing the minimum standard is smaller, the Commission abbreviated that standard as “500 feet + distance required to meet state noise standard.” On its face, this minimum standard appears to be additive. But in context, it is apparent that the Commission used a “+” sign as a shorthand for “and.” In other words, the Commission intends wind turbine developers to honor both the state

Noise Standards and the minimum setback standards *by implementing the larger of the two standards*. This interpretation is consistent with the Commission’s past decisions.¹²

Accordingly, the Commission will decline to adopt the ALJ’s recommendation to revise the language of the Draft Site Permit Section 4.2. In addition, the Commission will adopt the ALJ’s Findings 301 and 302 revised to reflect the correct understanding of the Commission’s order.

VIII. Noise

A. Introduction

To protect public health and welfare from man-made noise pollution,¹³ the MPCA promulgated the state’s Noise Standards codified at Minn. R. 7030.0040. The standards establish time-weighted noise limits based on land use categories (Noise Area Classifications, or NACs) and times of day. Time-weighting allows for variation of sound intensities over time.

The MPCA Noise Standards set limits on total ambient sound levels, and regulate certain noise sources, including wind turbines, that contribute to this sound level. The MPCA Noise Guidance provides guidance on how to properly measure and isolate the contribution from the regulated source.

All permittees are required to comply with permit conditions, including those for noise. Permittees assume the risk of having to undertake any necessary mitigation measures, including curtailment, to ensure compliance with the applicable standards.

B. ALJ Report

The ALJ Report explains that sound intensity is typically measured in units of decibels (dB). Human capacity to distinguish sound intensity diminishes as the intensity increases—thus, a person can “hear a pin drop” in a silent room, but not on a noisy street. Accordingly, dBs are measured on a logarithmic scale, with an increase of three dB reflecting a barely-audible increase in pressure. However, the human ear senses not only intensity, but also sound frequency, measured in Hertz (Hz). To measure noise in a way that corresponds to how the ear perceives loudness, a measuring device must give greater weight to frequencies around 1,000 Hz, and less to higher and lower frequencies. “A-weighting” describes a weighting scheme intended to emulate the perception of the human ear, and is denoted dB(A).

The MPCA’s Noise Standards establish different standards for daytime and nighttime noise levels, with those standards measured over a one-hour testing period. Thus, the notation 65

¹² See, for example, *In the Matter of the Application of Red Pine Wind Farm, LLC for a Site Permit for the 200.1 Megawatt Red Pine Wind Project in Lincoln County, Minnesota*, Docket WS-16-618, Order Issuing Site Permit for Large Wind Energy Conversion System at Site Permit § 4.2 (June 27, 2017); *In the Matter of the Application of Prairie Rose Wind, LLC for a Site Permit for a 200 Megawatt Large Wind Energy Conversion System in Rock and Pipestone Counties*, Docket WS-10-425, Order Approving Findings of Fact and Issuing Permit at Site Permit § 4.2 (September 16, 2011) .

¹³ Minn. Stat. Ch. 116D.

dB(A) L₅₀-one hour would refer to a noise standard that limits noise to no more than 65 A-weighted decibels for 50 percent of the time during a one-hour testing period.

The ALJ read the Noise Standard to say that noise at a residential location should not exceed 65 dB(A) more than 10 percent of the time, nor 60 dB(A) more than 50 percent of the time, during daytime; at night, noise should not exceed 55 dB(A) more than 10 percent of the time, nor 50 dB(A) more than 50 percent of the time. And, significantly, the ALJ read this standard to apply to all noise, regardless of source.

Finally the ALJ cited evidence suggesting that in some locations, background noise already exceeds the nighttime noise standard.

Accordingly, the ALJ ultimately recommended rejecting Freeborn Wind’s application because it would contribute to an environment in which aggregate nighttime noise levels at some homes would exceed the Noise Standards. In the alternative, the ALJ recommended giving Freeborn Wind the opportunity to submit a plan demonstrating how it would comply with the Noise Standards, and to address how it would address low-frequency noise/infrasound—that is, noise with frequencies between 1 Hz and 20 Hz.

C. Positions of the Parties

1. AFCL

AFCL urged the Commission to declare that the Freeborn Wind Project must comply with the MPCA’s Noise Standards, to adopt the ALJ’s finding that the Project has not adequately demonstrated that it will comply with those standards, and thus to reject the Company’s site permit.

AFCL argued that the Commission’s past practices in analyzing and approving site permits for wind farms has been inadequate. Instead, AFCL asked the Commission to begin interpreting the Noise Standards to preclude a site permit for any project in any area where the Noise Standards might be exceeded—even when the noise comes from sources unrelated to the proposed project. AFCL claims that no wind farm in the state has been sited properly, because no wind farm has been sited consistent with AFCL’s interpretation of the Noise Standards. Indeed, AFCL cited with approval the conclusion of Dan Lichfield, a senior manager for the Project, that AFCL’s interpretation of the Noise Standards “is impossible to meet for a wind farm.”¹⁴

Finally, AFCL argued that the communities concerns about infrasound had received insufficient attention.

2. The Department

The Department generally agreed with the ALJ that the MPCA’s Noise Standards are designed to measure total noise levels, not just the level of the facility seeking a permit. But the Department

¹⁴ AFCL Exceptions, at 3.

rejected the manner in which the ALJ applied the standards, arguing that the ALJ's method was too rigid and unworkable, especially in naturally noisy environments.

Instead, the Department proposed Site Permit language establishing a "middle ground" approach intended to guard public health and welfare while avoiding unreasonable restrictions to development. This approach would permit a project to proceed, even where noise levels are at or above the Noise Standards, provided the Project contributed only an indiscernible amount (one decibel) to the total noise level. The Department's proposed approach is set forth below:

7.4.1 Pre-Construction Demonstration of Compliance with Noise Standards

Freeborn Wind Energy LLC shall file a plan, including modeling and/or proposed mitigation, at least 60 days prior to the pre-construction meeting that demonstrates it will not cause or significantly contribute to an exceedance of the state noise standards using the following two-part protocol:

1. If background sound levels are less than the applicable standard at nearby receptors, the modeled turbine-only noise levels cannot cause an exceedance of the applicable state standard at nearby receptors, inclusive of the measured background noise level. "Cause" means that the project turbine-only contribution is in excess of the applicable state standard.
2. If background sound levels are equal to or greater than the applicable state standard at nearby receptors, the windfarm shall not contribute more than 45 dB(A) to total sound levels at the nearby receptors. Therefore, for example, when nighttime background sound levels are at 50 dB(A), a maximum turbine-only contribution of 45 dB(A) would result in a non-significant increase in total sound of 1 dB(A).

7.4.2 Post-Construction Noise Monitoring

The Permittee shall 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 most current Department of Commerce Noise Study Protocol to determine total sound levels and turbine-only contribution 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 12 months of commencing commercial operation.

If the monitored turbine-only noise level is determined to be greater than the Minnesota State Noise Standard at nearby receptors or if the background sound levels exceed the Minnesota State Noise Standards and the turbine-only contribution exceeds 45 dB(A), the Permittee shall work with the Department of Commerce to develop a plan to minimize and mitigate turbine-only noise impacts.

In practice, the Department's standard would require Freeborn Wind to limit the noise from its wind farm to no more than 45 dBA.

During oral argument, however, the Department stated its support for Freeborn Wind's proposed special conditions (discussed below) and its willingness to work with the Company to develop noise testing protocols—and noise mitigation measures, if necessary. The Department envisions a study based on the current Noise Study Protocol to gauge both total sound levels and turbine-only contributions, analyzing various frequencies at various distances from the turbines at various wind speeds and directions.

Finally, the Department stated that the record developed in this case provided insufficient support to regulate infrasound.

3. Freeborn Wind

Freeborn Wind argued that the ALJ Report incorrectly interpreted the Minnesota Noise Standards as placing a limit on total noise without distinguishing between project noise and background or ambient noise. The Company asserted that the Legislature granted the MPCA jurisdiction solely over man-made noise sources, and the ALJ Report ignores MPCA's guidance.

According to Freeborn Wind, the Commission's past practice has been to cite the Noise Standards as the basis to limit noise coming from permitted facilities, without addressing ambient noise. The Company argued that when measuring noise in the outdoors, the measuring device would inevitably record background noise as well as the noise from the source of concern.¹⁵ Indeed, Freeborn Wind acknowledged that it actively seeks to put its turbines in windy locations—that is, locations that inevitably experience a relatively high degree of wind noise. The Company asserted that background noise must then be subtracted from the total recorded measurements to determine the noise from the measured source (here, wind turbines). Doing so would be consistent with MPCA guidance, past Commission practice, and common sense, Freeborn Wind argued.

¹⁵ Evidentiary Hearing Transcript Vol. 1B at 121 (Feb.21, 2018) (Hankard). Freeborn Exceptions at 7, fn 27.

Furthermore, Freeborn Wind argued that its noise modeling reflects the best evidence in the record, and incorporates conservative assumptions—for example, that no sound would be absorbed into the ground, and that all turbines would be operating at full capacity. Thus, the Company argued, residents would likely experience less noise than the model suggests.

But in an effort to better respond to comments and the ALJ Report, Freeborn Wind proposed two new special conditions to be added to the site permit that would take precedent over any conflicting permit provisions. Under these conditions, the Company would commit to designing and operating its wind farm in a manner that most of the time would generate no more than 47 dB(A), and would contribute less than 3 dB(A) to ambient noise levels—that is, contribute a smaller amount of additional noise than most humans can detect. The conditions are as follows:

6.1 Pre-Construction Noise Modeling

Freeborn Wind Energy LLC shall file a plan, including modeling and/or proposed mitigation, at least 60 days prior to the pre-construction meeting that demonstrates it will not cause or significantly contribute to an exceedance of the MPCA Noise Standards.

To ensure that the turbine-only noise does not cause or significantly contribute to an exceedance of the MPCA Noise Standards, modeled wind turbine-only sound levels (NARUC ISO 9613-2 with 0.5 ground) at receptors shall not exceed 47 dB(A) L₅₀-one hour. Given this, at no time will turbine-only noise levels exceed the MPCA Noise Standards, and when total sound does exceed the limits it will be primarily the result of wind or other non-turbine noise sources. Under these conditions, the contribution of the turbines will be less than 3 dB(A), which is the generally recognized minimum detectible change in environmental noise levels (non-laboratory setting). For example, when nighttime background sound levels are at 50 dB(A) L₅₀-one hour, a maximum turbine-only contribution of 47 dB(A) L₅₀-one hour would result in a non-significant increase in total sound of less than 3 dB(A).

6.2 Post-Construction Noise Modeling

If the Noise Studies conducted under Section 7.4 document an exceedance of the MPCA Noise Standards where turbine-only noise levels produce more than 47 dB(A) L₅₀-one hour at nearby receptors, then the Permittee shall work with the Department of Commerce to develop a plan to minimize and mitigate turbine-only noise impacts.

Finally, and like the Department, Freeborn Wind argued that the record provided insufficient grounds for regulating infrasound.

4. MPCA

During oral argument, MPCA stated that it regarded Freeborn Wind's proposed special permit conditions to be a reasonable and balanced means of implementing the Noise Standards, similar to how MPCA has implemented the standards in the past. While the Company's proposal could result in a small increase in total noise levels when background noise is at or above the prescribed standard, MPCA concluded that this increase would be less than most people could perceive, and MPCA would not expect the increase to pose any threat to human health.

B. Commission Action

While AFCL urges the Commission to require Freeborn Wind to comply with the MPCA's Noise Standards, this requirement has never been in dispute. Indeed, the Draft Site Permit already requires compliance with the Noise Standards:

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.

7.4 Noise Studies

The Permittee shall 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.

The parties' dispute has not been about whether to apply the Noise Standards, but how to do so.

Various commenters have asked the Commission to make a definitive finding on how the Noise Standards should apply to wind farms generally. And indeed, at Finding 206 the ALJ interpreted the Noise Standards as establishing fixed limits on noise from all sources, even sources not subject to regulation. However, the Commission concludes that this is not the appropriate forum, nor the appropriate record, for making such a broad interpretation. Rather, the Commission will address the Freeborn Wind project specifically, seeking to reconcile the competing interests at play in this docket. Accordingly, the Commission will decline to rule on how the MPCA's Noise Standards should be applied generally—and will decline to adopt the ALJ's Finding 206.

Nor is the Commission persuaded that additional permit conditions are needed to address low-frequency noise/infrasound. 20 Hz is widely regarded as the lowest frequency that humans can hear; it is possible for people to hear lower frequencies, but only at very high amplitude. Wind turbines produce infrasound at a similar level to ocean waves or wind blowing through vegetation, and far lower than the levels experienced riding in a farm tractor. No known hearing test nor tests involving functional magnetic resonance imaging (fMRI) demonstrate that humans can perceive the level of infrasound emanating from contemporary wind turbines. Consequently it is not surprising that the Noise Standards do not regulate infrasound directly. But in practice they regulate it indirectly: Because noise from wind turbines has a relatively consistent spectral (frequency) shape, regulation of noise in the audible range has the effect of regulating the rest of the spectrum as well.¹⁶

In brief, the ALJ concluded that Freeborn Wind had not yet provided a sufficient basis to ensure that it would fulfill the requirements of the Noise Standards and, as an alternative recommendation, proposed granting the Company additional time to fulfill this step. Both the Department and Freeborn Wind have proposed permit conditions requiring the Company to submit a plan demonstrating that it will not cause or significantly contribute to exceedance of the Noise Standards, and to then test to ensure that it fulfills this requirement. The Commission finds these proposals to provide a reasonable method to fulfill its requirement to abide by the Noise Standards.

Accordingly, the Commission will direct Freeborn Wind to provide an updated pre-construction noise analysis demonstrating that the Project will comply with the noise permit conditions proposed by the Department, subject to the conditions proposed by the Company. And the Commission will incorporate these provisions into the Project's Site Permit. But the Commission will decline the ALJ's recommendation to require the Company to provide a plan for regulating infrasound. Finally, the Commission will adopt the ALJ's findings on noise, modified to reflect the views expressed herein.

IX. Public Safety and Ice Throws

A. Introduction

Ice throw refers to ice congealing on a turbine blade, then falling off or being flung as the blade rotates.

¹⁶ Ex. FR-5 at 7 (Hankard Direct).

B. The ALJ Report

Generally the ALJ found that Freeborn Wind has taken appropriate steps to avoid and minimize the Project's effects on public safety, and that the language of the Draft Site Permit, when supplemented with the ALJ's proposed amendments, would provide for appropriate monitoring and mitigation of public safety threats. But the ALJ expressed concern about ice throws.

The ALJ noted (a) public comments expressing general concern about ice throws, including concerns for threats to people using the nearby snowmobile trail, (b) a 2006 document from GE Energy recommending measures to mitigate the risks of ice throw from their turbines, and (c) an allegation that ice flung from a Bent Tree Wind Farm turbine on February 22, 2018 dented a truck 300 feet away. While Draft Site Permit Section 4.4 directs a permittee to refrain from building turbines within 250 feet of any public road right-of-way or designated public trail, the ALJ concluded that this condition provided insufficient protection.

Accordingly, the ALJ recommended amending the language of Draft Site Permit Section 5.2.25 to require the permittee to conduct ice inspections of any turbine within 1200 feet of structures, roads, or trails—and to deactivate any ice-encrusted turbines until the ice can be removed.

C. Positions of the Parties

1. Freeborn Wind

Freeborn Wind objected to the ALJ's recommendation, arguing that (a) that the record provides insufficient basis to establish conditions related to ice throws, and (b) the proposed condition would be onerous and unworkable.

According to the Company, the events of February 22, 2018, have not been verified. Regarding the statement of GE Energy, Freeborn Wind noted that it plans to use turbines from Vestas, not GE Energy, and that contemporary Vestas turbines have technology that monitors the turbines for icing conditions and shuts them down in situations where significant ice accumulation causes an imbalance on the turbine blades.

2. Department

The Department stated that it judged the 250-foot setback standard in Draft Site Permit Section 4.4 to be an appropriate distance for significantly reducing the risk from ice throws. And while some commenters expressed concern for people on the nearby snowmobile trail, the Department noted that the nearest snowmobile trail is 538 feet from the turbine sites.

The Department could find no evidence in the record suggesting that turbines pose a threat to all structures, roads, or trails within 1,200 feet. In particular, the Department found no confirmation of the allegation that an ice throw dented a truck on February 22, 2018.

Accordingly the Department concluded that the reported ice throw and strike occurrence should not be used as evidence of turbine ice throw, and did not justify any new policy regarding turbine setbacks or ice accumulation monitoring.

D. Commission Action

The Commission concurs with the ALJ's general finding that Freeborn Wind has taken, or will take, the necessary measures to avoid or minimize any threat to public safety. For example, Draft Site Permit Sections 10.10 and 10.11 require a permittee to provide educational materials about the permitted project and any restrictions or dangers associated with the project. Freeborn Wind will also provide any necessary safety measures such as warning signs and gates for traffic control or to restrict public access. And after construction is completed, Freeborn Wind will inform Gopher State One Call of the location of all underground facilities.

The record already identifies appropriate setback standards for the Project. For homes, the Commission's Wind Standards Order states that turbines must be setback at least 500 feet and a sufficient distance to comply with the Noise Standards, whichever is greater, and the Draft Site Permit provides a setback of not less than 1,000 feet. Regarding public road rights-of-way and designated public trails, the Draft Site Permit provides a setback of 250 feet. The Department concludes that these setbacks provide an appropriate measure of safety, and the Commission concurs.

The record regarding ice throws is insufficient to justify the adoption of novel policies regarding turbine setbacks or the need to monitor turbine blades for ice accumulation. Bent Tree Wind Farm staff investigated the events of February 22, 2018, and could not confirm that the damage to the truck resulted from an ice throw from the Bent Tree Wind Farm. Thus the reported ice throw and strike occurrence should not be used as evidence of turbine ice throw, and it should not be used to establish turbine setback distances or the need to establish turbine ice accumulation monitoring protocols.

Accordingly the Commission will decline the ALJ's recommendation to adopt additional safeguards related to ice throw, and will adopt the ALJ's findings of fact as amended to reflect the views presented in this order.

X. Shadow Flicker

A. Introduction

Shadow flicker from wind turbines occurs when rotating wind turbine blades move between the sun and the observer. Many members of the public expressed concern about the potential shadow flicker that may result from the Project's wind turbines. In addition to finding the flicker irritating, people feared adverse health effects. Freeborn County's Ordinance on shadow flicker contains a requirement to conduct a flicker analysis and states that flicker at a receptor should not exceed 30 hours per year.¹⁷ While the Commission's jurisdiction pre-empts application of the Ordinance, the law provides evidence of local community standards.

¹⁷ Freeborn County, Minn. Code of Ordinances § 26-56 (2015), ALJ Report, Finding 253.

Over the course of the proceeding, the parties and the ALJ offered differing proposals for a site permit post-construction monitoring condition to include in the draft site permit.

B. The ALJ Report

The ALJ generally agreed with the Department's recommendation to require post-construction measurements of shadow flicker at receptor locations that are anticipated to receive more than 30 hours of shadow flicker per year. And the ALJ found that Freeborn Wind conducted a good-faith analysis estimating the number of hours landowners will be exposed to shadow flicker. But the ALJ questioned the reliability of the results.

Noting that Freeborn Wind's analysis identified at least two locations predicted to receive between 27 and 30 hours of shadow flicker per year, the ALJ recommended revising the language of Draft Site Permit section 7.2 to require use of a flicker detection system at locations anticipated to come within 10 percent of the limit set by ordinance—that is, locations anticipated to receive 27 hours of flicker.

C. Positions of the Parties

1. Freeborn Wind

Freeborn Wind disputed the ALJ's findings challenging the reliability of the Company's estimates of shadow flicker exposure at various locations. The Company emphasized that it hired a consultant to address the issue of shadow flicker potential with the Project's turbine layout. The consultant used modeling software, turbine coordinates and specification, and the locations of 254 homes and businesses within two kilometers of any turbine to develop its shadow flicker model. The Company's modeling assumed all turbines would be the Vestas V116 model (in lieu of the smaller V110 option) to obtain more conservative results.

The Company conducted an additional assessment of each of the non-participating residences where its modeling indicated flicker could potentially exceed 30 hours per year. The Company concluded that visual obstructions (e.g. trees or buildings) would diminish the potential for shadow flicker to occur at the four residences at which modeling demonstrated higher than 30 hours of flicker could occur.

Finally, Freeborn Wind identified several potential mitigation measures it could implement for area residents, based on individual circumstances.

The Company argued that the Commission has never before required mitigation for a designated amount of shadow flicker. However, in recognition of the County Ordinance's 30-hour limit and the community's concerns, the Company agreed to adopt a limit of 30 hours per year. But Freeborn Wind asserted that the record provides no basis whatsoever for adopting a 27-hour standard.

2. AFCL

AFCL argued that Freeborn Wind's own modeling demonstrates more than 30 hours of flicker per year on some receptors, and asserted that there might be a greater number than acknowledged by Freeborn Wind. The AFCL also argued that the Company has the burden to demonstrate why it cannot comply with the County Ordinance.

3. The Department

While acknowledging that the record does not demonstrate that shadow flicker posed risks to human health, the Department did not oppose use of a 30 hour-per-year exposure standard from shadow flicker as contained in the County Ordinance. But the Department opposed the ALJ's proposal to amend this standard to 27 hours per year, finding no record support whatsoever for this change. In its June 8, 2018 filing, the Department recommended the use of post-construction shadow flicker detection systems during the operation of any receptors that are anticipated to experience that level of shadow flicker.

Finally, the Department recommended revising the language of Section 7.2 of the Draft Site Permit to add more procedural structure to the enforcement of shadow flicker limits, as follows:

Section 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 potentially subject to turbine shadow flicker exposure. 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 A Shadow Flicker Management Plan will be prepared by the Permittee, which will include the results of any shadow flicker modeling, assumptions made, levels of exposure prior to implementation of planned minimization and mitigation efforts, planned minimization and mitigation efforts, and planned communication and follow up with residence. The Shadow Flicker Management Plant shall be filed with the Commission at least 14 days prior to the pre-construction meeting to confirm compliance with conditions of this permit.

Should shadow flicker modeling identify any residence that will experience 30 hours, or more, of shadow flicker per year, the Permittee must specifically identify these residences in the Shadow Flicker Management Plan. If through minimization and mitigation efforts identified in the Shadow Flicker Management Plan the Permittee is not able to reduce a residence's anticipated shadow flicker exposure to less than 30 hours per year a shadow flicker

detection systems will be utilized during project operations to monitor shadow flicker exposure at the residence. at receptor locations that were anticipated to receive over 30 hours of shadow flicker per year. The Permittee will submit a Shadow Flicker Monitoring and Management Plan at least 14 days prior to the pre-construction meeting. The Shadow Flicker Monitoring and Management Plan will detail the placement and use of any shadow flicker detection systems, how the monitoring data will be used to inform turbine operations, and a detailed plan of when and how turbine operations will be adjusted to mitigate shadow flicker exposure exceeding 30 hours per year at any one receptor. The results of any shadow flicker monitoring and mitigation implementation will be reported by the Permittee in the Annual Project Energy Production Report identified in Section 10.8 of this Permit.

Commission staff and EERA staff will be responsible for the review and approval of the Shadow Flicker Management Plan. The Commission may require the Permittee to conduct shadow flicker monitoring at any time during the life of this Permit.

D. Commission Action

While the ALJ questioned the reliability of Freeborn Wind's prediction of shadow flicker exposure at various locations, the Commission concludes that Freeborn Wind's testimony remains the best evidence in the record on this question. Accordingly, the Commission will decline to adopt the ALJ's Finding 260 to the extent that the finding challenges the reliability of the Company's analysis without proffering a more reliable substitute standard.

Also, the Commission finds no record support for adopting a shadow flicker standard of 27 hours per year. The Commission notes that it has not previously required any mitigation for a designated amount of flicker. The Company's shadow flicker analysis used readily measurable data and its predictive value appears sound. The assumptions Freeborn Wind used underlying its analysis provide a worst-case scenario, meaning homes in the area can reasonably expect to experience lower levels of shadow flicker. Further, should residents in the area experience excessive shadow flicker, the Site Permit will include a compliance procedure to initiate investigations and mitigation measures as appropriate. Accordingly, the Commission will not adopt the 27-hour standard set forth in Finding 261 or the proposed language for Site Permit Section 7.2.

The Commission finds that the Department's proposed revisions to the language of the Draft Site Permit contribute appropriate procedural rigor to the permit's requirements. Accordingly, the Commission will incorporate into the Project's Site Permit the language of Draft Site Permit 7.2 with the Department's modifications.

XI. Over-the-Air Television Interference

A. Introduction

KAAL is the licensee of television station KAAL in Austin, Minnesota. KAAL intervened in this proceeding to raise concerns regarding the potential for wind turbine operations to interfere with its microwave radio transmission and disrupt its over-the-air (OTA) broadcast operations. Dozens of comments in the record expressed concern about television interference, largely over the potential for signal interference during weather emergencies.

B. The ALJ Report

The ALJ recognized the potential for the Project to interfere with OTA TV signals, especially in those areas where there is no line of sight to a television transmitter. While the ALJ concluded that KAAL did not provide sufficient support for its proposal to expand the scope of the designated “at-risk area,” the ALJ also determined that the Company’s proposal for an expanded “at-risk area” did not sufficiently address KAAL’s concerns.

The ALJ recommended expanding the number of people that Freeborn Wind would notify of its proposed project, and expanding the content of the proposed notice, as follows:

[Finding] 544. The Administrative Law Judge recommends that Section 5.2 of the Draft Site Permit should be amended, as follows:

Freeborn Wind must provide notice which includes a description of the Project’s potential to interfere with OTA TV service, Freeborn Wind’s mitigation program, and copies of the Site Permit and Complaint Procedure to households in the following areas:

- a. all households in “at risk” areas identified for all six local television stations, as identified in Appendix D of the Site Permit Application; and
- b. each household in the communities of Albert Lea, Northwood, Silver Lake, Gordonsville, Glenville, Hayward, and Moscow.

Further, the ALJ recommended that the Commission require a permittee to investigate and document any non-frivolous claims of OTA TV interference, as follows:

[Finding] 545. The Administrative Law Judge recommends that Section 5.2.16 of the Draft Site Permit be amended as follows:

- Upon receiving a complaint from a household within the required Notice area regarding interference, Freeborn Wind shall evaluate the complaint to determine whether Freeborn Wind’s operations are the likely cause of the interference. In the event that the wind farm is determined to be the likely cause of

interference, Freeborn Wind should offer the mitigation measures it has proposed as listed in paragraph 378 of this Report.

- Freeborn Wind shall investigate any non-frivolous claims of OTA TV interference.
- Freeborn Wind shall not dismiss a complaint on the basis that it arises from a location further than 10 kilometers distant from any turbine, or because its location is not within an “at risk” area.
- Freeborn Wind shall file a report with the Commission on the first working day of each month. The report shall inform the Commission of the results of the previous month’s investigations of TV interference complaints, including the role of the wind farm in causing the interference, and whether Freeborn Wind’s remedial measures resolved the interference issues.
- Freeborn Wind shall maintain and submit with its monthly report, a map showing the location of the complainant households, their distance to the nearest turbine, and their locations in relation to the “at risk” areas. Freeborn Wind will report the date of each complaint, its response, and the date the complaint is closed.
- Freeborn Wind shall make these reports publicly available.

C. Positions of the Parties

1. Freeborn Wind

Freeborn Wind filed numerous exceptions to the ALJ Report regarding OTA interference.

Freeborn Wind acknowledged that wind turbines located between a station transmitter and a digital antenna may interfere with OTA TV reception. But in defense of its Project, Freeborn Wind stated that (a) there is no practical way to anticipate the location of each impaired residence, given the number of residents and the imprecision in turbine siting at this stage of the proceedings, (b) the number is not likely to be large, and (c) the record reveals no unresolved complaints of transmission interference.

To better address the concerns raised by KAAL, however, the Company agreed to expand its notice area and diligently implement a program to promptly respond and mitigate any problems observed once operations commence, using the Commission’s standard procedures for addressing complaints arising from permitted energy facilities.

The Company challenged the suggestion that its wind turbines would have much likelihood to impair signals at locations more than 10 kilometers away. Nevertheless, the Company agreed to provide notice to people in an expanded “at risk” area depicted on Figure 7 of the TV Coverage Impact Study, included as Appendix D to its application, and proposed language to incorporate this commitment into the site permit.

2. KAAL and AFCL

KAAL argued that the potential OTA interference could be problematic for homes and businesses in the areas identified by the ALJ, and argued that its viewers could be deprived not only of entertainment, but weather announcements which could have a significant impact on the lives of those in the area.

KAAL asserted that Freeborn Wind’s methodology to determine the geographic area of viewers who could potentially be affected by OTA interference is flawed, and that 20 kilometers (not 10) is the appropriate distance from which to measure turbine interference with signals. KAAL claimed that the number of potentially affected viewers is higher than Freeborn Wind estimated. And KAAL argued that the appropriate way to mitigate the threat to human life posed by this transmission interference is for Freeborn Wind to pay for a door-to-door survey of all residents within 20 kilometers of a wind turbine after the turbines begin operating.

KAAL generally agreed with the ALJ’s Findings on OTA Interference, with the exception of Finding 386, wherein the ALJ concluded that residents could rely on AM or FM radio signal rather than OTA television signals during weather events. This finding, KAAL argued, would relieve Freeborn Wind of its duty to restore “natural conditions” as required by Minnesota law.¹⁸ Instead, KAAL recommended that the Commission require Freeborn Wind to conduct a survey, both before and after construction, to determine if there is any OTA interference from the Project that cannot be corrected with a new receiver, or to pay for the construction of a new transformer with translator.

Finally, KAAL proposed revising the Site Permit Complaint Handling Procedures attached to the Draft Site Permit. KAAL proposed expanding the definition of complaint to include expressions of dissatisfaction or concern about television or communication signals, or site restorations. And KAAL proposed clarifying that Freeborn Wind would have to continue reporting the level of customer complaints throughout the life of the site permit.

AFCL agreed with KAAL’s position generally, including its proposed modifications to the ALJ Report findings and Draft Site Permit language.

3. The Department

The Department argued that the ALJ’s proposal to expand the number of households to receive notice and a copy of the complaint procedure is unwarranted in that it is unsupported by the record, and would impose costs out of proportion to any anticipated benefits. The Department also opposed requiring Freeborn Wind to serve notice on the viewers in the “at risk” area of

¹⁸ Minn. R. 7854.1000, subp. 4.

television stations other than KAAL, as they have not raised concerns about the Project causing OTA interference.

Nor did the Department support the ALJ's Finding 545, which recommended significant modifications to Section 5.2.16 of the Draft Site Permit. The Department argued that the ALJ appeared to disregard the Company's modeling effort with no evidence that the results were inaccurate. And the Department argued that the ALJ's proposed changes to 5.2.16 of the Draft Site Permit appear to create a separate complaint procedure for OTA television interference not supported by the record. The Department recommended retaining the Draft Site Permit's language at Section 5.2.16, and that complaints of OTA television interference be handled and reported using the Draft Site Permit's complaint procedures.

That said, the Department proposed one revision of its own to the Draft Site Permit regarding OTA signal interference: The Department recommended amending Draft Site Permit Section 5.2 to direct the Permittee to provide notice of its project, its mitigation program, and its complaint procedures, to all television stations with signal service in the Project area.

D. Commission Action

As an initial matter, the Commission observes that KAAL characterized the issue of OTA signal interference as a matter of life and death, due to the role of TV signals to inform people of impending weather conditions. The ALJ found this description to be overstated, and suggested that the public could listen to AM or FM radio instead. KAAL took exception to these findings. The Commission will decline to characterize KAAL's position on this issue, and will therefore refrain from adopting the ALJ's language—for example, at Finding 387—that does so. Nor will the Commission adopt language recommending reliance on one form of broadcast rather than another.

The Commission largely agrees with the ALJ's view that the most appropriate means to address a problem such as OTA signal interference is mitigation—addressing the few problem areas that may actually arise rather than trying to anticipate and address the many places where a problem could arise. Accordingly, the Commission accepts and adopts the ALJ Findings on OTA interference, but with certain modifications.

No party objected to KAAL's proposed additions to the Draft Site Permit's Complaint Handling Procedures, including modifications to the Definition and Reporting sections. The Commission believes adding this language is reasonable and consistent with the record, and will therefore incorporate it into its Site Permit.

Additionally, the Commission will generally adopt the ALJ's recommendations set forth at Finding 545 to amend and incorporate into the Site Permit a requirement that Freeborn Wind provide notice of its project's potential to interfere with OTA TV service and its program for mitigating these harms. Notwithstanding the Department's views, in this instance the Commission believes that providing people with greater notice about how to address potential problems, and more process for addressing those problems, reflects a reasonable strategy. Moreover, Freeborn Wind has agreed to expand the scope of the notices it would provide to

landowners—and the Commission will adopt a modified version of ALJ Finding 386 to recognize this fact.

But based on the parties' comments, the Commission will adopt the ALJ's recommendation at Finding 545 in a slightly altered form.

First, the Commission concurs with the ALJ's recommendation that Freeborn Wind serve notice on all households in the "at risk" areas identified in its Site Permit Application. Indeed, the Commission will go further and direct the Company to also serve notice on each of the over-the-air broadcasters serving this area, so that they will be informed about how to address customer concerns. But the Commission is not persuaded that the Company should also serve notice on every household in Albert Lea, Northwood, Silver Lake, Gordonsville, Glenville, Hayward, and Moscow, which are further away and less likely to experience signal interference. It will suffice for Freeborn Wind to give notice to the local governmental offices in those municipalities instead.

Second, in giving notice, the Commission is not persuaded that Freeborn Wind should have to provide a physical copy of the entire site permit, including complaint procedures. It will suffice to notify people that copies are available upon request.

Finally, while the ALJ proposed amending the language of Draft Site Permit Section 5.2, the Commission prefers to codify this language as its own special condition within the site Permit, superseding the language of any conflicting conditions.

XII. Decommissioning, Turbine Abandonment, and Restoration

A. Introduction

According to the terms of the easements the Company has acquired, at the end of the Project's useful life—anticipated to be 30 years—the Project would be decommissioned, the facilities removed, and the land restored to a condition reasonably similar to its original condition. Parties disagree about the steps Freeborn Wind should take to demonstrate its ability to fulfill these terms.

However, Freeborn Wind's decommissioning plans stumbled over an initial procedural hurdle: Minn. R. 7854.0500, subp. 13, directs an applicant for a site permit for a wind farm to include decommissioning and restoration plans as part of its application, but the Company neglected to do so. The Department failed to detect this oversight when it recommended that the Commission find the application was complete. And the Commission failed to detect the oversight when it issued an order finding the application complete.

B. The ALJ Report

Noting the defect in Freeborn Wind's initial site permit application, the ALJ found this procedural shortcoming irrelevant for purposes of analyzing the merits of the Company's petition.

The ALJ made a number of recommendations related to decommissioning. The ALJ recommended that Freeborn Wind demonstrate that it has the capacity to guarantee it can fund the decommissioning and restoration of its Project prior to commencing construction. She also recommended that when the Company complied with this recommendation, the Commission should provide public notice of Freeborn Wind's demonstration in accordance with Minn. R. 7854.0900. Finally, the ALJ recommended that the Commission clarify that any of Freeborn Wind's successors or assigns would have to adopt the Company's decommissioning obligations (unless the Company elected to retain the obligation).

C. Positions of the Parties

1. Freeborn Wind

Freeborn Wind acknowledged the responsibility it bears—and that its successor would assume—for decommissioning the Project. Freeborn Wind argued that the ALJ's recommendations are already reflected in the terms of the Draft Site Permit, but stated that it had no objection to providing a pre-construction submittal documenting that the Company will have resources available to fund decommissioning and restoration obligations. If the Commission wants Freeborn Wind to give public notice that it had made such a filing, as the ALJ recommended, then the Company would propose to consolidate this notice with the other forms of notice it would provide to landowners under Draft Site Permit Section 5.1.

2. AFCL

AFCL argued that Freeborn Wind's failure to include its decommissioning plans as part of its initial Application deprived the public of a fair opportunity to scrutinize those plans.

AFCL argued that Freeborn Wind should have to provide additional documentation demonstrating its commitment and ability to decommission its Project. And because Freeborn Wind failed to provide decommissioning information in its initial application, AFCL argued that the Commission should ensure that there is extra time for scrutinizing the Company's filing.

3. Department

The Department concurred with Freeborn Wind that the ALJ's proposals largely duplicate provisions already found in the Draft Site Permit. And where the ALJ goes beyond those provisions—for example, proposing that the Company guarantee it can fund the decommissioning—the Department argued that this language is unnecessary and creates the potential for needless disputes. The Department claimed that the Commission has not previously required a permittee to provide full financing for decommissioning before operations begin; rather, the Commission typically grants a permittee several years to amass the necessary funds, aided by the revenues generated by the permitted project. The Department found insufficient reason to adopt a different policy regarding Freeborn Wind's Project.

D. Commission Action

The Commission concurs with the ALJ that Freeborn Wind erred in omitting its decommissioning plan from its initial application, and that the Commission erred in overlooking this omission. However, the Commission's Order Finding Application Complete and Varying Time Limits; Notice and Order for Hearing (August 31, 2017) stated, "The Commission concurs with the [Department] that the application is substantially complete. The Commission will, however, direct Freeborn Wind to respond to all reasonable requests regarding the Project and to facilitate in every reasonable way the continued examination of the issues by the [Department] and Commission staff." Thus the Commission's order, though flawed, did not deprive any party of the opportunity of obtaining a copy of the plan from the Company. The Commission will adopt the ALJ's Finding 518 as amended to take note of this aspect of the Commission's order.

Draft Site Permit Section 11.1 provides language governing the decommissioning of a permitted project, and this language largely addresses the concerns raised. For example, this language provides for a permittee to submit a decommissioning plan—identifying all surety and financial securities available to finance the decommissioning—before the Project could begin operations.

Nevertheless, the Commission is persuaded that some revisions are warranted to address the unique circumstances of this case. In particular, given the late development of this issue, the Commission finds it reasonable to grant additional time for reviewing the decommissioning plan. Thus, while Section 11.1 directs a permittee to submit its decommissioning plan 14 days before the pre-operation meeting, the Commission will direct the Company to make its filing 60 days before the meeting. This will provide an additional 46 days to evaluate the plan.

And while the Commission will retain the ALJ's recommendation that the Company provide public notice when it submits its decommissioning plan, the Commission will grant Freeborn Wind's proposal to permit the Company combine this notice with its other forms of landowner notice set forth in Section 5.1 of the Draft Site Permit.

To avoid needless confusion, however, the Commission will decline to adopt language purporting to require Freeborn Wind to "guarantee" or "ensure" the funds for decommissioning—whether that language appears in the ALJ's findings (for example, Findings 527 and 530) or the Draft Site Permit.

Finally, the Commission will decline to adopt the ALJ's recommendation to modify the site permit to address the obligations of Freeborn Wind's successors and assigns. The Commission already has jurisdiction over the transfer of site permits under Minn. R. 7854.1400, and therefore need not address the issue of successors and assigns in the context of a site permit.

XIII. Other Issues

The ALJ made some 553 findings of fact and 11 conclusions of law, largely analyzing the site permit considerations identified in Minn. Stat. § 216E.03, subdivision 7, as well as a conclusion to deny the site permit, or to establish additional conditions.

Parties took exception to many aspects of the ALJ Report and proposed hundreds of changes. The Commission concurs with many of these arguments, and has articulated above its rationale for differing with the ALJ regarding noise, shadow flicker, interference with over-the-air transmission signals, and decommissioning. In other instances, the Commission finds that the parties' proposed language better articulates the state of the record than the ALJ's findings do. Those instances are set forth in Attachment 1.

But, having reviewed the record of the case, the Commission generally concludes that the ALJ's findings are thorough, well-reasoned, and well-supported, and that the remainder of the parties' proposed revisions should be declined on the grounds that –

- The record does not support the proposed change, or the party proposing a change offered no rationale or citation to the record supporting the change;
- The ALJ better articulated the state of the record;
- The proposed change reflects a non-substantive or *de minimis* change from the ALJ's language; or
- The proposed change is redundant of language elsewhere in the ALJ Report.

Accordingly, the Commission will adopt the ALJ's findings, conclusions, and recommendation, modified as discussed above and in Attachment 1. Based on these findings, and bolstered by additional Site Permit conditions discussed in this order, the Commission will issue the Site Permit set forth in Attachment 2.

ORDER

1. The Commission approves and adopts the findings, conclusions, and recommendation of the Administrative Law Judge's July 26, 2018 Findings of Fact, Conclusions of Law, and Recommendations except as set forth in Attachment 1 or otherwise stated in this order.
2. Freeborn Wind Energy LLC shall provide an updated pre-construction noise analysis demonstrating that the Project will comply with the noise permit conditions recommended by the Department as modified by the conditions proposed by the Company.
3. The Commission hereby issues the Site Permit as set forth in Attachment 2, incorporating various changes to the Draft Site Permit language, including changes related to –
 - setback standards,
 - noise,
 - ice throw,

- shadow flicker,
- over-the-air signal interference, and
- decommissioning.

4. This order shall become effective immediately.

BY ORDER OF THE COMMISSION



Daniel P. Wolf
Executive Secretary



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Attachment 1: Modifications to the ALJ Report

The Commission adopts the findings, conclusions, and recommendations of the Administrative Law Judge’s Findings of Fact, Conclusions of Law, and Recommendations (May 14, 2018), except as modified below. Strike-outs indicate texts not adopted by the Commission; underscoring represent clarifying or supplementary text adopted by the Commission.

Finding 154

There was conflicting testimony regarding the ability of agricultural pilots to conduct aerial spraying within the perimeter of a wind farm. ~~AFCL provided no expert testimony regarding the impact of wind turbines on neighboring agricultural property or practices. Freeborn Wind has committed to work with landowners on coordinating aerial spraying activities.~~¹

Footnote(s)

1. 239 Ex. FR-1 at 60 (Application).

Finding 160

Mr. MaRous also used the “matched pair” method to examine the effect of proximity to a wind turbine on a property’s value. This method analyzes the ~~impact of a single feature on a property’s value by finding the sale value of a nearly identical property but for the single feature~~ importance of a selected characteristics—in this instance proximity to a wind turbine—to a property’s value. This method compares the selling price of a property close to the selected characteristic to the sale value of a similar property in the same market area and under similar market conditions but without the selected characteristic.

Finding 164

Mr. MaRous provided additional support for his conclusion that property values were not affected by proximity to a wind farm by examining similarly matched ~~properties pairs~~ in three counties in Illinois. Mr. MaRous found three matched property pairs in Mclean County, two in LaSalle County, and one in Livingston County.²⁴⁵ The distances of the dwellings from the nearest wind turbine in feet were 1,865 feet, 2,210 feet, 1,573 feet, 3,160 feet, 2,325 feet, and 2,322 feet. There are just two matched pairs where the distance to the nearest turbine is less than the average distance for the Project Area. Mr. MaRous found no indication that proximity to a wind turbine lowered the value of non-participating properties.

Finding 175

Several members of the public believe ~~maintained~~ that Freeborn Wind should be required to provide each non-participating landowner with a Property Value Guarantee (PVG) to ensure that they do not suffer losses in property values as a result of the Project.²⁶³

Finding 181

It is generally accepted that if a wind farm complies with Minnesota noise regulations, people living and working near its turbines will not suffer direct physical damage to their hearing.²⁷⁴ But, it is also

believed by some that “subaudible infrasound can be detected inside homes near operating wind turbines, and that such sound can be identified from up to 10 kilometers distant.”²⁷⁵

Finding 181

While it has not been shown that wind turbines cause harm to human hearing, people’s reactions to wind turbine noise vary widely. Some people may not be bothered by the noise of the rotating turbines and some may only experience mild annoyance from time to time. But there may be others who are especially sensitive to the noise patterns and inaudible low frequency emissions of the turbines. ~~Their reactions to wind turbines may include nausea, sleeplessness, headaches, chest pains, and high levels of stress.~~²⁷⁶

Finding 185

Wind turbines produce sound patterns which the ear and audio processing functions in the brain recognize.²⁷⁸ The equipment inside a wind turbine’s nacelle produces some noise, but the more recent models of turbine nacelles produce very little noise. ~~The main subject of noise complaints is the “broadband ‘whooshing’ sound produced by interaction of turbine blades with the wind.”²⁷⁹ There is also a concern that wind turbines generate “[r]hythmic, low frequency pulsing of higher frequency noise (like the sound of an amplified heart beat) ... one type of sound that can be caused by wind turbine blades under some conditions.”²⁸⁰ Another pattern is “a tonal signal of sharply rising and falling pulses in the infrasound range.”²⁸¹~~

Finding 189

Human ears are not equally sensitive to all sound frequencies. “The human ear is sensitive primarily to the level (loudness) of a noise (sound), but also to its pitch (frequency).” The ear is more sensitive to frequencies ~~in the at~~ about 1,000 Hertz [Hz]²⁸⁶ ~~to 4,000 Hz~~ than it is to lower or higher frequencies.²⁸⁷

Finding 191A

20 Hz is widely regarded as the lowest frequency that humans can hear.¹ Humans’ sensitivity to sound at 20 Hz and at lower frequencies is so low that the amplitude has to be extremely high in order for humans to hear them.² Infrasound is generally defined as sound in the 1 Hz to 20 Hz frequency range.³ Infrasound is produced by natural sources such as the wind blowing through trees and vegetation and against houses, ocean waves, and earthquakes⁴, and can also be experienced inside a moving car, or inside a house near an operating washing machine.⁵ Infrasound is also produced by other man-made sources, such as conventional power plants, aircraft, and agricultural equipment.⁶ Levels of wind turbine infrasound are similar to infrasound from natural sources such as the wind blowing through vegetation and ocean waves, and far lower than the levels of infrasound experienced riding inside a vehicle, such as a farm tractor.⁷ The levels of infrasound produced by wind turbines are many orders of magnitude below all currently accepted thresholds of human hearing, including every major hearing threshold test dating back to the 1930s and recent fMRI-based hearing response tests.⁸

Footnote(s)

1. Ex. FR-5 at 4 (Hankard Direct).
2. See Ex. FR-6, Sched. 4 at 4 (Roberts Direct).
3. Ex. FR-5 at 5 (Hankard Direct).
4. Ex. FR-5 at 5 (Hankard Direct).
5. Ex. FR-1 at 33 (Application).
6. Ex. FR-5 at 5 (Hankard Direct).
7. Ex. FR-5 at 6 (Hankard Direct).
8. Ex. FR-5 at 5 (Hankard Direct).

Finding 192

~~Most available evidence~~ suggests that reported health effects are related to inaudible (to most people) low frequency noise. Wind turbines generate a broad spectrum of low intensity noise.²⁹³

Finding 193

A decibel is the unit in which the intensity of sound (sound pressure level) is typically measured. ~~A barely audible sound (near total silence) is assigned a measure of 0 decibels (dB). The decibel is a logarithmic unit in base 10. A sound that is 10 dB is 10 times louder than the just barely audible 0 dB sound.~~²⁹⁴

Finding 195

An alternative to A-weighting is C-weighting. C-weighting does not filter out low frequency sound as the A-weighting does, making C-weighting better if the concern is to measure absolute sound pressure levels rather than loudness to the human ear.²⁹⁸ ~~The C weighting is flat to within 1dB down to about 50 Hz and then attenuation commences, but not as rapidly as with A weighting.~~

Finding 197

~~Sound levels measured in the environment are almost always the result of many sources being present at any one time, and contain Most sound is~~ a mixture of frequencies. Sound meters ~~add measure~~ all of the sound pressure ~~changes in the environment and display the corresponding A-weighted or C-weighted level levels of the various frequencies across the audible spectrum to compute a single loudness metric.~~ When you have two noise sources of equal strength, you add them together for a total noise level that is three dB greater than either one alone.³⁰¹ An increase of three dB in the total noise level ~~in an outdoor environment~~ will not be noticeable to most people, ~~and but~~ just barely to others.³⁰² ~~In an outdoor environment, 3 dB is the smallest change in noise level that most people will notice.~~¹

Footnote(s)

1. Tr. Vol. 1B at 115 (Hankard).

Finding 198

Sounds from different sources can occur at the same time. If a 50 dB noise is added to an existing 50 dB noise, the resulting noise level is 53 dB, which is enough of an increase in sound pressure to be noticeable. Freeborn Wind provided the following rules of thumb for adding noise from a point source to ambient noise: when one source is 10 dB less than another, it is irrelevant. If a wind turbine is generating 50 dB and ambient noise is 45 dB, the total sound level is 51 dB.³⁰³

Finding 205

~~[The Department] issued the “Guidance for LWECS Noise Study Protocol and Report” in 2012 to assist permittees in conducting post-construction noise compliance surveys; it does not provide detailed recommendations or guidance on pre-construction noise modeling analysis.~~¹ The MPCA’s interpretation of its rule is that, to estimate the effect of wind farm noise on total noise levels, the ambient level of noise must be known. In its Comment on the DOC’s Guidance for Large Wind Energy Conversion Systems Noise Protocol and Report, the MPCA noted:

Although the noise rules apply to total noise measured at a wind farm, the culpability of the wind turbines depends on attribution. If noise exceedances are recorded, it is necessary to determine the increment due to the turbine noise. Background noise information is very important to this effort.

This is where background data might be “subtracted.” Compliance is based on the inclusion of background total noise, whereas attribution depends on the use of the background information to adjust the measured noise to the source (turbines).³¹⁴

Footnote(s)

1. Ex. EERA-9 (2012 Noise Protocol Guidance) and Evid. Hearing Tr. Vol 2 at 183, 186 (Feb. 22, 2018) (Davis).

Finding 206

~~The Administrative Law Judge agrees with [the Department]’s interpretation of the noise limits in Minn. R. 7030.0400 for a number of reasons. First, [the Department]’s interpretation is consistent with the MPCA’s interpretation of its own rule. Second, Freeborn Wind appears to equate the pre-construction environment with the “natural environment.” However, the Project Area has roads, vehicles, farm equipment, and other non natural sources of sound and is not solely a “natural environment.” Third, subpart 1 explicitly provides that the standards in subpart 2 do not apply to impulsive noise. If the rule was intended not to apply to ambient noise, it would have similarly distinguished and excluded ambient noise. Fourth, the noise standards are “consistent with speech, sleep, annoyance, and hearing conservation requirements.” This implies a focus on the protecting the recipients of the noise and these goals are frustrated when total noise levels are exceeded. [the Department]’s analysis correctly identifies the total noise levels experienced by receptors when the wind turbines are operating as the regulated sound from “all sources.”~~

Finding 207A

The Noise Standards also contain specific measurement procedures to be used for accurately measuring the noise from the source only, while taking care not to include noise from “background noise”, which is defined as “any ambient noise other than the noise to be measured, including wind, precipitation, traffic, etc.”¹ The MPCA provides guidance on the implementation of its Noise Standards.²

The MPCA separately defines sound occurring in the natural environment. “Background, or ambient, noise” consists of “all noise sources other than the noise source of concern.”³ Because wind is often a major source of background noise (particularly during full operation of a wind farm), it can frequently present problems when trying to isolate and monitor a specific source of noise.⁴ Accordingly, MPCA’s measurement protocols and guidance state that high wind and rainy weather conditions should be avoided when measuring the noise source.⁵ Further, when analyzing a specific noise source along with other noise sources, correction factors can be used to isolate the noise source being monitored and calculate its individual noise level. Specifically, total noise levels from all sources are to be measured and recorded. Then the noise source being measured should be turned off, and a noise level reading taken with all other existing noise sources in operation. Then, the background noise is subtracted from the total noise level to find the noise level of the source being measured.⁶ It is the source noise that must meet the levels set in the Noise Standards.⁷

Footnote(s)

1. MPCA Guide at 11.
2. Id.
3. MPCA Guide at 11.
4. Id.
5. Minn. R. 7030.0060 and MPCA Guide at 11.
6. MPCA Guide at 12.

7. 348 See Minn. Stat. §§ 116.07, subd. 2(c), 116.06, subd. 15; Minn. R. 7030.0040 and 0060; MPCA Guide at 12.

Finding 207B

The Legislature authorized the MPCA to regulate “noise”, as defined in the statute. MPCA’s guidance further confirms that the regulated noise source to be measured must be isolated from background noise when measuring sound at a given location. Accordingly, Freeborn Wind has correctly interpreted the Noise Standards to require that Project-related noise cannot exceed a nighttime L50 of 50 dB(A).

Finding 209

While infrasound and LFN may not pose noise issues per se, that is an artifact of our hearing. Physically, infrasound and LFN are electromagnetic waves just like audible sounds, and they may have physical effects on humans, just like audible sounds. The Minnesota Department of Health found that wind turbine-related noise complaints “appear to rise with increasing outside noise levels above 35 dB(A)” and “[t]he Minnesota nighttime standard of 50 dB(A) not to be exceeded more than 50% of the time in a given hour, appears to underweight penetration of low frequency noise into dwellings.”³²⁰

Finding 209A

LFN from wind turbines, from 20 to 200 Hz, is audible, but at levels that are generally less than those produced by other sources, such as traffic, wind, and other methods of power generation.¹

Footnote(s)

1. Ex. FR-1 at 33 (Application).

Finding 211

Mr. Hankard affirmed that the primary source of LFN and infrasound is ambient noise such as “wind blowing through vegetation and against buildings such as houses.”³²³ This is especially so when ground winds exceed 10 miles per hour, which is when wind turbines tend to operate. During periods of high ground winds (greater than approximately 10 mph), which occurs often during wind turbine operations, ambient LFN levels exceed those produced by wind turbines.¹ Mr. Hankard stated that ambient levels of LFN in the Project area “range from about 45 to 80 dBC under windy conditions.”³²⁴ while LFN from the project is predicted to be 62dBC at one residence and less than 60dBC at all other residences.²

Footnote(s)

1. Ex. FR-5 at 8 (Hankard Direct).
2. 361 Id. at 8 (Hankard Direct); see also Ex. FR-1, Appendix B at 9 (Noise Analysis) (Application)

Finding 213

~~Freeborn Wind did not follow this guidance~~ “Because the frequency spectrum of noise from wind turbines is relatively fixed, and once one part of the spectrum becomes limited, so does every other part of the audible spectrum.”³²⁶ The 50 dB(A) limit for receptors was attained by placing the wind turbines at certain distances from the receptors. For the Project, the 50 dB(A) limit at residences controls Project LFN levels to about 60 dB(C) or less at residences, and limits infrasound to levels orders of magnitude below the human hearing threshold.”³²⁶

Finding 214

The Minnesota Noise Standards indirectly regulate LFN and infrasound. While there are no dB(C) or other LFN noise limits, or any limits pertaining to infrasound, contained in Minnesota’s noise standards,

it is well understood that limiting wind turbine noise emissions using a dB(A) standard automatically limits LFN and infrasound. Because wind turbine noise has a relatively consistent spectral (frequency) shape, once one part of the spectrum is limited, the rest of the spectrum is limited as well. the record evidence legitimates concerns over the Project's potential to generate harmful LFN and infrasound, opponents of the Project are correct that Minnesota's noise standards do not address them. [The Department] did not recommend the addition of any conditions or special conditions specific to infrasound or low frequency noise.³²⁸ While the Department of Health, the Department of Commerce, and the Pollution Control Agency all acknowledge public complaints concerning wind turbine generated infrasound and LFN merit concern, in 2012, the MPCA Commissioner, in response to a rulemaking Petition, stated that "After consulting with colleagues at the Minnesota Departments of Health and Commerce, I have concluded that the current understanding of wind turbine noise and its potential effects is insufficient to support rule making at this time."³ and in 2016, that "the present knowledge of the potential health effects of infrasound does not lend itself to the development of an appropriate standard at this time."³²⁹

Finding 219

Carol Overland requested that the MPCA develop rules governing wind turbine noise. In response, John Linc-Stine, Commissioner of the Minnesota Pollution Control Agency, stated: "After consulting with colleagues at the Minnesota Departments of Health and Commerce, I have concluded that the current understanding of wind turbine noise and its potential effects is insufficient to support rulemaking at this time."² However, as explained above, the Noise Standards indirectly regulate LFN and infrasound. It is well understood that limiting wind turbine noise emissions using a dB(A) standard automatically limits LFN and infrasound.¹ Because wind turbine noise has a relatively consistent spectral (frequency) shape, once one part of the spectrum is limited, the rest of the spectrum is limited as well.² Further, some experts agree that regulating wind turbine noise using acceptable A-weighted limits is appropriate."³

Footnote(s)

1. FR-5 at 7 (Hankard Direct).
2. FR-5 at 7 (Hankard Direct).
3. See FR-1 at 33-34 (Application).

Finding 220

The Department of Commerce, Energy Facility Permitting is the author of Guidance for Developing and e-Filing the LWECS Noise Study Protocol and Report Submittals to the Minnesota Public Utilities Commission (Oct. 8, 2012) [LWECS Noise Study Protocol].³³⁷ The Guidance document is intended to assist permittees in conducting post-construction noise compliance surveys; it does not provide detailed recommendations or guidance on pre-construction noise modeling analysis.¹ The document's purpose is:

to aid wind developers in the preparation and use of a noise study protocol that standardizes sound monitoring methodologies, analysis, and presentation. The purpose of the protocol and the resulting noise study report are to quantify sound generated by an operational Large Wind Energy Conversion System (LWECS) at receptors: sound that is present during the measurement, project-related and otherwise.³³⁸

Footnote(s)

1. See Evidentiary Hearing Tr. Vol 2 at 183, 186 (Feb. 22, 2018) (Davis) and Ex. EERA-9 (2012 Noise Protocol Guidance).

Finding 222

The purpose of the pre-construction noise analysis is to inform the placement of wind turbines so as to comply with Minnesota noise regulations. ~~because, once built, a properly functioning wind turbine's noise output can only be changed by taking it out of service.~~

Finding 223

Mr. Hankard prepared the Pre-Construction Noise Analysis Report included in Freeborn Wind's Site Permit Application as Appendix B.³⁴⁰ He drew upon his familiarity with the noise emissions of Vestas wind turbines from previous work.³⁴¹ Hankard Environmental conducted an ambient noise measurement survey at the Project site in ~~April 2016~~ the spring of 2017 and modeled noise emissions from the Project to assist in designing the turbine layout so as to comply with Minnesota's noise standards.³⁴²

Finding 224

Mr. Hankard used the International Organization for Standardization (ISO) standard 9613-2, Attenuation of Sound During Propagation Outdoors – Part 2: General method of calculation modeling method.³⁴³ This method assumes "optimal acoustic propagation in all directions," ~~– specifically, that a well-developed, moderate ground-based temperature inversion is present or, equivalently, that all receptors are downwind of all noise sources at all times.~~³⁴⁴

Finding 227

Mr. Hankard measured ambient noise at three wind speeds: the speed at which the blades "cut-in" and begin to generate power; the speed at which the turbines generate full acoustic output; and the speed at which full power is generated. It appears that the five measurement sites chosen were in the Project Area. At three of five measuring locations, full power produced ambient sound levels of 50 or 51 dB(A).³⁴⁷

At 3 m/s, which represents calm conditions when turbines would be off or just beginning to operate, ambient noise levels are low (20 to 30 dB(A)). At 7 m/s, when the turbines would be operating at a moderate capacity, ambient noise levels range from about 30 to 40 dB(A). At 10 m/s the turbines would be producing full acoustic emissions, and ambient noise levels range from about 45 to 50 dB(A). LFN noise levels were also measured. Levels range from about 35 to 45 dB(C) under calm conditions, 45 to 65 dB(C) under moderately windy conditions, and 65 to 80 dB(C) under very windy conditions.¹

Footnote(s)

1. Ex. FR-1, Appendix B at 9 (Noise Analysis) (Application).

Finding 236

The ISO 9613-2 methodology Mr. Hankard employed has a margin of error to its noise level measurements of plus or minus three dB.³⁶⁶ An increase of three dB corresponds to a doubling of sound power but only a slightly noticeable increase in loudness. Mr. Hankard contends that, by using the most conservative values for the model's parameters, the margin of error with respect to underestimating sound levels is much smaller than three dB.³⁶⁶

Finding 238

Another cause for uncertainty is the absence of certain empirical data. That is, sound measurements are not made when one would expect the loudest levels to occur. ~~As Mr. Hankard pointed out,~~†The American National Standards Institute (ANSI) "discourages measurements when the local wind speed is 11 miles an hour or greater. And that's because what you're actually measuring at that point is

distortion of the microphone and not actual sound in the air.”³⁶⁹ Accordingly, Mr. Hankard did not include any noise monitoring results for wind speeds over 11 miles per hour (approximately 4.9 meters per second), measured at the microphone height (approximately 5 feet above the ground).¹ The average monthly mean annual wind speed in the Freeborn Project Area measured at 80 meters above ground level (hub height) is predicted to be greater than 11 miles per hour.³⁷⁰ While the wind speed at the hub height of a turbine may differ from the wind speed near ground level for a variety of reasons,³⁷¹ Freeborn Wind’s Application stated that, at 80 meters above the ground, predicted wind speeds near the Project Area are 6.0 to 8.8 meters per second.³⁷² At 8.8 meters per second, this is just under 20 miles per hour. No expert testimony was presented to challenge the ANSI methodology.

Finding 240

~~The turbines have yet to be built. One or more of the sound estimation model’s assumptions or its data may be wrong. For example, the location of a turbine when finally erected could differ from its assumed location, or the location of a house could be incorrect. Or, post-construction measurements may not be made under identical atmospheric conditions as pre-construction measurements.~~

Finding 241

Table 2 in FR-18 shows that there are many instances where total noise will be quite close to, or could exceed, 50 dB(A). There are approximately 254 homes in the Freeborn Wind Project footprint.³⁷³ The turbines have yet to be built. However, pre-construction, it is the modeling Freeborn Wind conducted that is relevant for determining whether the Project will comply with the Noise Standards once operational. The record here demonstrates that Freeborn Wind included very conservative assumptions in its modeling and calibrated its modeling with real world data to ensure that modeled estimates are conservatively high.¹ If changes are made to the turbine layout, number of turbines, or turbine type, the Noise Analysis will be updated accordingly. According to Table 2, any time the ambient noise level is 50 dB(A), added wind turbine noise results in 53 homes experiencing levels of 51 dB(A) and 25 homes at levels of 52 dB(A), for a total of 78 homes experiencing more noise than permitted by Minn. R. 7030.0040.³⁷⁴ Two of the homes will experience 58 dB(A) if the ambient noise is 57 dB(A).³⁷⁵ None of these homes was predicted to experience wind turbine noise alone above 48.9 dB(A). Many were predicted to experience wind turbine noise alone in the very low-to-mid 40’s range.³⁷⁶ Thus, the addition of ambient noise is significant in that it raises the predicted nighttime noise exposure of more than 30 percent of the homes in the footprint of the Project beyond what is allowed in Minn. R. 7030.0040. Table 2 in Ex. FR-18 shows that when background noise levels are 45 dB(A) or less, total sound levels are 50 dB(A) or less regardless of the turbine-only noise level. When background noise levels are in the 45 to 50 dB(A) range, turbines contribute to the total when turbine-only noise levels are approximately 44 dB(A) or greater.

Footnote(s)

1. See evidentiary hearing transcript Volume 1B at 111-112 (February 21, 2018 (Hankard)).

Finding 243

Should the Commission choose to do so, it could provide Freeborn Wind with an opportunity to submit a plan demonstrating how it will comply with Minnesota’s noise standards at all times throughout the footprint of the Freeborn Wind Project. ~~The plan should include low-frequency noise measurements for evaluation in consultation with MDH.~~

Finding 244

The Administrative Law Judge further recommends that the plan be made available for public and agency comment and a hearing held with a summary report. The Commission should then review and

approve a pre-construction noise mitigation plan that best assures that turbine noise will not cause noise levels that exceed Minnesota's noise standards.³⁷⁷

Finding 245

Freeborn Wind cannot lawfully operate its turbines if their operation results in total noise at any receptor in ~~a violation~~ ~~excess a violation~~ of the standards in Minn. R. 7030.0400. Condition 4.3 of the Draft Site Permit requires turbines to be placed in appropriate locations to ensure compliance with the Noise Standards. If the Commission grants a Site Permit and post-construction measurements show that total noise levels exceed L50 dB(A) for any receptor, Freeborn Wind must adjust its operations, including shutting down one or more turbines, if doing so will result in complying with the standards.

Finding 246

~~Site Permit Condition 7.4 requires the Permittee to file its post-construction noise study within 18 months of commencing commercial operation. The Administrative Law Judge finds this condition is insufficient in light of the many instances in which the operation of the Project may exceed what Minn. R. 7030.0040 allows, and the lack of analysis of infrasound in light of the combined ambient and turbine sound totals.~~

Finding 247

Because of the many potential sources of inaccuracy in the pre-construction noise level measurements and post-construction noise level predictions, should the Commission decide to grant Freeborn Wind's Site Permit Application, the Administrative Law Judge recommends a special permit condition requiring that post-construction noise level measurements be made during the first year of operation by an independent consultant selected by [the Department] at Freeborn Wind's expense. The measurements should be taken at multiple locations including locations near receptors that are predicted to experience the highest turbine noise levels. ~~The consultant should be charged with ensuring that there are no receptors where levels of ambient noise plus turbine noise exceed L50-50 dB(A) during nighttime hours.~~

Finding 260

The record demonstrates that Freeborn Wind has taken steps to avoid and minimize impacts from shadow flicker. ~~However, the shadow flicker exposure predictions may be incorrect to a greater or lesser extent because data used in the model is incorrect. The shadow flicker exposure estimates, for example, are based in part on measurements of wind direction and speed taken from "temporary meteorological towers located within the Project."⁴⁰⁰ To the extent that "temporary" measurements of wind direction and speed differ from their long-run values, the shadow flicker exposure estimates will be wrong. Similarly, the estimates do not reflect the impact of any longer-term weather trends such as increased (or decreased) cloudiness.~~

Finding 261

The Administrative Law Judge finds Freeborn Wind has provided reasonable estimates for the hours landowners will be exposed to shadow flicker, but they are only estimates. ~~With one modification, the Administrative Law Judge agrees with [the Department]'s recommendation to require post-construction measurements of shadow flicker. [The Department] recommends measuring shadow flicker "at receptor locations that were anticipated to receive over 30 hours of shadow flicker per year." Because the exposure predications may be incorrect, it is possible that a location expected to receive under 30 hours of exposure, might receive over 30 hours. In particular, Shadow Receptors 303 and 401 are predicted to receive more than 27 hours of shadow flicker.⁴⁰¹ Because they are within 10 percent of exceeding the 30-hour limit, the Administrative Law Judge finds it reasonable to monitor their exposure as well.~~ [The Department] proposed, and the Administrative Law Judge recommends that, if

the Commission issues a Site Permit in this docket, section 7.2 of the Site Permit be revised as recommended by [the Department], with one modification:

Shadow flicker detection systems will be utilized during project operations to monitor shadow flicker exposure at receptor locations that were anticipated to receive over ~~27~~ 30 hours of shadow flicker per year. The Permittee will submit a Shadow Flicker Monitoring and Management Plan at least 14 days prior to the pre-construction meeting. The Shadow Flicker Monitoring and Management Plan will detail the placement and use of any shadow flicker detection systems, how the monitoring data will be used to inform turbine operations, and a detailed plan of when and how turbine operations will be adjusted to mitigate shadow flicker exposure exceeding 30 hours per year at any one receptor. The results of shadow flicker monitoring and mitigation implementation will be reported by the Permittee in the Annual Project Energy Production Report identified in Section 10.8 of this Permit.

Footnote(s)

~~400. Ex. FR-1 at App. C at 28 (Shadow Flicker Assessment).~~

~~401. Ex. FR-1 at App. B (Shadow Receptor Coordinates & Realistic Shadow Hours).~~

Finding 280

A number of AFCL members and other members of the public raised concerns about ~~threats that wind turbines pose to those who live close to them~~ potential health impacts. One landowner worried about her son who has autism and gets dizzy watching other children play baseball. She worries about his response to seeing the turbines turning every day.⁴²⁴ Another landowner suffers from migraines, which she states are triggered by vibrations, and could be triggered by the whooshing and flicker of the turbines.⁴²⁵ Similar concerns were raised by AFCL witness Hansen, who is a cancer survivor, on daily chemotherapy which causes her to be sensitive to motion and other stimuli.⁴²⁶ A landowner who is a veteran with post-traumatic stress disorder and tinnitus wrote that the turbine noise and shadow flicker will trigger problems, both because of the noise and possible triggering of flashbacks.⁴²⁷

Finding 284

Before submitting its application to the Commission in this proceeding, Freeborn Wind invited comments from MDH about the proposed Freeborn Wind project. MDH Assistant Commission Paul Allwood replied with a letter to Applicant (2017 MDH Letter).⁴³⁴ Referring to the noise standards at Minn. R. 7030.0040, the MDH response warned “The MPCA nighttime standard for noise intensity of 50 dB(A), not to be exceeded more than 50% of the time in a given hour, appears to underestimate how much low frequency noise can enter into dwellings. Prior to site development, MDH recommends that low frequency noise and total noise from turbines be evaluated.”⁴³⁵ The MDH response repeated the setback recommendations it made for shadow flicker in 2009. The MDH comments closed with the following recommendations:

- “Prior to development, low frequency noise and total noise from turbines should be evaluated by qualified acoustical engineers to determine measurable noise components from wind turbines that engender complaints and to assess noise impacts from proposed wind farms.” Low frequency noise and total noise from the proposed wind turbines were addressed by a qualified acoustical professional, Mr. Mike Hankard, in his Direct Testimony and in his Affidavit and Noise Tables.⁵¹⁰ The LFN from wind turbines is (1) effectively mitigated by the State of Minnesota’s 50 dBA limit, (2) similar in level to the LFN produced by traffic and wind, and (3) below other non-binding LFN standards. Total noise from turbines, meaning the A-weighted overall noise level from the combined operation of all turbines, was addressed in the Pre-Construction Noise Analysis and in Mr. Hankard’s Direct Testimony and Affidavit and Noise Tables.¹

- “Wind turbine noise estimates should include cumulative impacts (40- 50 dB(A) isopleths) of all wind turbines.” The recommended isopleths (noise level contours) were provided in Figures A1 and A2 in the Pre-Construction Noise Analysis Report.²
- Isopleths for dB(C) – dB(A) greater than 10 dB should be determined to evaluate the low frequency noise component.
- The impacts of aerodynamic modulation noise and shadow flicker should be modeled and evaluated.
- “Evaluations of turbine noise generation and shadow flicker should be incorporated into decisions when determining the appropriate setback distances of homes from wind turbines.” In Sections 8.3 and 8.4 of the Application and in the Direct Testimonies of Mr. Litchfield and Mr. Hankard, Freeborn Wind considered noise and shadow flicker in developing the Project layout.
- Any noise criteria beyond current state standards used for placement of wind turbines should reflect priorities and attitudes of the community.
- Recognizing that it is unknown whether reported health impacts are direct health effects or indirect stress impacts from annoyance and/or lack of sleep resulting from turbine noise or shadow flicker, potential health impacts from wind turbine projects should be acknowledged, and provision should be made to mitigate these effects for residents within and near proposed project areas.

The project should be designed so that exposure to residents is minimized and inclusion of all potential residents as compensated participants should be considered.⁴³⁶ As discussed extensively in the Application and in Mr. Litchfield’s Direct Testimony, Freeborn Wind designed the Project with setbacks and other measures that minimize impacts to area residents. Freeborn Wind also offered easements and Good Neighbor Agreements to landowners throughout the Project Area.

Footnote(s)

1. See Ex. FR-5 at 4-5, 7-8 (Hankard Direct); Ex. FR-13, Sched. 1 (Hankard Rebuttal; Ex. FR-18 (Hankard Affidavit and Noise Tables).
2. See Ex. FR-5 at 11 (Hankard Direct); Ex. FR-1, Appendix B (Noise Analysis) (Application); Ex. FR- 18 (Hankard Affidavit and Noise Tables).
3. Ex. FR-1, Appendix B at Figures A1 and A2 (Noise Analysis) (Application).

Finding 299

~~The Administrative Law Judge observes that the Project is predicted to exceed the 30-hour shadow flicker limit with regard to seven homes (three participating and four non-participating homeowners) under Freeborn County’s Ordinance, a limit to which Freeborn Wind stated it would adhere.⁴⁶⁰ Based on these concerns, and on the public health concerns arising from evidence of chronic annoyance, sleeplessness, and headache, the Administrative Law Judge recommends that the Commission amend the Draft Site Permit regarding shadow flicker consistent with the recommendations made in Section XI.E. of this Report. The published literature has shown some association between wind turbine noise emissions and annoyance. While annoyance is at times associated with various symptoms, it is not a disease.¹~~

Footnote(s)

1. Ex. FR-6 at 3 (Roberts Direct).

Finding 301

~~The Commission's January 11, 2008 Order Establishing General Wind Permit Standards states that turbines must be setback from homes at least 500 feet and sufficient distance to meet the State noise standard, whichever is greater. While Freeborn Wind's proposed project meets the setback requirements based on Freeborn County's ordinance, it is not clear that it meets the requirements of the Commission's 2008 Order Establishing General Wind Permit Standards.⁴⁶³ Those standards call for a setback distance of 750-1,500 feet, "depending on turbine model, layout, and specific site conditions."⁴⁶⁴ In addition, for homes, the required setback is "at least 500 feet plus the distance required to meet the state noise standard."⁴⁶⁵~~

Footnote(s)

~~463. Ex. AFCL 8 (Order Establishing General Standards, PUC Docket No. E,G-999/M-07-1102 (Jan. 11, 2008)).~~

~~465. Id. at 8.~~

Finding 302

~~The Draft Site Permit issued for the project incorporated a residential setback of not less 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.¹ In light of the revised total noise predictions, and the lack of evidence that Freeborn Wind took the required 500 additional feet into account in establishing residential setbacks, the Administrative Law Judge recommends that, if the Commission issues a Site Permit in this docket, the Draft Site Permit conditions be amended to require Residential setbacks of 1500 feet for all non-participating landowners.⁴⁶⁶~~

Footnote(s)

~~466. There are four non-participating landowners with setbacks of less than 1500 feet. Ex. FR 4 at 19 (Litchfield Direct).~~

~~1. 562 562 DSP at Condition 4.2 (emphasis added); see also In the Matter of the Application of Red Pine Wind Farm, LLC for a Site Permit for the 200.1 Megawatt Red Pine Wind Project in Lincoln County, Minnesota, MPUC Docket WS-16-618, Order Issuing Site Permit for Large Wind Energy Conversion System at Site Permit § 4.2 (June 27, 2017) (eDocket No. 20176-133173-01); In the Matter of the Application of Prairie Rose Wind, LLC for a Site Permit for a 200 Megawatt Large Wind Energy Conversion System in Rock and Pipestone Counties, MPUC Docket WS-10-425, Order Approving Findings of Fact and Issuing Permit at Site Permit § 4.2 (September 16, 2011) (eDocket No. 20119-66430-01).~~

Finding 304

The Administrative Law Judge finds, should the Commission issue a Site Permit to Freeborn Wind, that the ~~amended shadow flicker, noise, setback and monitoring, minimizing, and mitigating potential impacts~~ site permit conditions once amended as supported by the record will provide adequate public health protections, while still allowing for the public health benefits of the proposed Project.

Finding 308

On February 22, 2018, the final day of the evidentiary hearing in this matter, a large piece of ice was thrown from a wind turbine on the Bent Tree Wind Farm, just to the northwest of Albert Lea. The ice struck and damaged a truck being driven on Highway 13 at the time. Freeborn County Commissioner Dan Belshan provided a public comment with information about the incident. Commissioner Belshan estimated that the ice traveled a distance of approximately 300 feet, based on the distance from the truck to the nearest wind turbine.⁴⁷⁴ He provided a document from GE Energy titled, “Ice Shedding and Ice Throw – Risk and Mitigation.”⁴⁷⁵ The GE document recommends that turbines be sited a safe distance from occupied structures, roads, and public use areas to mitigate ice throw risk. Another mitigation suggestion is that turbines be deactivated when site personnel detect ice accumulation on the blades.⁴⁷⁶

The reported incident of ice throw and strike at the Bent Tree Wind Farm was investigated by Bent Tree Wind Farm staff, and the vehicle strike occurrence was never confirmed to have occurred due to turbine ice throw. The reported ice throw and strike occurrence should not be used as evidence of turbine ice throw, and it should not be used to establish turbine setback distances or the need to establish turbine ice accumulation monitoring protocols.

Finding 310

Draft Site Permit Condition 4.4, which provides for a setback of 250 feet from public road ROW and designated public trails (such as the identified snowmobile trail), ~~does not fully address adequately addresses~~ this concern.⁴⁷⁷ The turbine closest to the snowmobile trail (turbine 20) is 538 feet away from the snowmobile trail, ~~far~~ exceeding the minimum setback in the Draft Site Permit (250 feet), as well as the setback required by Section 26-51 of the Freeborn County Ordinance (1.1 times the turbine height), ~~and the likely distance the ice was thrown from the turbine at the Bent Tree Wind farm on February 22, 2018.~~⁴⁷⁸

Finding 311

~~The Administrative Law Judge recommends that, if the Commission issues a Site Permit in this docket, the Site Permit Condition 5.2.25 be amended to require that site personnel inspect any turbines closer than 1200 feet to structures, roads or trails for ice when weather conditions are such that ice is likely to accumulate on turbine blades. To the extent that ice is accumulating on the blades of turbines located within 1200 feet of structures, roads, or trails, the turbines must be deactivated until such time as the turbine blades are free from ice.~~

Finding 312

Aside from the above concern, if the Project is built, construction and operation of the Project is not anticipated to have a significant impact to public safety. The record demonstrates that Freeborn Wind has taken steps to avoid and minimize impacts to public safety. Further, the Draft Site Permit, with the recommended amendments, contains adequate conditions to monitor and mitigate the Project’s potential impacts on public safety.⁴⁷⁹

For example, in accordance with conditions of the Draft Site Permit, Freeborn Wind will 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. Freeborn Wind will also provide any necessary safety measures such as warning signs and gates for traffic control or to restrict public access. In addition, Freeborn Wind will submit the location of all underground facilities to Gopher State One Call after construction is completed.¹

Footnote(s)

1. Draft Site Permit at 13 (January 30, 2018) (eDocket No. 20181-139549-01); see also Id. at 23 (Conditions 10.10 and 10.11).

Finding 324

Commenter Allie Olson advised the Commission that the 34.5 kV transmission lines that would transmit the power generated by the Project could cause interference with the underground copper cables of the Sleepy Eye Telephone Company.⁵⁰⁰ Commenter Kristi Rosenquist also expressed concern that the wind farm's sporadic electricity transmissions over its power lines would interfere with landline service over copper cables.⁵⁰¹ ~~Both Ms. Olson and Ms. Rosenquist refer to prior Commission proceedings where this issue has arisen.⁵⁰²~~

Footnote(s)

~~502. In re AWA Goodhue Wind, LLC's Application for a Certificate of Need for a 78 MW Wind Project and Associated Facilities in Goodhue County, PUC Docket No. IP-6701/CN-09-1186; Large Wind Energy Converters System Site In the Matter of the Application of AWA Goodhue Wind, LLC for a Site Permit for the 78 MW Goodhue Wind Farm in Goodhue County, PUC Docket No. IP-6701/WS-08-1233.~~

Finding 338

The Administrative Law Judge concludes that there is no evidence to support the need for Freeborn Wind to relocate or remove additional turbines in order to minimize the potential for the Project to interfere with AM or FM radio reception.

~~Section 5.2.16 of the site permit prohibits In the event that the Commission issues a Site Permit in this docket, the Administrative Law Judge recommends that Section 5.2.16 be amended to require Freeborn Wind to investigate concerns about from operating the Project in a manner that causes radio interference in violation of Federal Communications Commission regulations or other laws and requires timely measure and mitigation if such caused by the Project. If the Project's operations contribute to the interference should occur, Freeborn Wind must undertake measures to mitigate the interference.~~

Finding 379

If a resident complains of ongoing TV reception interference, Freeborn Wind proposed to do the following:

- a. It will review the Comsearch report to assess whether the impacts are likely Project-related.
- b. If Freeborn Wind believes the impacts are likely projected-related, it will send Mr. Veldman to visit the landowner and determine the current status of TV equipment and reception.
- c. If project-related interference is found, Freeborn Wind will give the landowner an option between having Freeborn Wind install a high gain antenna and/or a low-noise amplifier, or, providing monetary compensation "equal to the cost of comparable satellite TV services at the residence."
- d. If the new equipment restores reception to pre-wind farm operations, the matter will be closed.
- e. If interference remains an issue, Freeborn Wind will offer monetary compensation equal to the cost of comparable satellite TV service.
- f. If the landowner and Freeborn Wind cannot agree to resolve interference issues, Freeborn Wind will report the issue to the Commission's dispute resolution process.⁵⁹⁸

Finding 386

The Administrative Law Judge does not entirely rule out the possibility that, if the Commission issues a Site Permit in this docket, significant numbers of households could experience OTA TV reception interference from the wind farm and concludes that all potentially affected households should receive notice of the wind farm, its potential effects on OTA TV service, Freeborn Wind’s mitigation commitment, and a copy of the site permit and complaint procedure. Freeborn Wind has agreed to expand the notice to include additional potentially affected KAAL viewers. After receiving adequate notice, viewers who experience interference can either initiate the complaint and mitigation procedures, or accept the interference as inconsequential.

Finding 387

Given KAAL’s estimated translator costs of up to \$450,000, and up to three times that amount if a new tower is required,⁶⁰⁶ its demand for Freeborn Wind to incur these costs if a single household is not satisfied by antenna or receiver adjustments, replacements, or by satellite service, is unreasonable. ~~KAAL’s insistence that its OTA TV reception is a matter of life and death because it provides news of weather and other emergencies is overstated.~~ The record demonstrates no problems with AM or FM radio service which can provide emergency weather information to households whose OTA TV and satellite service are both disrupted, one by the Project and the other by the weather.

Finding 434

In public comments and at the public hearing, concerns were raised about the potential for the Project to impact agricultural aerial spraying operations. Commenters Linda Herman, Brian Olson, and Judy Olson expressed concern that farmers would be unable to perform aerial spraying because of the turbines.⁶⁵³

Footnote(s)

653. See Public Hearing Tr. at 82-83 (Feb. 20, 2018) (Rauenhorst) (“I just spray around those wind turbines.”); Public Hearing Tr. at 90 (Feb. 20, 2018) (Thisius) (“[y]ou cannot safely fly within a wind farm.”) Comments by Luke Steier (March 14, 2018) (eDocket No. 20183-140986-01) (“We are asked the question often it seems “do you fly around wind turbines?”. The answer is yes, we work around the 18 wind turbines that make up the Big Blue wind farm near Blue Earth. The answer is no if asked to work in the Bent Tree wind farm or one similar too it.”).

Finding 436A

436.A While the installation of wind turbine towers, aboveground transmission lines and other associated aboveground facilities in active croplands adds the potential for collisions with crop-dusting aircraft, the turbines will be visible from a distance and lighted according to FAA guidelines.¹ Permanent meteorological towers will be freestanding with no guy wires, and temporary meteorological towers with supporting guy wires have been marked with alternating red and white paint at the top and colored marking balls on the guy wires for increased visibility.²

Footnote(s)

- 1. Ex. FR-1 at 59-60 (Application).
- 2. Ex. FR-1 at 60 (Application).

Finding 437

In a previous position, Freeborn Wind employee Mr. Dan Litchfield had has experience, from a previous position, with landowners and the operations team on issues related to aerial spraying. He explained that aerial spraying and seeding only occurs when wind speeds are low. At those speeds,

turbines barely operate, if at all.⁶⁵⁶ Mr. Litchfield testified that best practices are for the wind farm operator and aerial sprayers to coordinate to improve safety for both the pilots and wind farm operations personnel that are working onsite.¹ Mr. Litchfield states that many farmers find aerial applications expensive and inaccurate and use other methods. On behalf of Freeborn Wind, he committed the Applicant would cooperate with landowners in the Project Area to coordinate accommodate aerial spraying activities, which could involve shutting turbines down during spraying.⁶⁵⁷

Footnote(s)

1. Evidentiary Hearing Tr. Vol. Vol 1A at 18-19 (February 21, 2018) (Litchfield).

Finding 438

AFCL argues based on the testimony of John Thisus, a pilot actively in the business of aerial spraying, that Project will result in barring aerial spraying and seeding in the Project Area causing farmers to incur more expense to accomplish these tasks or the project eliminates the option of aerial spraying and seeding.⁶⁵⁸ AFCL provided no testimony witness on the issue of aerial spraying and seeding.

Finding 442

Tier 1, 2, and 3 studies have been completed for the Project. The Tier 1 and 2 studies include preliminary site evaluation and site characterization to identify and characterize habitat and biological resources present within and surrounding the Project Area. These studies also summarize potential species of concern and sensitive ecological areas in the region.⁶⁶⁰

Finding 512

The Administrative Law Judge finds that the Easement Agreement requires that any future owners of any wind energy facilities built as part of the Freeborn Wind Project will be required to bear the costs of decommissioning, as defined in ~~the~~ any Site Permit the Commission grants to Freeborn Wind, to the same extent as Freeborn Wind is required to bear those costs.

Finding 515

AFCL objects to Freeborn Wind's proposal to develop its decommissioning and restoration plan after the Site Permit is issued. AFCL argues notes that Minn. R. 7854.0500, subp. 13 requires these plans be submitted with the application.⁷⁹³ AFCL argues the Commission should deny the permit application because Freeborn Wind has not provided these plans.

Finding 518

The Commission issued its Order Finding Application Complete and Varying Time Limits; Notice and Order for Hearing [Order] on August 31, 2017.⁷⁹⁷ In the Commission Action paragraph, the Order stated, "The Commission concurs with the [Department] that the application is substantially complete. The Commission will, however, direct Freeborn Wind to respond to all reasonable requests regarding the project and to facilitate in every reasonable way the continued examination of the issues by the [Department] and Commission staff." AFCL did not raise its decommissioning and restoration plan concerns in comments prior to the issuance of the Order. No one requested reconsideration of the Order. Accordingly, the Commission's Order is final.

Finding 527

The Administrative Law Judge concludes that the requirements of chapter 7854 are not met unless Freeborn Wind demonstrates its capacity to guarantee it can fund the decommissioning and restoration of its Project prior to commencing construction. Furthermore, the Draft Site Permit contains appropriate conditions to ensure proper decommissioning and restoration of the Project site, with the exception of demonstrating that it has the resources necessary to carry out decommissioning and restoration.⁸⁰⁹

Finding 528

~~The Administrative Law Judge recommends that, if the Commission issues a Site Permit in this docket, Section 11.1 be amended to require that any successors or assigns of Freeborn Wind be obligated to bear the costs of decommissioning to the same extent that Freeborn Wind is, unless Freeborn Wind retains those obligations for itself.~~

Finding 529

Furthermore, if a Site Permit is issued, the Administrative Law Judge recommends that Section 11.1 be amended to require a pre-construction demonstration that the ~~applicant can guarantee that the~~ resources needed for decommissioning and restoration will be available. The Administrative Law Judge recommends that the Commission provide the public notice of Freeborn's submission ~~as required by Minn. R. 7854.0900. In future wind farm site permit proceedings, an applicant should provide this information in its initial filings along with the notice required by Condition 5.1 of the Site Permit.~~

Finding 544

The Administrative Law Judge recommends that ~~Section 5.2 of~~ the Draft Site Permit should be amended to include a special condition, as follows:

Freeborn Wind must provide notice which includes a description of the Project's potential to interfere with OTA TV service, Freeborn Wind's mitigation program, and availability copies of the Site Permit and Complaint Procedure to households in the following areas:

- All households in "at risk" areas identified for all six local television stations, as identified in Appendix D of the Site Permit Application; ~~and~~
- Each local government office household in the communities of Albert Lea, Northwood, Silver Lake, Gordonsville, Glenville, Hayward, and Moscow; ~~and~~
- Local over-the-air television broadcasters serving the Project area.

Finding 546

~~The Administrative Law Judge recommends that~~ Special Condition Section 7.2 of the Site Permit should be revised adopted as recommended by [the Department]. ~~with one modification:~~

Draft Site Permit Section 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 potentially subject to turbine shadow flicker exposure. 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.

Shadow flicker detection systems will be utilized during project operations to monitor shadow flicker exposure at receptor locations that were anticipated to receive over ~~30~~ 27 30 hours of shadow flicker per year. The Permittee will submit a Shadow Flicker Monitoring and Management Plan at least 14 days prior to the pre-construction meeting. The Shadow Flicker Monitoring and Management Plan will detail the placement and use of any shadow flicker detection systems, how the monitoring data will be used to inform turbine operations, and a detailed plan of when and how

turbine operations will be adjusted to mitigate shadow flicker exposure exceeding 30 hours per year at any one receptor. The results of shadow flicker monitoring and mitigation implementation will be reported by the Permittee in the Annual Project Energy Production Report identified in Section 10.8 of this Permit.

Finding 548

~~In light of the revised total noise predictions, and the lack of evidence that Freeborn Wind took the required 500 additional feet into account in establishing residential setbacks, the Administrative Law Judge recommends that Draft Site Permit Condition 4.2 be amended to require Residential setbacks of 1500 feet for all non-participating landowners.⁸¹⁸~~

Footnote(s)

~~818. There are four non-participating landowners with setbacks of less than 1500 feet. Ex. FR 4 at 19 (Litchfield Direct).~~

Finding 549

~~The Administrative Law Judge recommends that Site Permit Section 5.2.25 be amended as follows: Site personnel shall inspect any turbines located closer than 1,200 feet to structures, roads, or trails for ice when weather conditions are such that ice is likely to accumulate on turbine blades. To the extent that ice is accumulating on the blades of turbines located within 1,200 feet of structures, roads, or trails, the turbines shall be deactivated until such time as the turbine blades have been re-inspected and found free from ice.~~

Finding 550

~~The Administrative Law Judge recommends that Special Conditions Section 11.1 be amended as follows:~~

~~Any successors or assigns of Freeborn Wind will be obligated to bear the costs of decommissioning to the same extent that Freeborn Wind is, unless Freeborn Wind retains those obligations, in writing, to itself.~~

Finding 551

The Administrative Law Judge recommends that Special Conditions Section 11.1 be amended to require:

The Applicant must demonstrate, at least 45 prior to the scheduled start of construction, ~~that it can guarantee~~ that the resources needed for decommissioning and restoration will be available.

Attachment B: Summary of Public Hearing Comments

I. Party Appearances and Opening Statements

11. Kevin Parzyck appeared on behalf of Freeborn Wind. Mr. Parzyck, Vice President for Development for Invenergy an acoustical engineer, stated that he ~~conducted is responsible for Invenergy's renewable development in the Midwest including the Project studies on the project to demonstrate compliance with the Minnesota standards.~~¹⁰

13. Mark Roberts appeared on behalf of Freeborn Wind. Dr. Roberts, a physician and epidemiologist, stated he is a consultant regarding "various exposures to communities and industrial settings."¹² ~~Dr. Roberts is an environmental permit manager with Invenergy, who oversaw the wildlife and natural resources surveys in the project area.~~¹³

In the Matter of Freeborn Wind Energy LLC
for a Large Wind Energy Conversion System
Site Permit for the 84 MW Freeborn Wind
Farm in Freeborn County

DOCKET NO. IP-6946/WS-17-410

ORDER ISSUING SITE PERMIT
AND TAKING OTHER ACTION

Attachment 2: Site Permit

STATE OF MINNESOTA PUBLIC UTILITIES COMMISSION

**SITE PERMIT FOR A
LARGE WIND ENERGY CONVERSION SYSTEM**

**IN
FREEBORN COUNTY**

**ISSUED TO
FREEBORN WIND ENERGY LLC**

PUC DOCKET NO. IP-6946\WS-17-410

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

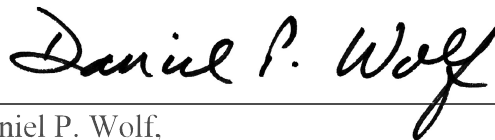
FREEBORN WIND ENERGY LLC

The Permittee is authorized by this site permit to construct and operate an up to 84 megawatt nameplate capacity Large Wind Energy Conversion System in Freeborn 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 30 years from the date of this approval.

Approved and adopted this 19th day of December, 2018.

BY ORDER OF THE COMMISSION



Daniel P. Wolf,
Executive Secretary

To request this document in alternative formats, such as large print or audio, call 651-296-0406 (voice). Persons with a hearing or speech impairment may call us through their preferred Telecommunications Relay Service or email consumer.puc@state.mn.us for assistance.

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ATTACHMENTS

Official Site Permit Maps

Attachment A - Complaint Procedures for Permitted Energy Facilities

Attachment B - Compliance Filing Procedures for Permitted Energy Facilities

1.0 SITE PERMIT

The Minnesota Public Utilities Commission (Commission) hereby issues this site permit to Freeborn Wind Energy LLC (Permittee) pursuant to Minnesota Statutes Chapter 216F and Minnesota Rules Chapter 7854. This permit authorizes the Permittee to construct and operate the Freeborn Wind Farm (Project), an 84 megawatt (MW) nameplate capacity Large Wind Energy Conversion System (LWECS) and associated facilities in Freeborn County. The LWECS and associated facilities shall be built within the site identified in this permit and as identified in the attached official 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 Freeborn Wind Farm, when fully constructed and operational will have a nameplate capacity up to 200 MW, of which, 84 MW will be located in Freeborn County, Minnesota and the remaining 106 MW will be located in Worth County, Iowa. The Project will consist of 42 2-MW wind turbines, consisting solely of one turbine model or a combination of turbine models, which may include Vestas V110 and Vestas V116 as identified in the Permittee's Site Permit Application.

The project area includes approximately 26,273 acres of land, of which the Project currently holds leases on 17,435 acres. Upon completion, the project site will include no more than 100 acres of land converted to wind turbines and associated facilities approved by this site permit.

2.1 Associated Facilities

Associated facilities for the Project will include access roads, an operations and maintenance (O&M) facility, project substation, permanent meteorological tower and associated weather collection data systems, electrical collection lines, and fiber optic communication lines.

The Project substation will interconnect to the Glenworth Substation with an approximately seven mile long 161 kilovolt (kV) high voltage transmission line (HVTL). The Freeborn Wind Transmission Line Project 161 kV HVTL is under PUC Docket No. IP6946/TL-17-322, and issuance of the HVTL Route Permit is independent of this site permit process.

2.2 Project Location

The project is located in the following:

| County | Township Name | Township | Range | Section |
|----------|---------------|----------|-------|-------------------------------|
| Freeborn | Hayward | 102 | 20 | 12-15, 22-26, 35, 36 |
| Freeborn | London | 101 | 19 | 13, 14, 19-24, 27-33 |
| Freeborn | Oakland | 102 | 19 | 7-9, 16-21 |
| Freeborn | Shell Rock | 101 | 20 | 1, 2, 8, 11-17, 21-28, 35, 36 |

3.0 DESIGNATED SITE

The site designated by the Commission for the Freeborn Wind Farm is the site depicted on the official 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. Wind rights or easements have been obtained by the Permittee and include approximately 17,435 acres of land under easement and with participation agreements.

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 and the nearest designated public trail.

4.5 Public Lands

Wind turbines and associated facilities including foundations, access roads, underground cable, and transformers, shall not be located in publicly-owned lands that have been designated for recreational or conservation purposes, including, but not limited to, Waterfowl Production Areas, State Wildlife Management Areas, Scientific and Natural Areas or county parks, except in the event that the public entity owning those lands enters into a land lease and easement with the Permittee. Wind turbine 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.

4.7 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 Wind Turbine Towers.

Structures for wind turbines shall be self-supporting tubular towers. The towers may be up to 80 meters (262.5 feet) above grade measured at hub height.

4.9 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.

4.10 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 deploy/attach acoustic recording devices to monitor wildlife activity.

4.11 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.

4.12 Footprint Minimization

The Permittee shall design and construct the LWECs so as to minimize the amount of land that is impacted by the LWECs. Associated facilities in the vicinity of turbines such as electrical/electronic boxes, transformers, and monitoring systems shall, to the greatest 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, county auditor and 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 comply with the construction practices, operation and maintenance practices, and material specifications described in the Freeborn Wind Farm Site Permit Application for a LWECS filed with the Commission on June 15, 2107, and the record of the proceedings unless this permit establishes a different requirement in which case this permit shall prevail.

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 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

The Permittee shall file with the Commission the name, address, email, phone number, and emergency phone number of the site manager 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 Construction Stormwater Program.

If construction of the facility disturbs more than one acre of land, or is sited in an area designated by the Minnesota Pollution Control Agency 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 Minnesota Pollution Control Agency that provides for the development of a Stormwater Pollution Prevention Plan (SWPPP) that describes methods to control erosion and runoff.

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 shall be graded as required so 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.

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, in accordance with all applicable wetland permits. Restoration of the wetlands will be performed by the 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 project 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 employ best management practices to avoid the potential spread of invasive

species on lands disturbed by project construction activities. The Permittee shall develop an Invasive Species Prevention Plan to prevent the introduction and spread of invasive species on lands disturbed by project construction activities and file with the Commission 14 days prior to the pre-construction meeting.

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. To the extent possible, the Permittee shall use native seed mixes.

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 ditches without required permits and approvals. When access roads are constructed across streams, drainage ways, or drainage ditches, 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 or drainage ditches shall be designed and constructed in a manner that maintains existing fish passage. Access roads that are constructed across grassed waterways, which provide drainage for surface waters that are ephemeral in nature, are not required to maintain or provide fish passage. Access roads shall be constructed in accordance with all necessary township, county or state road requirements and

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 and 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 landowner.

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

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 LW ECS 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. At least 14 days prior to the preconstruction meeting, the Permittee shall submit a filing demonstrating that it has obtained such permits. The Permittee shall provide a copy of any such permit upon Commission request.

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 SPECIAL CONDITIONS

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

6.1 Pre-Construction Noise Modeling

Freeborn Wind Energy LLC shall file a plan, including modeling and/or proposed mitigation, at least 60 days prior to the pre-construction meeting that demonstrates it will not cause or significantly contribute to an exceedance of the MPCA Noise

To ensure that the turbine-only noise does not cause or significantly contribute to an exceedance of the MPCA Noise Standards, modeled wind turbine-only sound levels (NARUC ISO 9613-2 with 0.5 ground) at receptors shall not exceed 47 dB(A) L₅₀-one hour. Given this, at no time will turbine-only noise levels exceed the MPCA Noise Standards, and when total sound does exceed the limits it will be primarily the result of wind or other non-turbine noise sources. Under these conditions, the contribution of the turbines will be less than 3 dB(A), which is the generally recognized minimum detectible change in environmental noise levels (non-laboratory setting). For example, when nighttime background sound levels are at 50 dB(A) L₅₀-one hour, a maximum turbine-only contribution of 47 dB(A) L₅₀-one hour would result in a non-significant increase in total sound of less than 3 dB(A).

6.2 Post-Construction Noise Modeling

If the Noise Studies conducted under Section 7.4 document an exceedance of the MPCA Noise Standards where turbine-only noise levels produce more than 47 dB(A) L₅₀-one hour at nearby receptors, then the Permittee shall work with the Department of Commerce to develop a plan to minimize and mitigate turbine-only noise impacts.

7.0 SURVEYS AND REPORTING

7.1 Biological and Natural Resource Inventories

The Permittee, in consultation with the Commission and the 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 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 potentially subject to turbine shadow flicker exposure. 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. A Shadow Flicker Management Plan will be prepared by the Permittee, which will include the results of any shadow flicker modeling, assumptions made, levels of exposure prior to implementation of planned minimization and mitigation efforts, planned minimization and mitigation efforts, and planned communication and follow up with residence. The Shadow Flicker Management Plan shall be filed with the Commission at least 14 days prior to the pre-construction meeting to confirm compliance with conditions of this permit.

Should shadow flicker modeling identify any residence that will experience in 30 hours, or more, of shadow flicker per year, the Permittee must specifically identify these residences in the Shadow Flicker Management Plan. If through minimization and mitigation efforts identified in the Shadow Flicker Management Plan the Permittee is not able to reduce a residence's anticipated shadow flicker exposure to less than 30 hours per year a shadow flicker detection systems will be utilized during project operations to monitor shadow flicker exposure at the residence. The Shadow Flicker Management Plan will detail the placement and use of any shadow flicker detection systems, how the monitoring data will be used to inform turbine operations, and a detailed plan of when and how turbine operations will be adjusted to mitigate shadow flicker exposure exceeding 30 hours per year at any one receptor. The results of any shadow flicker monitoring and mitigation implementation will be reported by the Permittee in the Annual Project Energy Production Report identified in Section 10.8 of this Permit.

Commission staff and EERA staff will be responsible for the review and approval of the Shadow Flicker Management Plan. The Commission may require the Permittee to conduct shadow flicker monitoring at any time during the life 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 Studies

7.4.1 Pre-Construction Demonstration of Compliance with Noise Standards

Freeborn Wind Energy LLC shall file a plan, including modeling and/or proposed mitigation, at least 60 days prior to the pre-construction meeting that demonstrates it will not cause or significantly contribute to an exceedance of the state noise standards using the

1. If background sound levels are less than the applicable standard at nearby receptors, the modeled turbine-only noise levels cannot cause an exceedance of the applicable state standard at nearby receptors, inclusive of the measured background noise level. "Cause" means that the project turbine-only contribution is in excess of the applicable state standard.
2. If background sound levels are equal to or greater than the applicable state standard at nearby receptors, the windfarm shall not contribute more than 45 dB(A) to total sound levels at the nearby receptors. Therefore, for example, when nighttime background sound levels are at 50 dB(A), a maximum turbine-only contribution of 45 dB(A) would result in a non-significant increase in total sound of 1 dB(A).

7.4.2 Post-Construction Noise Monitoring

The Permittee shall 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 most current Department of Commerce Noise Study Protocol to determine total sound levels and turbine-only contribution 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 12 months of commencing commercial operation.

A post-construction noise study must be made, commencing as soon as the Project begins operations, and continuing for the first 12 months of its operation. The study shall be conducted by an independent consultant selected by the Department of Commerce at Freeborn Wind's expense. The independent consultant shall assist the Department of Commerce in developing a study methodology upon consultation with the Minnesota Department of Health and Minnesota Pollution Control Agency. 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. In addition, the study must demonstrate the extent to which turbine-only noise contributes to the overall decibel level. Special attention should be paid to receptors predicted to experience the highest turbine noise levels. The completed post-construction noise study shall be filed with the Commission within 14 months after the Project becomes operational.

If the monitored turbine-only noise level is determined to be greater than the Minnesota State Noise Standard at nearby receptors or if the background sound levels exceed the Minnesota State Noise Standards and the turbine-only contribution exceeds 45 dB(A), the Permittee

shall work with the Department of Commerce to develop a plan to minimize and mitigate turbine-only noise impacts.

7.5 Avian and Bat Protection

7.5.1 Avian and Bat Protection Plan

The Permittee shall comply with the provisions of the Avian and Bat Protection Plan (ABPP) submitted for this project as Appendix H of the June 15, 2017 site permit application and revisions resulting from the annual audit of ABPP implementation. The first annual audit and revision will be filed with the Commission 14 days before the preconstruction meeting and revisions should include any updates associated with final construction plans. 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 day 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 listing; 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 with the Commission within seven days, 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 Operational Curtailment

The Permittee shall operate all facility turbines so that all turbines are locked, or feathered, up to the manufacturer's standard cut-in speed from one-half hour before sunset to one-half hour after sunrise of the following day, from April 1 to October 31 of each year of operation.

All operating turbines at the facility must be equipped with operational software that is capable of allowing for adjustment of turbine cut-in speeds.

7.5.5 Karst Geology Investigations

Should initial geotechnical and soils testing at proposed turbine locations identify areas with karst bedrock within 50 feet or less of the soil surface, which may lead to sinkhole formation, additional geotechnical investigations will be performed to insure the area safe for the construction of a wind turbine.

Additional geotechnical investigations may include the following:

1. A geophysical investigation (electrical resistivity) to explore for voids in the bedrock.
2. Soil/bedrock borings to check and confirm the results of the electrical resistivity survey.
3. A series of electric cone penetrometer (CPT) soundings if the potential for loose zones in the soil overburden are suspected.

The Permittee must file with the Commission, a report for all geotechnical investigations completed. The reports must include methodology, results, and conclusions drawn from

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

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 and the Freeborn County Environmental Services 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 affected landowners and city and town clerks that the site plan is on file with the Commission and Freeborn County Environmental Services 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 Permittee may not commence construction until the 30 days has expired or until 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, the Freeborn County Environmental Services Office, city and town clerks, and the affected landowners 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 human and 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 turbine site. Under these circumstances, the Permittee shall notify the Commission, the Department, the Minnesota Pollution Control Agency, the Minnesota Department of Natural Resources, the Freeborn County Environmental Services Office, city and town clerks, and the affected landowners of any turbines that are to be relocated, and provide the previously unidentified environmental conditions and how the movement of the turbine mitigates the human and environmental impact at least five days before implementing the changes. No changes shall be made that would be in violation of any terms of this permit.

10.4 Status Reports

The Permittee shall file status reports with the Commission on progress regarding site construction. The Permittee need not report more frequently than monthly. Reports shall begin with the commencement of site construction and continue until completion of site restoration.

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

10.7 GPS Data

Within 90 days after completion of construction, the Permittee shall submit to the Commission, in the format requested by the Commission, geo-spatial information (e.g., ArcGIS compatible

map files, GPS coordinates, associated database of characteristics) for all structures associated with the large wind energy conversion system.

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 60 days prior to the pre-operation meeting, and provide updates to the plan every five 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, subp. 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, substations, 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 demonstrate that it will 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 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. If done, this permit may be modified, after notice and opportunity for public hearing, to represent the actual site required by the Permittee to operate the Project authorized by this permit.

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

This permit may be amended at any time by the Commission 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

The Permittee may request at any time that the Commission transfer this permit to another person or entity. The Permittee shall provide the name and description of the person or entity to whom the permit is requested to be transferred, the reasons for the transfer, a description of the facilities affected, and the proposed effective date of the transfer. The person to whom the permit is to be transferred shall provide the Commission with such information as the Commission shall require to determine whether the new Permittee can comply with the conditions of the permit. The Commission may authorize transfer of the permit after affording the Permittee, the new Permittee, and interested persons such process as is required. 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 10.5, 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 immediately 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* 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

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

15.0 REVOCATION OR SUSPENSION OF PERMIT

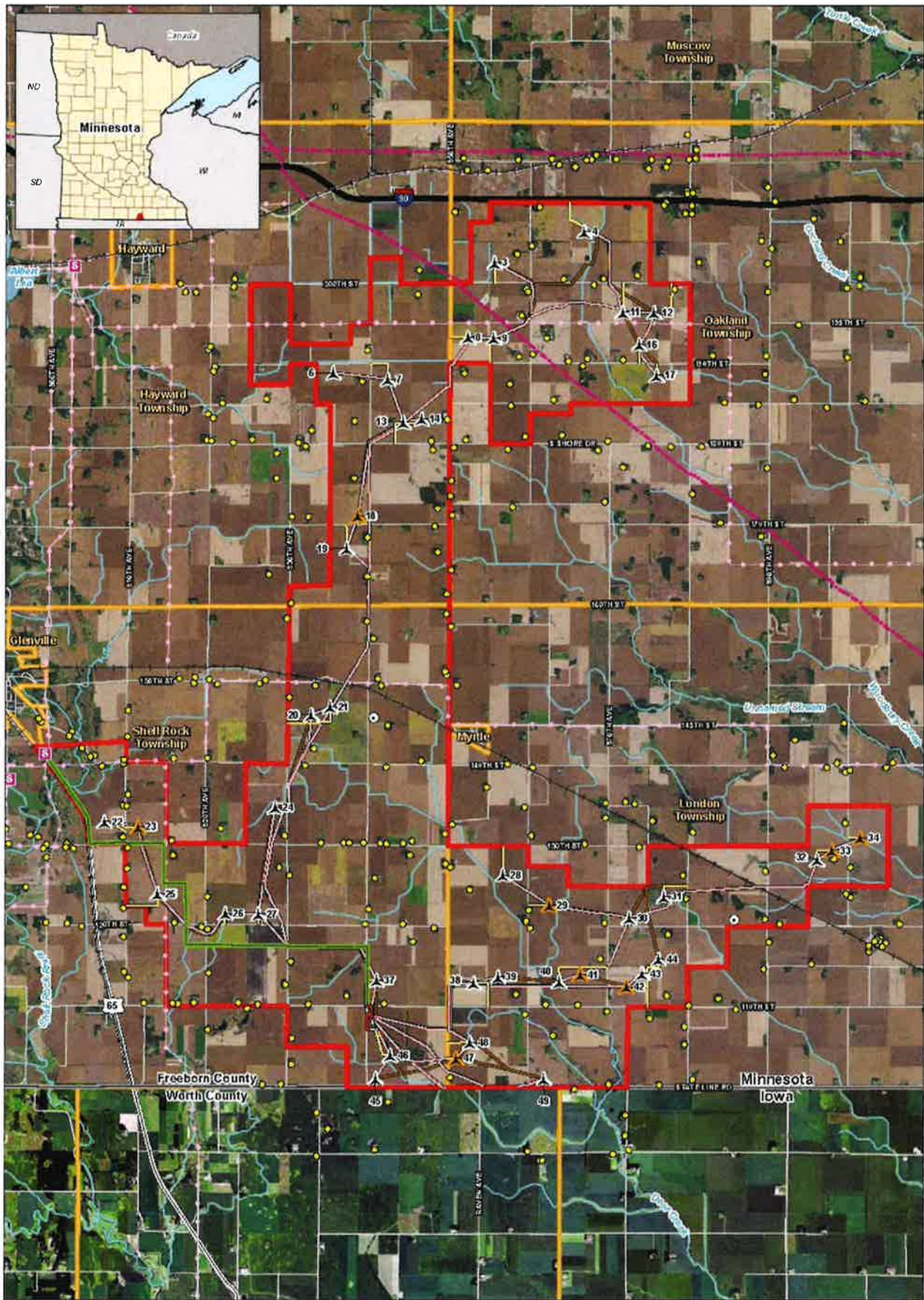
The Commission may take action to suspend or revoke this permit upon the grounds that:

- (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.



0.5 Miles
1 inch = 1 miles

Figure 3
Project Area and Facilities
Freeborn Wind Farm
Freeborn County, MN

- Vestas V110-2.0
- Vestas V116-2.0
- Residential Structure
- Permanent Met Tower
- Project Boundary
- O & M and Project Substation
- River/Stream
- Lake, Pond or Reservoir
- Existing Substation
- Existing Pipeline
- Existing Transmission Une
- Access Road
- Collection Une
- Crane Path
- Proposed Transmission Line

**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, television or communication signals, 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.

Person: 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://www.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 be filed by mail or email to:

Dan Litchfield, Project Developer
120 East Main Street
Glenville, MN 55036
(312) 582-1057
freebornwind@invenergyllc.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/home.jsp>

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.

PERMIT COMPLIANCE FILINGS¹

PERMITTEE: Freeborn Wind Energy LLC
 PERMIT TYPE: LWECS Site Permit
 PROJECT LOCATION: Freeborn County
 PUC DOCKET NUMBER: IP6946\WS-17-410

| Filing Number | Permit Section | Description of Compliance Filing | Due Date |
|---------------|----------------|--|--|
| 1 | 4.7 | Prairie Protection and Management Plan | 30 days prior to submitting Site Plan, as deemed necessary |
| 2 | 4.12 | Notification to Airports | Prior to project construction |
| 3 | 5.1 | Notification of Permit and Complaint Procedures | 30 days of permit issuance |
| 4 | 5.2.1 | Field Representative | 14 days prior to commencing construction |
| 5 | 5.2.2 | Site Manager | 14 days prior to commercial operation |
| 6 | 5.2.6 | National Pollutant Discharge Elimination System (NPDES)/State Disposal System (SDS) Construction Stormwater Permit | In accordance with Minnesota Pollution Control Agency |
| 7 | 5.2.9 | Notification of Pesticide Application | 14 days prior to application |
| 8 | 5.2.10 | Invasive Species Protection Plan | 14 days prior to pre-construction meeting |
| 9 | 5.2.12 | Identification of Roads | 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.

| Filing Number | Permit Section | Description of Compliance Filing | Due Date |
|---------------|----------------|--|---|
| 10 | 5.2.16 | Assessment of Television and Radio Signal Reception, Microwave Signal Patterns, and Telecommunications | 14 days prior to pre-construction meeting |
| 11 | 5.2.21 | Site Restoration | 60 days after completion of restoration |
| 12 | 5.2.25 | Public Safety/Education Materials | Upon request |
| 13 | 5.4 | Engineered Drawings of Collector and Feeder Lines | Submit with the Site Plan |
| 14 | 5.5.2 | Filing Regarding Other Required Permits | 14 days prior to pre-construction meeting |
| 15 | 7.1 | Biological and Natural Resource Inventories | 30 days prior to pre-construction meeting |
| 16 | 7.2 | Shadow Flicker Data | 14 days prior to pre-construction meeting |
| 17 | 7.3 | Wake Loss Studies | 14 days prior to pre-construction meeting and annual wake loss with annual report |
| 18 | 7.4 | Post-Construction Noise Methodology | 14 days prior to pre-construction meeting |
| 19 | 7.4 | Post-Construction Noise Study | 14 months of commercial operation |
| 20 | 7.5.1 | First Annual Audit and Revision of Avian and Bat Protection Plan | 14 days prior to pre-construction meeting |
| 21 | 7.5.1 | Annual Report - Avian and Bat Protection Plan | 15th of March each year or partial year |

| Filing Number | Permit Section | Description of Compliance Filing | Due Date |
|---------------|----------------|----------------------------------|--|
| 22 | 7.5.2 | Quarterly Incident Reports | 15th of January, April, July, and October the day following commercial operation |
| 23 | 7.5.3 | Immediate Incident Reports | 24 hours of discovery and a report within 7 days |
| 24 | 8.1 | Demonstration of Wind Rights | 14 days prior to pre-construction meeting |
| 25 | 8.2 | Power Purchase Agreement | If not obtained within two years issuance of permit |
| 26 | 8.3 | Failure to Construct | If within two years issuance of permit |
| 27 | 10.0 | Complaint Procedures | Prior to start of construction |
| 28 | 10.1 | Pre-Construction Meeting Summary | 14 days following meeting |
| 29 | 10.2 | Pre-Operation Meeting Summary | 14 days following meeting |
| 30 | 10.3 | Site Plan | 14 days prior to pre-construction meeting |
| 31 | 10.4 | Construction Status Reports | Monthly |
| 32 | 10.5 | Commercial Operation | 3 days prior to commercial operation |
| 33 | 10.6 | As-Builts | 90 days after completion of construction |

| Filing Number | Permit Section | Description of Compliance Filing | Due Date |
|---------------|----------------|----------------------------------|--|
| 34 | 10.7 | GPS Data | 90 days after completion of construction |
| 35 | 10.8 | Project Energy Production | February 1st following each complete or partial year of project operation |
| 36 | 10.9 | Wind Resource Use | February 1st following each complete or partial year of project operation |
| 37 | 10.10 | Emergency Response Plan | 14 days prior to pre-construction meeting and revisions 14 days prior to pre-operation meeting |
| 38 | 10.11 | Extraordinary Event | Within 24 hours of discovery |
| 39 | 11.1 | Decommissioning Plan | 60 days prior to pre-operation meeting |
| 40 | 14.0 | Notice of Ownership | 14 days after operation |

**BEFORE THE
MINNESOTA PUBLIC UTILITIES COMMISSION**

**Nancy Lange
Dan Lipschultz
Matt Schuerger
Katie Sieben
John A. Tuma**

**Chair
Commissioner
Commissioner
Commissioner
Commissioner**

In the Matter of the Application of Freeborn
Wind Energy, LLC for a Large Wind Energy
Conversion System Site Permit for the 84
MW Freeborn Wind Farm in Freeborn County

PUC Docket No. IP6946/WS-17-410

**ASSOCIATION OF FREEBORN COUNTY LANDOWNERS
PETITION FOR RECONSIDERATION**

Association of Freeborn County Landowners (AFCL), intervenor in the above-captioned docket, and participant in the concurrent transmission siting docket (IP6946/TL-17-322), bring this Motion for Reconsideration of the Commission’s decision to grant a site permit to Invenergy’s Freeborn Wind project, deliberated by the Commission on September 20, 2018, and the Order filed on December 19, 2018. Minn. Stat. §216B.27; Minn. R. 7829.3000. This is an issue of first impression, where for the first time, a contested case proceeding had been ordered for a wind project application, where review was under the auspices of the Power Plant Siting Act, and coincidentally, this is the first time that an Administrative Law Judge has recommended the permit be denied. Or not coincidentally... The evidence shows that the project could not

demonstrate it could and would comply with state noise regulation. Because it can't demonstrate it can comply, no permit should be granted. To grant a permit in such a situation without that demonstration, and to push that demonstration to a future "pre-construction meeting" is legal error.

AFCL brings this Petition for Reconsideration and requests the Commission reconsider its decision and amend its Order to adopt the Recommendation of the Administrative Law Judge and deny the permit. In the alternative, AFCL requests that the Commission reconsider its decision and table this docket until the Applicant provides a solid demonstration that it can and will comply with state standards, and that demonstration is filed and receives due process, that it is made public and is subject to iterative Comment and agency review.

Reconsideration is appropriate where there are errors of law, and there are errors of law in this case. The Order granted Freeborn Wind a site permit, but did so without noise modeling that demonstrates that the project will comply with Minnesota's noise standards. The noise modeling provided by the applicants in its application, and the ambient noise monitoring provided after the hearing as requested by the ALJ, was disregarded, and the permit was granted on the basis of modeling to be provided in the future with unknown results. The permit was also granted on a last minute proposed condition filed by the applicants, and based on a handout shown and discussed by the applicant but not visible on the screen, no handouts were provided, it was not filed subsequent to the Commission meeting, and the exhibit had to be requested, at which time it was filed, days later. This "exhibit" is not in the record. The modeling is not in the record, and the Commission's Order is unsupported by the evidence, and in fact, contrary to the evidence.

The ALJ's Recommendation was filed, May 14, 2018, recommending denial of the

permit, or that Freeborn Wind be granted time to submit noise modeling demonstrating it would comply with Minnesota noise standards. During the hearing, the ALJ had requested the applicant comply with Commerce guidance and provide ambient noise modeling, which they did in one week. Here, the Applicants had from May 14, 2018 until the Commission meeting on September 20, 2018, and yet they filed absolutely nothing to provide the Commission with a basis for finding that they would comply with the noise standard. At the last minute, in a full court press with Commerce and the MPCA, Applicant produced a promise and a piece of paper. The Commission's decision is unsupported by substantial evidence in the record, and is far in excess of its authority, pulling a permit out of thin air.

I. RECONSIDERATION AND STANDARD OF REVIEW

Reconsideration is appropriate where there are new issues, new and relevant evidence, errors or ambiguities in the prior order, or when the Commission is otherwise persuaded that it should rethink the decisions set forth in its order, which the Commission may take up on its own, or upon a petition setting out specific grounds or errors. Minn. Stat. §216B.27, Subd. 2; Minn. R. 7829.300, Subp. 2.

The appellate court may reverse or remand an agency decision if it is a) in violation of constitutional provisions; b) in excess of the statutory authority or jurisdiction of the agency; c) made upon unlawful procedure; d) affected by other error of law; e) unsupported by substantial evidence in view of the entire record as submitted; or f) arbitrary and capricious. Minn. Stat. §14.69.

An agency's decision will be deemed arbitrary or capricious if "its determination represents its will and not its judgment." *Id.* It will also be deemed arbitrary and capricious if the agency relied on factors which the legislature had not intended it to consider, if it entirely

failed to consider an important aspect of the problem, if it offered an explanation for the decision that runs counter to the evidence, or if the decision is so implausible that it could not be ascribed to a difference in view or the product of agency expertise. *Trout Unlimited, Inc. v. Minn. Dep't of Agric.*, 528 N.W.2d 903, 907 (Minn. App. 1995), *review denied* (Minn. Apr. 27, 1995). In this case, the Commission was intent on granting a permit, contrary to the Recommendation of the Administrative Law Judge, and despite the ALJ's finding that the Applicant had not demonstrated it would comply with noise standards, then granted a permit without any demonstration that the applicant could indeed comply with state noise standards. Further, it granted a permit and allowed for modeling to be provided after the permit was issued, just 14 days prior to a pre-construction meeting, with no opportunity for public review, comment, or cross-examination. This decision is counter to the evidence, and beyond the authority of the Commission. The Order is in excess of the Commission's statutory authority; it is made upon unlawful procedure and legal errors; is unsupported by substantial evidence; and is arbitrary and capricious.

Association of Freeborn County Landowners asks for Reconsideration of the Commission's Order in this matter of first impression, and for modification of the Order in several specific ways to result in an Order supported by the law and facts of this case.

II. THE LEGAL STANDARD FOR WIND SITING PERMIT

The Commission makes an error of law in issuing the Site Permit. In this case of first impression, the Site Permit cites only Minn. Stat. Ch. 216 F and Minn. R. Ch. 7854. There is no mention of the Power Plant Siting Act and the PPSA siting factors. Minn. Stat. §216E.03, Subd. 7. The Draft Site Permit was the same, only citing Minn. Stat. Ch. 216 F and Minn. R. Ch. 7854 despite a specific request/warning during the hearing to include Minn. Stat. §216E.03, Subd. 7.

Davis, Tr. Vol. 2, p. 158-170.

Under Minnesota's Chapter 216F, Wind Energy Conversion Systems, wind projects are granted exemptions from the Power Plant Siting Act, except for several sections which do apply, most notably the siting criteria of the Power Plant Siting Act's (PPSA) Minn. Stat. §216E.03, Subd. 7.

216F.02 EXEMPTIONS.

(a) The requirements of chapter 216E do not apply to the siting of LWECS, except for sections 216E.01; **216E.03, subdivision 7**; 216E.08; 216E.11; 216E.12; 216E.14; 216E.15; 216E.17; and 216E.18, subdivision 3, which do apply.

Minn. Stat. §216F.02 (emphasis added).

In addition to being the first wind project sited using a contested case proceeding, the Freeborn Wind Project's application is the first project in Minnesota to be sited under the umbrella of Minn. Stat. §216E.03, Subd. 7 siting criteria. In testimony, the Commerce project manager had no idea what Minn. Stat. 216E.03, Subd. 7 was and why it should be incorporated into the permit. EERA proved unequipped to evaluate the Freeborn Wind proposal because Davis was not familiar with the criteria to review this project and upon which permitting would be based. When asked about adding the statutory criteria to the parts of EERA Comments and Recommendations and the Draft Site Permit addressing authority and citing only Minn. Stat. Ch 216F and Minn. R. 7854, Davis stated that he wasn't clear why a reference to Minn. Stat. §216E.03, Subd. 7 should be added to the Comments and Recommendations and Draft Site Permit. Davis, Tr. Vol. 2, p. 158-170.

I would question whether our permit does not meet that already and our review does not meet that.

Davis, Tr. Vol. 2, p. 169, l. 19-22.

It should be noted that the Commission and Commerce-EERA have been siting wind projects using small wind siting standards, designed for projects under 25 MW and for use by counties if a project is small and locally sited. These “siting standards” are vague and variable, and setbacks for residences are established in the site permit using boilerplate language. Despite Commerce-EERA claims that “[t]he rules to implement the permitting requirements for LWECs are in Minn. Rule 7854,” that is false. There are no statutory siting criteria or rules for siting. See Minn. Stat. Ch. 216F; Minn. R. ch. 7854, cited on the first page of the Freeborn Wind site permit.. There are siting standards which were developed a decade ago for small wind, in a rushed hybrid process that was not a rulemaking. AFCL-8, Wind Siting Standards (Unique ID # [4897855](#)); see PUC Docket No. E,G-999/M-07-1102. Commerce uses a boilerplate site permit, with setbacks set at 1,000 feet. The origin of that distance? From the hearing:

The origin of the commonly used 1,000 foot setback, as found in Section 4.2 of the Freeborn Wind draft Site Permit, is not based in statute, rule, or standards, is arbitrary and is unknown:

Q: ... it lists 1,000 feet as a setback from residences. Where does that number come from? It's for the SDP template. Where do you get that number?

A: For the template or for what we've submitted for the preliminary?

Q: Both, really. But where do you get – where does the thousand foot come from?

A: Thousand foot. I don't know exact – the exact location of where that comes from. But in the most recent site permit applications that have been approved in the most recent site permits that have been issued by the Commission, that has been the standard distance that they've approved, along with the consideration of noise standards being met.

Davis, Vol. 2, p. 171-173; see also EERA-8, DSP, p. 3.

The residential setback for the Freeborn Wind project is 1,000 feet. Permit, §4.2, p. 2.

There is no basis for this number in the record – it is not supported by evidence.

This use of the PPSA siting criteria was raised in the proceeding, it was properly addressed by the Administrative Law Judge, but Commission's Site Permit's silence makes this

error of law.

II. A PROJECT MUST DEMONSTRATE ABILITY TO COMPLY WITH STATE REGULATIONS

The Commission's decision, while claiming to adopt the Recommendation of the Administrative Law Judge, turns it full circle by permitting the project with no demonstration of ability to comply until the pre-construction meeting. Order, p. 29. The Commission misstates the MPCA's noise rule, and alters Findings to backwards engineer the desired result, and pulls numbers out of the air – the Order and the amended Findings are arbitrary and capricious.

Throughout the hearing, Invenergy/Freeborn Wind repeated the mantra that their sound studies were conservative, in large part due to the modeling assumption for the ground factor, set at 0.0, and the 3 dBA margin of error. Tr. Vol. 1B at 64-65, 115-116. The ground factor used of 0.0 was frequently raised in filings, written and oral testimony, and in briefs. From Hankard's Pre-Construction Noise Analysis:

A ground factor of **0.0** represents a completely reflective surface such as pavement, which would result in a higher level of sound reaching a receiver. A ground factor of 1.0 represents absorptive ground such as thick grass or fresh snow, resulting in a lower level of sound reaching the receiver. For this Project, a ground factor of 0.0 (completely reflective) was used to be conservative. Actual ground conditions could, at rare times, be 0.0 when the ground is completely frozen and bare, but would generally be closer to 0.5 when the ground is covered with vegetation or is bare and unfrozen.

Ex. A, Application, Appendix B, Pre-Construction Noise Analysis, p. 12; see also FoF 230-231, 234 (& fn. 364), 236-237.

At the last minute, the afternoon before the Commission meeting, the Applicant's proposed a "Special Condition," which presented a changed ground factor, one of 0.5, rather than 0.0, and setting a "turbine-only noise limit at 47 dB(A)." p. 2, September 19, 2018 letter. These two changes are significant. There is nothing in the record regarding the impact of a change from 0.0 to 0.5 as a ground factor.

The state noise standard is set at 50 dB(A) and it includes all noise from any source. Minn. R. 7030.0040. Freeborn claimed that “3 dB(A) is the generally recognized minimum detectable change in environmental noise levels...” and that this change “would result in a non-significant increase in total sound of less than 3 dB(A).” **3 dB(A) is a doubling of sound pressure.** Hankard, Tr. Vol. 1B at 64-65; 113-115. A doubling of sound pressure is significant.

Applicant argued that this change would make for an ‘noise regulation, but in a manner than can actually be measured following the applicable rules and standards.’ p. 2, September 19, 2018 letter. However, the “but” negates what comes before it. The state noise rules have clear measuring protocol, utilized by the Department of Commerce in a wind noise enforcement action. See Minn. R. 7030.0060; see also EERA-9, Guidance for Large Wind Energy Conversion System Noise Study Protocol and Report [20183-140949-02](#); Bent Tree Noise Monitoring and noise Study Phase I – September 29, 2017 [01712-138411-07](#); Ambient sound is incorporated into the noise rule, and separating it out is compliance via sleight of hand. When measuring noise, part of that task is separating out the “rustling leaves or the dawn chorus” and that is what the consultants do. See Schedule E, Hansen Rebuttal Testimony, where the consultant states that he can hear birds chirping and wind blowing, but “he cannot discount the wind facility as being a main contributor.”

At the Commission meeting, Invenergy produced a chart labeled “Special Condition -- Example” but it was not eFiled, there were no copies for parties, and though it was put up on the viewer, it was not centered and was not legible, and the camera was focused on the speakers and not the chart. It was not filed until two weeks after the Commission meeting. Likely, it is not legally in the record. What was said at the meeting made no sense, and the numbers, such as the Turbine Level of 47 dB(A) was a number grabbed out of the air, as was the number 45 dB(A).

As above, the baseline ground factor changed from 0.0 to 0.5, and the mantra of 3 dB(A), a doubling of sound, was repeatedly claimed to be a “non-significant” increase. Letter and Attachment A, Proposed Special Condition Language. The production of modeling to demonstrate compliance was shuttled off until the “pre-construction meeting,” which would occur after granting of a permit, not before to demonstrate compliance. The “pre-construction meeting” is a meeting that occurs behind closed doors, there is no public review, and there is no public comment. Not only was the permit granted, but the work to demonstrate ability to comply with noise standards was not completed before the Commission meeting. There were at least four months in which the Applicants could have produced the modeling, but they did not, and instead, changed the parameters and pushed off their production of modeling into the back room where we have no way of evaluating their work. Given the four months from May to September to perform modeling that could demonstrate compliance, which they did not do, and given the last minute “Proposed Special Condition Language,” the Applicant’s claims that they can comply with Minnesota’s noise rules have little credibility.

The ALJ’s basis for determining that the project would not meet state standards was specific:

241. Table 2 in FR-18 shows that there are many instances where total noise will be quite close to, or exceed, 50 dB(A). There are approximately 254 homes in the Freeborn Wind Project footprint.³⁷³ According to Table 2, any time the ambient noise level is 50 dB(A), added wind turbine noise results in 53 homes experiencing levels of 51 dB(A) and 25 homes at levels of 52 dB(A), for a total of 78 homes experiencing more noise than permitted by Minn. R. 7030.0040.³⁷⁴ Two of the homes will experience 58 dB(A) if the ambient noise is 57 dB(A).³⁷⁵ None of these homes was predicted to experience wind turbine noise alone above 48.9 dB(A). Many were predicted to experience wind turbine noise alone in the very low-to-mid 40’s range.³⁷⁶ Thus, the addition of ambient noise is significant in that it raises the predicted nighttime noise exposure of more than 30 percent of the homes in the footprint of the Project beyond what is allowed in Minn. R. 7030.0040.

FOF 241, Recommendation, p. 48. This is legitimate cause for concern.

After the Commission took two months to revise the Findings to fit its Order, Finding 241 looks like this:

Finding 241

Table 2 in FR-18 shows that there are many instances where total noise will be quite close to, or could exceed, 50 dB(A). There are approximately 254 homes in the Freeborn Wind Project footprint.³⁷³ ~~The turbines have yet to be built. However, pre-construction, it is the modeling Freeborn Wind conducted that is relevant for determining whether the Project will comply with the Noise Standards once operational. The record here demonstrates that Freeborn Wind included very conservative assumptions in its modeling and calibrated its modeling with real world data to ensure that modeled estimates are conservatively high.¹ If changes are made to the turbine layout, number of turbines, or turbine type, the Noise Analysis will be updated accordingly.~~ According to Table 2, any time the ambient noise level is 50 dB(A), added wind turbine noise results in 53 homes experiencing levels of 51 dB(A) and 25 homes at levels of 52 dB(A), for a total of 78 homes experiencing more noise than permitted by Minn. R. 7030.0040.³⁷⁴ Two of the homes will experience 58 dB(A) if the ambient noise is 57 dB(A).³⁷⁵ None of these homes was predicted to experience wind turbine noise alone above 48.9 dB(A). Many were predicted to experience wind turbine noise alone in the very low-to-mid 40's range.³⁷⁶ ~~Thus, the addition of ambient noise is significant in that it raises the predicted nighttime noise exposure of more than 30 percent of the homes in the footprint of the Project beyond what is allowed in Minn. R. 7030.0040. Table 2 in Ex. FR-18 shows that when background noise levels are 45 dB(A) or less, total sound levels are 50 dB(A) or less regardless of the turbine-only noise level. When background noise levels are in the 45 to 50 dB(A) range, turbines contribute to the total when turbine-only noise levels are approximately 44 dB(A) or greater.~~

Footnote(s)

1. See evidentiary hearing transcript Volume 1B at 111-112 (February 21, 2018 (Hankard)).

The Commission also exercised its will in gutting one of the ALJ's conclusions regarding noise:

Finding 301

~~The Commission's January 11, 2008 Order Establishing General Wind Permit Standards states that turbines must be setback from homes at least 500 feet and sufficient distance to meet the State noise standard, whichever is greater. While Freeborn Wind's proposed project meets the setback requirements based on Freeborn County's ordinance, it is not clear that it meets the requirements of the Commission's 2008 Order Establishing General Wind Permit Standards.⁴⁶³ Those standards call for a setback distance of 750-1,500 feet, "depending on turbine model, layout, and specific site conditions."⁴⁶⁴ In addition, for homes, the required setback is "at least 500 feet plus the distance required to meet the state noise standard."⁴⁶⁵~~

Footnote(s)

~~463. Ex. AFCL-8 (Order Establishing General Standards, PUC Docket No. E,G-999/M-07-1102 (Jan.11, 2008)).~~

~~465. Id. at 8.~~

The line-by-line changes are an exercise in working the ALJ's Recommendation to the opposite of the ultimate Recommendation, allowing for permitting of the project.

The site permit section on noise does specifically require compliance with MPCA noise standards. See Site Permit, § 4.3. The Commission cannot change the black letter regulation of MPCA's noise standards. Minn. R. 7030.0400.

The Commission handled this meeting flouting their "expertise," but there was no discussion of the impact of changing the ground effect from 0.0 to 0.5, and numbers of 50, 47, and 45 dB(A) were plugged in arbitrarily. The site permit was approved, the findings rewritten, with a result contrary to the admittedly advisory Recommendation of the Administrative Law Judge – that is arbitrary and capricious on its face. The noise standards are a black and white rule with specific, unambiguous definitions, limits and measurement methodology. The Commerce guidance with attached MPCA clarifying comments are equally unambiguous. Applicants argued in briefs that the guidelines are neither law nor rule, and have no weight. Commissioners in deliberation repeated several times, "this is not a rulemaking," and that is correct. It is an act of will on the part of the Commission, a willful desire to permit a project that could not demonstrate compliance, and despite the Commission's "expertise," to permit the project despite the evidence calling the project's compliance into question. The Commission made last minute changes in conditions, allowed Applicants to engineer last minute material changes that claimed compliance through a last minute Applicant filing, facilitated a presentation orchestrated with Commerce and MPCA to the Commission focused on a last minute proposal and a document not available to the public,¹ and acted in a manner to remove the project from public scrutiny and process. This is demonstration of acting against evidence, a decision not

¹ AFCL was asked in this deliberation flurry whether the proposed change was better than nothing, and of course, the response is "Yes, but..." and a detailed list of issues not addressed and why that was not sufficient is in the meeting transcript.

supported by evidence, and doing so in a way that is contrary to the statutory “broad spectrum citizen participation as a principal of operation.” Minn. Stat. §216E.08. The Commission failed to act responsibly, instead permitting the Freeborn Wind project against evidence and without requiring a demonstration of likely compliance prior to granting the permit.

The Commission should reconsider its modifications of the ALJ’s findings, conclusions, and recommendation in Attachment 1 of the Order. The Order is not supported by the evidence, and is arbitrary and capricious. The Commission should reconsider its Order that Freeborn Wind Energy LLC shall provide an updated pre-construction noise analysis demonstrating that the Project will comply with the noise permit conditions recommended by the Department as modified by the conditions proposed by the Company.

III. **SHADOW FLICKER WAS DEMONSTRATED TO BE SIGNIFICANT ISSUE BUT DISMISSED BY COMMISSION**

Shadow flicker is a common issue and consideration in siting of wind project. The record reflects that shadow flicker occurs when the turbines block the sun and although there is no regulation of shadow flicker in Minnesota, flicker is typically limited for nearby homes to 30 hrs/yr. See Recommendation, p. 49-53, FoF 242-262. Wind developers perform shadow flicker monitoring, but shadow flicker occurs, whether someone is a “receptor” or not. Wind companies propose “mitigation” using blinds and shades, leaving people to sit in the dark in daytime, or as Freeborn’s Litchfield suggested in writing, “go to Florida for the winter.” See Public Comment, Kathy Nelson, 7/3/2017 ([20177-133467-02](#)). Freeborn Wind did “receptor” specific shadow flicker modeling, which revealed potential for beyond 30 hours. Recommendation FoF 256; Litchfield Rebuttal, Ex. RF-11 p. 5. The modeling itself, however, seems to show a much greater number of hours. Litchfield Rebuttal, Ex. RF-11, Flicker modeling results; Nelson 20183-141036-02; Robbins 20183-141040-01; Hansen 2-17010-136232-01; 20183-141225-02.

The Commission's Order understates the shadow flicker impacts, claiming that 2 locations would receive between 27 and 30 hours per year, but that was not the ALJ's Finding. There are at least seven "receptors" over 30 hours, three participating landowners, and four non-participating. FoF 256, Recommendation p. 51; Ex. FR-1, at App. B (Shadow Receptor Coordinates & Realistic Shadow Hours). The ALJ's Finding 261 was gutted, and the level of concern for monitoring was raised from 27 hours to 30. This change is not supported by the evidence, and is another example of the Commission jettisoning its expertise and instead exercising its will. See FoF 260 and 261, Recommendation, p. 52-53.

The Commission should reconsider its modifications of the ALJ's findings, conclusions, and recommendation in its Order. The Order is not supported by the evidence, and is arbitrary and capricious. The Commission should reconsider its Order that monitoring only be required at those locations where 30 hours or more of shadow flicker are predicted.

IV. DECOMMISSIONING RULES REQUIRING INFORMATION TO BE INCLUDED IN THE APPLICATION WERE CIRCUMVENTED.

The Commission has expertise in decommissioning, from decommissioning plans to the actual decommissioning of turbines, which is occurring now in southwest Minnesota. In this case, the Commission has disregarded its expertise and acted against interest in permitting a project that has not provided information on decommissioning, and by pushing off decommissioning planning to a post-hearing private process between the Applicants and Commerce. What lessons learned from the ongoing decommissioning of turbines were brought to this project?

The required decommissioning information was not included in the application. The Commission let that omission through, declaring the Application "substantially complete." Minnesota Rules require a minimum of decommissioning information:

Subp. 13. Decommissioning and restoration.

The applicant shall include the following information regarding decommissioning of the project and restoring the site:

- A. the anticipated life of the project;
- B. the estimated decommissioning costs in current dollars;
- C. the method and schedule for updating the costs of decommissioning and restoration;
- D. the method of ensuring that funds will be available for decommissioning and restoration; and
- E. the anticipated manner in which the project will be decommissioned and the site restored.

Minn. R. 7854.0500, Subp. 13.

Despite this requirement, and both the Commission's and Commerce's responsibility to assure an application is complete, EERA did not raise this omission to the Commission, and the Commission blithely declared the Application complete without any acknowledgement of the omission of decommissioning information. This abdication and postponement of decommissioning planning is a systemic problem, but in this case, a specific problem for this project. In practice, Commerce has not been addressing decommissioning until the "Pre-construction meeting," where there is no public scrutiny or review, no opportunity for comment.

When questioned about decommissioning, Invenenergy's Litchfield was not able to provide any information, either in Data Requests or testimony. There is virtually no information from Applicants on decommissioning in the record.

Despite the Commission's and Commerce's disregard for the rule, and despite failure of the Applicants to provide the required information in the course of the proceeding, the Commission granted the permit with language amendment in the permit regarding decommissioning. Permit, p. 23-24. The language acknowledges Minn. R. 7854.0500, Subp.

13. The Commission did not establish a requirement that the information and decommissioning plan be provided to parties or the public, there is no process for review for adequacy, and no specifics on requirements for financial assurance. There is a section on Abandoned Turbines, but evidence in the record reveals lease provisions specifying that if turbines are not decommissioned, the landowner may decommission and turn to Freeborn Wind for collection:

If Grantee fails to remove such Windpower Facilities within twelve (12) months of termination of the Easement, or such longer period as Owner may provide by extension, Owner may do so, in which case grantee shall reimburse Owner for reasonable and documented costs of removal and restoration incurred by Owner.

AFCL-35, Wayne Brandt Public Comment from Public Hearing, p. “15;” see also Brandt, Public Hearing, p. 133-139.

No permit should be granted until a thorough decommission plan has been vetted and financial assurance has been provided, opened for comment, and reviewed by Commerce, the public, and the Commission, as contemplated by the requirement that decommissioning information be in the application. The Commission’s Order is not supported by evidence.

V. **FREEBORN WIND IS ALREADY NOT COMPLYING WITH PERMIT**

The site permit requires that Invenenergy/Freeborn Wind maintain current contact information for Complaints and Complaint Reporting. Freeborn gives the address of 120 East Main St., Glennville, but that office is empty, walk unshoveled, numbers taken off the mailbox.



Freeborn Wind must provide a legitimate address for the permit. Also, a Post Office Box is not an office.

VI. NEW INFORMATION HAS SURFACED THAT HAS AN IMPACT ON PROJECT PERMITTABILITY.

New information has become available that the Commission should consider.

A. Data Practices Act Requests show confusion and Freeborn Wind efforts to gain access to county easements for transmission – an admission that it does not have sufficient land rights for the project – and Freeborn County seeks guidance on its legal issue from Commerce staff.

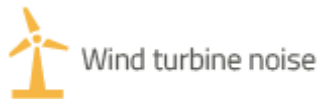
As in the transmission docket, there is new information from Data Practices Act Requests, the responses from Freeborn County and the Dept. of Commerce. The documents produced by both the County and Commerce show acknowledgement of easement and land acquisition problems through the stated questions and concerns of Freeborn Wind regarding use of the County's road easements for transmission, and concern about utility status and eminent domain, not available to a non-utility, trying to find a way to get the transmission line across 803th Avenue. There is also an issue in the siting docket of whether there is sufficient land to build the project. We have been told numerous times that there is no room to move any turbines. Litchfield, Tr. Vol. 1A, p. 81; 83. If they do not have land rights, they cannot build the project as planned.

The Freeborn County responses show that the County was seeking and receiving advice from Commerce's Larry Hartman regarding use of county road easements for transmission and Freeborn's utility status.

B. World Health Organization addresses Wind Turbine Noise.

For the first time, the World Health Organization has addressed the issue of wind turbine noise and offered precautionary noise guidelines. Exhibit G (selected). This is a conditional

strength guideline, with sufficient support from the WHO scientists to be included in this year’s Environmental Noise Guideline. The 45 dB noise limit is in line with that found in Wisconsin for wind turbines, and is lower than that of Minnesota. Wis. PSC Code Ch. 128; Minn. R. Ch. 7030.



| Recommendation | Strength |
|--|--------------------|
| <p>For average noise exposure, the GDG conditionally recommends reducing noise levels produced by wind turbines below 45 dB L_{den}, as wind turbine noise above this level is associated with adverse health effects.</p> | <p>Conditional</p> |
| <p>No recommendation is made for average night noise exposure L_{night} of wind turbines. The quality of evidence of night-time exposure to wind turbine noise is too low to allow a recommendation.</p> | |
| <p>To reduce health effects, the GDG conditionally recommends that policy-makers implement suitable measures to reduce noise exposure from wind turbines in the population exposed to levels above the guideline values for average noise exposure. No evidence is available, however, to facilitate the recommendation of one particular type of intervention over another.</p> | <p>Conditional</p> |

AFCL asks that the Commission reconsider its Order, and to review the WHO Environmental Noise Guidelines and consider these voluntary limitations on noise for the Freeborn Wind project. Each part of the WHO Environmental Guidelines regarding wind should be given serious consideration and incorporated into the Order and Site Permit.

VII. THE COMMISSION SHOULD RECONSIDER ITS ORDER AND DENY THE PERMIT, OR TABLE THE MATTER AND REQUIRE FREEBORN WIND DEMONSTRATE COMPLIANCE PRIOR TO ISSUANCE OF A PERMIT.

AFCL asks that the Commission reconsider its Order, and that the permit be denied. In the alternative, AFLC requests that it be remanded to the Administrative Law Judge for Findings

and a Recommendation consistent with the evidence regarding Freeborn Wind's lack of land rights to build this project, and a recommendation that the permit be denied for lack of land rights, or held in abeyance until such land rights are acquired. The Applicant must demonstrate that it has land rights for the entire project and not encroach on non-participants' land. Beyond that, in respect for affected landowners, Association of Freeborn County Landowners takes no position as to the route of the project. Overall, AFCL's position is clear: The community does not consent to this project.

Respectfully submitted,

January 8, 2019



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BEFORE THE MINNESOTA PUBLIC UTILITIES COMMISSION

| | |
|-------------------|--------------|
| Nancy Lange | Chair |
| Dan Lipschultz | Commissioner |
| Matthew Schuerger | Commissioner |
| Katie J. Sieben | Commissioner |
| John A. Tuma | Commissioner |

In the Matter of the Application of Freeborn
Wind Energy LLC for a Route Permit for the
Freeborn Wind Transmission Line in
Freeborn County

ISSUE DATE: December 19, 2018

DOCKET NO. IP-6946/TL-17-322

ASSOCIATION OF FREEBORN COUNTY LANDOWNERS
PETITION FOR RECONSIDERATION

Association of Freeborn County Landowners (AFCL), participant in the above-captioned docket and intervenor in the related and concurrent wind siting docket (IP6946/WS-17-410), bring this Motion for Reconsideration of the Commission's decision to grant a route permit to Invenergy's Freeborn Wind transmission project, deliberated September 20, 2018, and the Order filed on December 19, 2018. Minn. Stat. §216B.27; Minn. R. 7829.3000. AFCL requests the Commission reconsider its decision and amend its Order to deny the permit and to reflect that Invenergy/Freeborn Wind is not a public service corporation, does not have sufficient land rights to build the project, and because it is not a utility, does not have the power of eminent domain.

The Administrative Law Judge and the Commission are to address the factors set forth in the Power Plant Siting Act:

- A. effects on human settlement, including, but not limited to, displacement, noise, aesthetics, cultural values, recreation, and public services;
- B. effects on public health and safety;

- C. effects on land-based economies, including, but not limited to, agriculture, forestry, tourism, and mining;
- D. effects on archaeological and historic resources;
- E. effects on the natural environment, including effects on air and water quality resources and flora and fauna;
- F. effects on rare and unique natural resources;
- G. application of design options that maximize energy efficiencies, mitigate adverse environmental effects, and could accommodate expansion of transmission or generating capacity;
- H. use or paralleling of existing rights-of-way, survey lines, natural division lines, and agricultural field boundaries;
- I. use of existing large electric power generating plant sites;
- J. use of existing transportation, pipeline, and electrical transmission systems or rights-of-way;
- K. electrical system reliability;
- L. costs of constructing, operating, and maintaining the facility which are dependent on design and route;
- M. adverse human and natural environmental effects which cannot be avoided; and
- N. irreversible and irretrievable commitments of resources.

Minn. Stat. §216E.03, Subd. 7; Minn. R. 7850.4100.

The Commission's decision is an error of law because the Commission ignored or dismissed crucial information regarding Applicant's lack of land rights, fraudulent actions on the part of Applicant's employees. The Order and process was flawed because AFCL exceptions were not included with or addressed in the Staff Briefing Papers, and there was no opportunity for the Commission to consider the specifics of the AFCL exceptions; in error because it grossly misstates Robert B. Knutson's comments and documentation and did not take into account the Dept. of Commerce enforcement action of revocation of notary commission and fine of Thomas Spitzer,

documentation of which was provided by Robert Knutson and filed August 10, 2018,¹ and by AFCL on July 24, 2018.² There is new information that should be considered by the Commission, including responses to AFCL’s Data Requests of Freeborn County in late November, and Commerce’s responses in January 2019, that acknowledge failure of Freeborn to secure all necessary land rights and efforts to use county right-of-way, and evidence of discussions between the County and Commerce staff not assigned to the project seeking advice on use of county right of way. The other important piece of new information is the World Health Organization’s Environmental Noise Guidelines, released October 10, 2018. The Commission’s decision is also flawed due to procedural errors and the exceptional disregard of the Administrative Law Judge for Commission process, statutory requirements of notice of Prehearing Conference, the public, and specifically, for Association of Freeborn County Landowners. The Recommendation in this case reads as if we were not there.

Public participation is to be the Commission’s principle of operation:

Subd. 2. Other public participation.

The commission shall adopt broad spectrum citizen participation as a principal of operation. The form of public participation shall not be limited to public hearings and advisory task forces and shall be consistent with the commission's rules and guidelines as provided for in section [216E.16](#).

There was no “broad spectrum citizen participation” allowed in this docket.

I. ADMINISTRATIVE LAW JUDGE SYSTEMATICALLY AND REPEATEDLY DISREGARDED AND DISMISSED COMMENTS OF ASSOCIATION OF FREEBORN COUNTY LANDOWNERS.

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|---------------------------------|--------|--------|------------------|---|------------|
| 20188-145696-01 | PUBLIC | 17-322 | ROBERT B KNUTSON | OTHER--REQUEST TO DENY PERMIT DUE TO FRAUDULENT NOTARIZING OF LEASE AND REQUIRE RENEWAL OF ALL LEASES BY REMOVED NOTARY | 08/10/2018 |
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|---------------------------------|--------|--------|---|---|------------|
| 20187-145162-02 | PUBLIC | 17-322 | ASSOCIATION OF FREEBORN COUNTY LANDOWNERS | LETTER--TO PUC RE COMMERCE ORDER REVOKING NOTARY COMMISSION OF THOMAS SPITZER INVENERGY | 07/24/2018 |
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In this transmission docket, the Administrative Law Judge systematically and repeatedly disregarded and dismissed comments of Association of Freeborn County Landowners, whether oral testimony or written comments.³ AFCL raised these issues in Exceptions,³ but the Commission failed to consider these fundamental problems. For this reason, AFCL is including our line-by-line exceptions within in this Petition for Reconsideration.

From the beginning, in Comments to the Commission, and following in Comments to the ALJ, AFCL has raised the issues of fraudulent notarization; inability of the project to be constructed only on participant land; misguided claims of availability of the power of eminent domain to Freeborn Wind, LLC; missing locations of eagle nests; impact of the project on Shell Rock Water Trail; lack of inclusion of county and township zoning ordinances for consideration of

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|---------------------------------|--------|--|--|------------|
| 20187-145162-02 | 17-322 | ASSOCIATION OF FREEBORN COUNTY LANDOWNERS | LETTER--TO PUC RE COMMERCE ORDER REVOKING NOTARY COMMISSION OF THOMAS SPITZER INVENERGY | 07/24/2018 |
| 20187-144869-01 | 17-322 | ASSOCIATION OF FREEBORN COUNTY LANDOWNERS | MOTION--AFCL-MOTION TO SUSPEND TRANSMISSION PROCEEDING,PENDING COMMISSION ACTION ON SITING PERMIT. | 07/13/2018 |
| 20187-144769-01 | 17-322 | ASSOCIATION OF FREEBORN COUNTY LANDOWNERS | LETTER--NOTICE OF DATA PRACTICES ACT REQUEST TO COMMERCE INVESTIGATIONS | 07/12/2018 |
| 20186-144263-01 | 17-322 | ASSOCIATION OF FREEBORN COUNTY LANDOWNERS | MOTION--MOTION TO SUSPEND PROCEEDING OR DENY WITHOUT PREJUDICE OR CERTIFY TO COMMISSION | 06/27/2018 |
| 20186-143993-01 | 17-322 | ASSOCIATION OF FREEBORN COUNTY LANDOWNERS | MOTION--MOTION TO STRIKE FREEBORN FILINGS AS UNTIMELY | 06/19/2018 |
| 20186-144003-01 | 17-322 | ASSOCIATION OF FREEBORN COUNTY LANDOWNERS | MOTION--TO STRIKE OR IN THE ALTERNATIVE REOPEN | 06/19/2018 |
| 20186-144006-01 | 17-322 | ASSOCIATION OF FREEBORN COUNTY LANDOWNERS | MOTION--AMENDED MOTION TO STRIKE OR IN THE ALTERNATIVE REOPEN | 06/19/2018 |
| 20186-143735-01 | 17-322 | DORENNE HANSEN, FOR ASSOCIATION OF FREEBORN COUNTY LANDOWNERS (AFCL) | COMMENTS--RE: TRANSMISSION LINE ROUTE AND POTENTIAL ISSUES. | 06/12/2018 |
| 20186-143738-01 | 17-322 | DORENNE HANSEN, FOR ASSOCIATION OF FREEBORN COUNTY LANDOWNERS (AFCL) | COMMENTS--RE: OMISSIONS AND ISSUES WITH THE TRANSMISSION LINE APPLICATION. | 06/12/2018 |
| 20186-143756-01 | 17-322 | ASSOCIATION OF FREEBORN COUNTY LANDOWNERS | COMMENTS | 06/12/2018 |

community concerns and impacts; the 22 foot diagonal crossing of 830th Avenue over non-participants land; the misleading minimization of magnetic field potential; conflating magnetic fields with electric fields for interference with pacemakers, etc; gathering of Iowa generated electricity into this project substation; minimal cost analysis and no identification or attribution of MISO system upgrade costs; impact on property values and marketability, and many factual and legal errors and omissions in the application, record, and the ALJ's Recommendation and adoption by the Commission. At the public hearing, AFCL requested its members and the public be provided the opportunity to testify under oath or affirmation, and encountered resistance from the Administrative Law Judge, but each of those testifying in support of AFCL was ultimately sworn on oath.

In this docket, there is no indication that the community has been heard. The community does not consent to this project.

In addition to these issues documented in the record, there is also new information. AFCL filed Data Practices Act Requests with Freeborn County regarding the land to which Applicants do not have land-rights to build its transmission line. Freeborn County delayed considerably, and then produced the documents at an outrageous price. From these documents, it was apparent that the Dept. of Commerce had a role, and a subsequent Data Practices Act request was filed with Commerce. The results of those Data Practices Act requests are attached as Exhibit E and F.

II. THE PROCESS WAS FRAUGHT WITH PROCEDURAL IRREGULARITIES.

There were significant procedural irregularities and errors as this docket proceeded forward. The Association of Freeborn County Landowners raised these issues as they occurred and/or before the Commission, and the Commission failed to take these errors into account.

AFCL chose to participate in this transmission docket as participants, not intervenors, as provided by Minn. Stat. §216E.08 and Minn. R. 1405.1800. The First Prehearing Order for this transmission case was issued after the Prehearing Conference on April 2, 2018. However, there

was no notice provided of this Prehearing Conference by either the PUC or OAH.⁴ Without notice, how does one participate?

The first and only Prehearing Order did not include the standard boilerplate language regarding participation versus intervention that is included in other Prehearing Orders:

5. It is not necessary to be an intervenor or party to participate in these proceedings. Members of the public may submit written comments during the comment periods, appear at all hearings and forums, and participate in the public hearing. The public hearing will provide an opportunity for individuals and groups to present evidence and argument on the issues in this case, and to question all persons testifying. Members of the public:

(1) may offer testimony without or without the benefit of oath or affirmation;

(2) are not required to pre-file their testimony;

(3) may offer testimony or other material in written form, at or following the hearing;

(4) may question any person testifying or who has offered pre-filed testimony, either directly or by submitting questions to the Administrative Law Judge, who will then ask the questions of the witness.

Prehearing Order, Freeborn Wind Site Permit Docket, p.2 (IP6946/TL-17-410).⁵

The First Prehearing Order in this Freeborn transmission docket also did not provide the standard language regarding providing testimony in a hearing “without benefit of oath or affirmation” and its weight given:

6. Oral testimony or written testimony provided without benefit of oath or affirmation, and which is not subject to cross-examination, shall be given such weight as the Administrative Law Judge deems appropriate [citing Minn. R. 1405.0800].

Id.⁶ This language should always be included in Prehearing Orders because the ALJ and

⁴ Take a look, find it – good luck with that!

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| 20179-135814-01 | PUBLIC | 17-410 | <input type="checkbox"/> | WS | OAH | ORDER--RE-SERVE FIRST PREHEARING ORDER | 09/26/2017 |
| 20179-135781-01 | PUBLIC | 17-410 | <input type="checkbox"/> | WS | OAH | ORDER--FIRST PREHEARING ORDER | 09/25/2017 |

Commission assign weight to testimony, and the public would have no way of knowing or understanding the importance of testifying under oath. Why is this important? The Commission has previously questioned whether public testimony was given under oath or not, while deliberating. Offering testimony under oath is important for full inclusion and consideration – the matter of testifying under oath was raised before this public hearing began, and the ALJ did not want to offer the public the option of affirmation or swearing under oath. Despite this, during the public hearing, AFCL members and other public testifiers requested to be sworn in, and were sworn. This is not noted in the Recommendation. Swearing in of witnesses should not be an issue at public hearings, and a testifier’s request to be sworn should not be challenged.

There were additional problems. **NONE** of the typical OAH language regarding options and methods of participation appear in the transmission docket Orders, either the First Prehearing Order or the following First Prehearing Order with amended filing dates, the only Prehearing Orders filed.⁷ The “Prehearing Order” in this docket contains only nominal scheduling information, and the barest of information regarding Notice and the public hearing. There was only the “First Prehearing Order” in its two versions, and no other orders.

The connected nature of the wind project site permit and this dependent transmission project route permit were brought to the forefront in Completeness comments and again by AFCL after the Recommendation regarding the wind site permit was issued. Freeborn Wind is waffling on this dependence and linkage between the projects:

Condition 16: Any permit issued should have a “Special Condition” that “the

⁶ . Prior to the beginning of the hearing, the judge was requested to offer oath and affirmation, and he was reluctant. Each AFCL member, testifying as an individual, requested to be placed under oath, and did testify under oath, as did the undersigned (which was objected to by Freeborn’s attorney!). Swearing in was also an issue at a previous hearing in another docket, indication of a systemic problem.

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| 20185-143153-01 | PUBLIC | 17-322 | OAH | ORDER--AMENDED FIRST PREHEARING | 05/17/2018 |
| 20184-141685-01 | PUBLIC | 17-322 | OAH | ORDER--FIRST PREHEARING | 04/04/2018 |

Project will not be constructed unless the Commission issues a Site Permit for the Freeborn Wind Farm,” and that if permitted, it may be transferred to, owned and built only by a public service corporation.

“Freeborn Wind indicates it will only construct the project if the wind farm is permitted.” (EA, at page i.) In its reply comments Freeborn Wind indicates that it “finds it necessary to clarify that it would intend to proceed with construction of the Project to support the Worth County wind turbines. Accordingly, Freeborn Wind requests that a Route Permit be granted to allow construction of the Transmission Line irrespective of the Commission’s decision in the Site Permit docket.” (Reply Comments, at page 6) Staff believes this condition is unwarranted.

Commerce-EERA Comments, 6/28/2018. Freeborn Wind has not amended its application.

On May 14, 2018, the Administrative Law Judge assigned the Freeborn Wind Project site permit (IP6946/WS-17-410) filed her Recommendation:

The Administrative Law Judge concludes that Freeborn Wind has failed to demonstrate that the proposed Project will meet the requirements of Minn. R. 7030.0040, the applicable Minnesota Noise Standards. Therefore, the Administrative Law Judge respectfully recommends that the Commission either deny Freeborn Wind’s Application for a Site Permit, or in the alternative, provide Freeborn Wind with a period of time to submit a plan demonstrating how it will comply with Minnesota’s Noise Standards at all times throughout the footprint of the Freeborn Wind Project.

Summary of Recommendations, p. 2. On May 27, 2018, following the filing of the site permit Recommendation of denial, AFCL filed a Motion to Suspend the transmission proceeding because the underlying Freeborn Wind project site permit is in limbo. In the alternative, this application should be denied without prejudice, or be Certified to the Commission for consideration. This Motion was ignored, neither granted nor denied, nor listed in the “Procedural History.” There is no mention of the ALJ’s transmission Recommendation of the transmission line’s dependence on the wind project and its site permit and the impact of the ALJ’s wind site permit recommendation on need or timing of transmission for Freeborn Wind.

Consideration of timing in this transmission route proceeding is not prohibited by either rule or statute. Minn. Stat. §216E.02, Subd. 2; Minn. R. 7850.4200. Because of the significance of a recommendation of permit denial or opportunity for a demonstration of compliance, the timing of

this transmission project and proceeding is a material issue – the wind project and this connected transmission project should be delayed. The Commission’s order, however, was to the contrary.

Disregard, discounting, and dismissal of the public and issues raised by the public is disappointing, but it is not surprising, given the minimalist Prehearing Order. Intervention is not necessary under the rules, participation is encouraged, participants have rights. To issue a Recommendation “based on the Applicant’s preference” goes beyond, and is not acceptable. For decades it has been law:

The commission shall adopt broad spectrum citizen participation as a principal of operation.

Minn. Stat. §216E.08. It’s a great theory, but in practice, it isn’t working. In the line by line Exceptions, AFCL noted some of the specific facts and issues not incorporated, but they were not regarded as “relevant documents” by Commission staff. The Commission never had a chance to review and consider filings not deemed “relevant” by staff.

III. “THE APPLICANT’S PREFERENCE” IS NOT A VALID ROUTING CRITERIA!

The ALJ’s Recommendation in this this transmission docket is an error of law. Instead of adhering to the applicable statutory factors of the Power Plant Siting Act, in this transmission docket it is the “applicant’s preference”⁸ that rules, and the Recommendation of the ALJ was based on the “applicant’s preference.” In three instances, the Applicants was a deciding factor.

- **Given the Applicant’s preference** for the Purple Parallel Route, the Commission should **GRANT** the Route Permit for the Purple Parallel Route...⁹ (emphasis added).
- 262. As set forth above, because the Teal, Orange, and Purple Parallel routes make use of existing ROW and generally compare favorably in terms of cost to the route alternatives, the record demonstrates that the Teal, Orange, and Purple Parallel routes best meet Minnesota’s route selection criteria. **Based on** consideration of all routing factors **and the Applicant’s preference**, the Orange Route combined with the Purple Parallel Route is the best route for the Project (emphasis added).¹⁰

⁸⁸ See ALJ Recommendation, p. 2; FOF 262 p. 51; p. 53.

⁹ See ALJ Recommendation, p. 2.

¹⁰ FOF 262 p. 51.

Twice in the two paragraph “Recommendations” – once in each paragraph/sentence, the Applicant’s preference is the focus:

RECOMMENDATIONS

The Commission should **GRANT** a Route Permit with the general and special route permit conditions for a 161 kV HVTL along the Purple Parallel Route **based on Applicant’s preference** and with Applicant’s proposed modification to narrow the route by 130th Street to match the Orange Route in this area.

In the alternative, the Commission should grant a Route Permit for the Orange Route with the general and special route permit conditions **based on the Applicant’s preference**.

Recommendation, p. 53. The ultimate Recommendation is in large part “based on Applicant’s preference.” The Commission adopted the ALJ’s Recommendation including the “based on the Applicant’s preference” statements. This is an error of law – the Applicant’s preference is not a criteria for routing a transmission line.

IV. APPLICANT DOES NOT HAVE LAND RIGHTS TO BUILD THIS PROJECT AND IS ATTEMPTING TO CIRCUMVENT NON-PARTICIPANTS’ FEE INTEREST.

The ALJ’s Recommendation, adopted by the Commission is dependent on Applicant’s ability “to maintain the entire route on participating landowners’ property.”¹¹ The Commission’s order ignores determinative facts in the record. The Commission’s narrative stated that:

AFCL questioned whether Freeborn Wind has, or will obtain, the necessary property rights to build its project. It argued that the Company’s land agents acted inappropriately in securing and documenting easements, that the county lacks authority to use road easements for transmission lines, and that the law does not grant Freeborn Wind eminent domain powers to acquire easements without a landowner’s consent.

Order, p. 9. However, AFCL demonstrated that Freeborn Wind does not have all the necessary property rights, and both Freeborn Wind and AFCL entered evidence that the Company’s land agents acted inappropriately.”

¹¹ Recommendation, p. 2.

Freeborn Wind repeatedly states that it has land rights sufficient to build this project, but admittedly does not have all land rights. Freeborn Wind was concerned about both its non-utility status and using the county's road easements to build over the non-participating landowners. Newly discovered evidence, from Data Practices Act requests to Freeborn County and the Dept. of Commerce show multiple discussions and references to discussions of these topics. See attached Exhibits E and F.

The repeated statements that Freeborn has all land rights to build this project is a false statement, and the project should not go forward. Minn. Stat. §216E.14(1).

A. Freeborn Wind employees and contractors have not acted in good faith in securing land rights.

In its application, Appendix A, Freeborn Wind admits an employee was fired for lying. Notice of this land agent's firing was sent in a letter of many subjects, and copies were included in the Application, Appendix A:

9. We hire experienced and trustworthy professionals to spend the time at kitchen tables and in the field negotiating our land agreements. Unfortunately, a land agent working on our project in 2015 did not live up to this standard and was exposed to be blatantly lying to some landowners. He was fired as soon as we found out, as we deem this behavior completely unacceptable. I don't know what else to say about this – I'm sorry for those who were lied to. It is not ok. We are doing the best we can do rebuild trust.

See e.g., Application, Appendix A, p. 58 of 78.

Another employee fraudulently notarized a lease, notarizing a signature purporting to be that of Robert B. Knutson when he did not sign the document and was not present when it was notarized. Knutson's comments and documentation regarding this were disregarded by the ALJ and the Commission, which grossly misrepresented the situation. From the Commission's

Order:

D. Robert B. Knutson

Robert B. Knutson, who is a notary, alleged irregularities on the part of a person who notarized some of the leases related to the Project.

Order, p. 9.

Where did the Commission come up with this statement? Not from the record! Robert B. Knutson is not a notary – he is the landowner who filed a Complaint with the Department of Commerce, which revoked the Commission of said Notary, Thomas Spitzer, and fined him \$500. On August 10, 2018, Mr. Knutson filed a notarized statement that he was the one who made the Complaint and requested that his lease be terminated.¹² Exhibit A. At no time did he represent himself as a notary, and he did notify the Commission of this impropriety that affects land rights. AFCL filed the Dept. of Commerce Enforcement Department’s Order on July 24.¹³ Exhibit B.

It has recently come to AFCL’s attention that there are irregularities in Invenergy/Freeborn Wind’s leases from its contractor William Gillen. Mr. Gillen signed his easements as “a single person” on September 10, 2015; July 24, 2017; and April 10, 2018. However, his marriage license is dated 9/21/2013 and filed September 21, 2013. Mr. Gillen can easily correct this error, but given his position with Invenergy/Freeborn Wind, the fired employee early in the process, the revocation of Spitzer’s notary commission -- how many other such errors are there? The Commission should verify all claims of land rights for this project.

These questions of land rights play into the projects lack of land where the transmission route would cross a county road. The fact of non-participants’ land in Freeborn’s proposed corridor on the recommended Purple route along 830th Avenue is repeated in the Recommendation:

¹²

| | | | | | |
|---------------------------------|--------|--------|------------------|---|------------|
| 20188-145696-01 | PUBLIC | 17-322 | ROBERT B KNOTSON | OTHER--REQUEST TO DENY PERMIT DUE TO FRAUDULENT NOTARIZING OF LEASE AND REQUIRE RENEWAL OF ALL LEASES BY REMOVED NOTARY | 08/10/2018 |
|---------------------------------|--------|--------|------------------|---|------------|

¹³

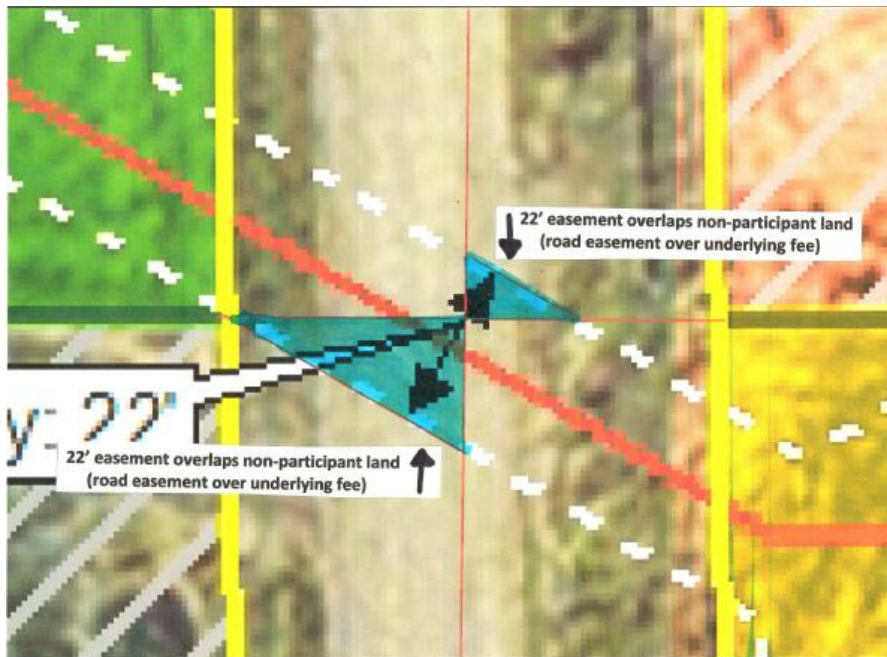
| | | | | | |
|---------------------------------|--------|--------|---|---|------------|
| 20187-145162-02 | PUBLIC | 17-322 | ASSOCIATION OF FREEBORN COUNTY LANDOWNERS | LETTER--TO PUC RE COMMERCE ORDER REVOKING NOTARY COMMISSION OF THOMAS SPITZER INVENERGY | 07/24/2018 |
|---------------------------------|--------|--------|---|---|------------|

This is the proposed alignment from the Application:

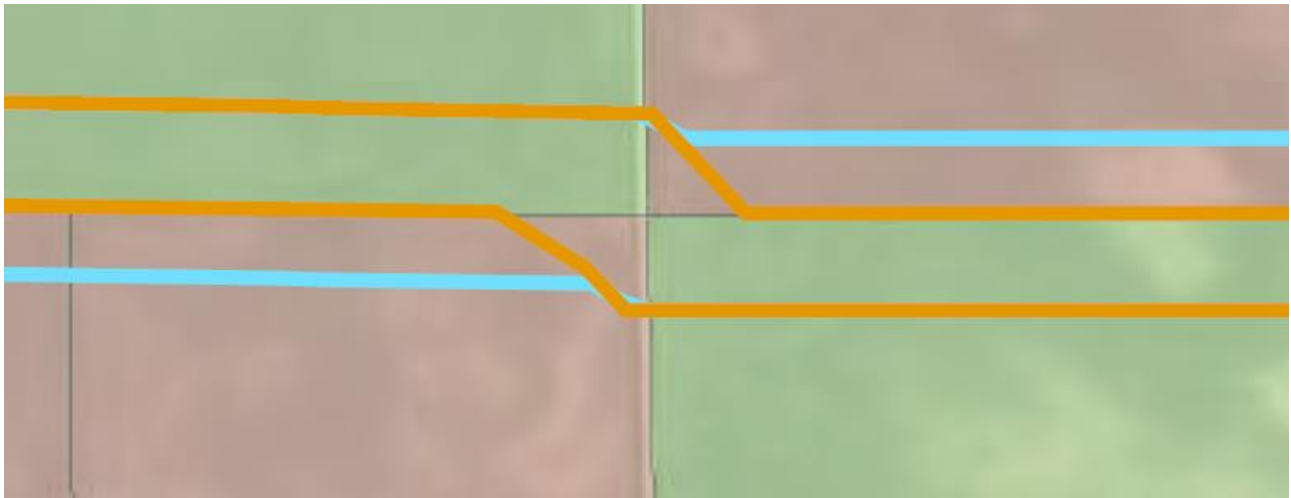


Freeborn Transmission Application, p. 18.

There is no information in the record specifically regarding the fee interests underlying the County road, and there should be, although non-participating landowners are admittedly at that intersection. The underlying fee interests of these non-participants looks like this blue shaded area:



AFCL Route Comments to ALJ, June 12, 2018. This non-participating landowner interest is also shown in the Environmental Assessment map:



Environmental Assessment, Map 6 Participating and Non-Participating Landowners, Landowner Participation, crop of Map 3 of 3.

This issue of the interests of the fee landowners was raised in the public comments, orally, and in writing, and is included in the Environmental Assessment, in narrative and noted visually in maps, as well as the June 28, 2018 comments of Commerce.

The underlying fee interest of non-participant landowners should have been prominent in the Recommendation, because at least one landowner specifically brought this to the attention of the Administrative Law Judge. The fact of non-participants' land in the proposed corridor is also found repeatedly in the Application, as is the Applicant's attempt to skirt non-participants' land through use of improperly narrow 22 foot easement over the road. This 22 foot "easement" proposal, through making the easement as narrow as possible, runs right over the non-participants' fee interest in the property over which the county has its road easement. The Recommendation's Findings of Fact state:

53. The Purple Route Segment was proposed during scoping and follows an existing transmission line corridor. The EA studied two possibilities for this route segment: running the proposed HVTL parallel to the existing ITC Line (paralleling) (Purple Parallel) or overbuilding the proposed HVTL above the ITC Line on new structures within the existing ITC ROW (overbuilding) (Purple Overbuild). The Purple Route Segment includes a small area of the route width of this route segment, located to the east of 810th Avenue crossing 130th Street, **with two non-participating landowners**, but the Purple Parallel routing option could be constructed entirely on participants' land (emphasis added).

54. Traveling south to north, the Purple Route Segment breaks from the Teal/Orange route in the NE 1/4 of S28, T101, R20W where it continues west approximately 1,000 feet along field lines to the existing ITC Line. The route segment turns north and travels along the ITC Line for approximately one and one-quarter miles until it reaches 130th Street, where it rejoins the Teal and Orange routes. Route widths vary from 250, 400, and 600 feet. Constructing the Purple Overbuild Route south of 120th Street would cause some of the ROW to be on a nonparticipant's land. Overbuilding for the first half mile north of 120th could be done all on participating land. The remaining half mile towards 130th Street would require **two new transmission easements**. (emphasis added)

61. For certain segments, Freeborn Wind proposes to use a vertical configuration, with all conductors located on one side of the pole. **This design is needed to create the correct approach angle for the segment of turn 2 to turn 3 that uses the 22-foot wide ROW across County Road 108/830th Avenue.** For the single-circuit 161 kV vertical-designed poles, a braced post structure TSP-161 structure type will be used (emphasis added).

67. Route widths vary from 250, 400, and 600 feet for the Purple Route. The Purple Route includes a small area with **two non-participating landowners**, but the Purple Parallel routing option could be constructed entirely on participants' land (emphasis added).

73. In one location, at the crossing of County Road 108/830th Avenue at one quarter mile south of 120th Street, **a narrowed ROW is proposed to maintain the ROW for the Project within land owned by participating landowners and within public road ROW where Freeborn Wind is seeking a utility permit from Freeborn County.** A vertical design with a **22-foot ROW** will be used on this single, short span. Freeborn Wind engineers developed a design in this limited area that can be operated in a **22-foot ROW**, which is within the 66-foot wide County Road 108 ROW. To ensure adequate clearances, Freeborn Wind proposes a special design using two dead-end structures. The two poles will be located feet apart and the **22-foot ROW** would apply only to the area between the two poles. The area needed for construction will be contained on the participating landowners' parcels. The existing distribution line will be buried in this location. **Freeborn Wind continues to talk with adjacent landowners and Freeborn County and may propose to change the design and alignment if a voluntary easement is obtained or to meet Freeborn County requirements.** When the proposed line is parallel to a roadway, Freeborn Wind does not intend to locate structures within road ROW, and poles will be placed within the private ROW adjacent to the roadway ROW (emphasis added).

89. The Orange and Purple Parallel routes have the least impact on nonparticipating landowners. Freeborn Wind has, through voluntary agreements, obtained the rights necessary to construct the Project along the Teal, Orange, and Purple Parallel routes on participants' land **except for a road crossing associated with 830 Avenue.** Freeborn Wind is **seeking a utility permit from Freeborn County for this road crossing to keep the transmission line entirely within**

participating landowner property or public ROW (emphasis added).

152. Prior to construction, Freeborn Wind will coordinate with the applicable local and state road jurisdictional authorities to **obtain the necessary permits for road access and public road ROW use**. For example, Freeborn Wind is seeking a **utility permit from Freeborn County for the crossing of County Road 108/830th Avenue at one-quarter mile south of 120th Street, where Freeborn Wind has proposed a narrowed ROW in order to maintain the ROW for the Project within land owned by participating landowners and within public road ROW**. Freeborn Wind has had multiple constructive discussions with Freeborn County Staff and Shell Rock Township officials, and is confident a thorough Three Part Agreement will be reached that will address all of these issues.

The Findings of Fact repeatedly refer to Freeborn’s efforts in “seeking a utility permit from Freeborn County for this road crossing to keep the transmission line entirely within participating landowner property or public ROW.” Recommendation, FOF 89; see also FOF 73, 152. In the same vein, Commerce Comments state, “Freeborn Wind, in its reply comments, indicates that it is negotiating a Three Part Agreement “to address issues related to utility permits for use of public [right-of-way], including the 108/830th Avenue crossing.” (Reply Comments, at 8).” No mention is made regarding authority for such an agreement. There is no mention of the township road. The record does not contain any information regarding whether the county owns the 830th and 108th road Right of Way in fee, or whether the County has an easement for the roads. The record does not contain any information regarding notice to the non-participating landowners regarding Freeborn’s efforts in “seeking a utility permit from Freeborn County for this road crossing,” and/or whether landowners have been invited or participated in these discussions regarding their land. Further, there is no evidence in the record to support the notion that the County or Township have rights to convey an easement to the utility. There is no example in the record of County or Township road easement having any authority or permission to site a transmission line on this non-participant land. This is why the county has been seeking guidance and approval from staff at Commerce. Exhibits E and F.

New information shows that Freeborn Wind was concerned about this and raised it with the

County and Commerce. A Data Practices Act Request to the County revealed documentation of several discussions between Freeborn Wind and the County, and between County staff and Dept. of Commerce employees, including Larry Hartman, not assigned to this project, who advised the County on legal issues regarding both utility status and use of private easements by Freeborn Wind. Exhibit E, Freeborn County Data Practices Act response (selected). A follow up Data Practices Act Request to the Dept. of Commerce reflects Freeborn Wind's continued concern about land rights at 380th Avenue, but there were, apparently, no records of Larry Hartman's discussions with county staff. Attachment F, Dept. of Commerce Data Practices Act response (selected).

It is at best not appropriate for Commerce staff not assigned to the project to be opining about legal issues and/or encouraging county facilitation of Freeborn Wind encroachment onto non-participant's land. It appears that the County and Commerce/Hartman are working hard to pave the way for Freeborn Wind, that government staff is promoting and facilitating the project, to roll right over the non-participant landowners who do not want transmission on their land.

On the other hand, there is law that holds that while a county, township, or city may have an easement for the road, non-participants' have a fee interest in the land beneath the road:

The general rule applicable to the question is this: If a deed bounds the land upon a street or highway, title passes to the center thereof, subject to the public easement, if there be nothing in the deed, or the location of the land, or the relation of the parties showing a different intention; but where a deed expressly makes the near external line of the highway or street the boundary line of the tract conveyed, and no other language is used indicating a contrary intention, no title to the street passes to the grantee.

Pratt v. Quirk, 119 Minn. 316, 319, 138 N.W. 38, 39 (1912). The Applicant may attempt to take this land by eminent domain¹⁴ or through the county or township, not only because it is not a utility, but "if forced to bring an inverse condemnation action to protect his rights, [a party] may be entitled to recover attorney fees and costs. *See* Minn. Stat. § 117.195, subd. 2 (1994) (when

¹⁴ Application, p. 1.

proceeding dismissed or discontinued, owner may recover reasonable costs and expenses from petitioner); *State v. Miller Home Dev., Inc.*, 243 Minn. 1, 9, 65 N.W.2d 900, 904-05 (1954) (when state brought proceeding to condemn land and right of access appurtenant to land, but abandoned that part of proceeding involving right of access, landowners entitled to costs incurred in defending that taking).” In the Matter of the Condemnation of Certain Lands in the City of White Bear Lake by the City of White Bear Lake Housing and Redevelopment Authority.¹⁵

The matter of the fee interest extending to the centermost point of the road was also an issue in a recent CapX 2020 eminent domain case, which was provided to all parties in a prior AFCL finding¹⁶. The landowner’s Buy the Farm claim was challenged by the utility, claiming its parcels were not contiguous, but the court found that they were contiguous, meeting under the road. Applicants may choose to ignore landowners’ fee interest at their risk.

Encroachment on landowners is also an issue for the Gold Route. The Findings of Fact note that the Gold Route traverses non-participants’ land and note impacts:

28. On January 25, 2018, DOC-EERA filed comments summarizing the EA scoping process and informing the Commission of the route and route segments that DOC-EERA intended to recommend for inclusion in the scoping decision for the EA. DOC-EERA considered the comments submitted during the scoping process regarding the various alternatives proposed. DOC-EERA identified the “Purple Route” and the “Gold Route” segments as alternative routes that co-locate or parallel the Project with existing transmission infrastructure. DOC-EERA recommended that the Deputy Commissioner of Commerce include in the scoping decision the original route proposed by Freeborn Wind (which it calls the “Teal Route”), the Orange Route (which limits the route to participating landowners’ property), and the Purple Route. DOC-EERA did not recommend the Gold Route be included in the scope due **to impacts to non-participating landowners and other issues** (emphasis added).

87. The Gold Route would have the most impact on non-participating landowners because it would require placing the Project on non-participants’ land. Impacts to nonparticipating landowners along the Gold routing options are unavoidable, and will be long-term and significant (emphasis

¹⁵ In the Matter of the Condemnation of Certain Lands in the City of White Bear Lake by the City of White Bear Lake Housing and Redevelopment Authority, C4-96-744, November 12, 1996 (Unpublished)(online: <https://mn.gov/law-library-stat/archive/ctappub/9611/c496744.htm>).

¹⁶ See AFCL Exceptions, end of document, eDocket #[20186-143686-01](#).

added)

Recommendation, FoF 28, 87 (citations omitted).

The Gold Route was specifically not recommended by Commerce-EERA or the ALJ due to routing over non-participants' land. The same rejection must also apply to the Purple Route and Orange Route modification. Further, there is no evidence in the record to support a finding that the County and/or Township have authority to grant an easement for transmission, and there is no evidence in the record to support a finding that they will. Freeborn Wind, LLC does not have the power of eminent domain. The Commission should not approve the Freeborn transmission project because it encroaches over non-participants' land.

V. FREEBORN WIND IS ALREADY NOT IN COMPLIANCE WITH PERMIT

The site permit requires that Invenergy/Freeborn Wind maintain current contact information for Complaints and Complaint Reporting. Freeborn gives the address of 120 East Main Street in Glennville, Minnesota, but that office is now empty. Freeborn Wind must correct the address. Also, a Post Office Box is not an office.

VI. AFCL'S EXCEPTIONS POINT OUT FATAL FLAWS IN ALJ RECOMMENDATION AND COMMISSIONS ORDER.

The AFCL Exceptions are attached below, and included, among other things, procedural errors and objections to the ALJ's multiple statements in Findings giving great weight to "the Applicant's preference," because "the Applicant's preference" is not a factor for routing. Exceptions also pointed out in technicolor, as above, the Applicant's lack of land rights sufficient to build the project.

VII. NEW INFORMATION HAS BECOME AVAILABLE THAT THE COMMISSION SHOULD CONSIDER.

New information has become available that the Commission should consider.

A. Data Practices Act Requests show confusion and Freeborn Wind efforts to gain access to county easements for transmission – an admission that it

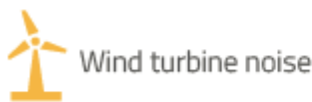
does not have sufficient land rights for the project – and Freeborn County seeks guidance on its legal issue from Commerce staff.

As above, there is new information from Data Practices Act Requests, the responses from Freeborn County and the Dept. of Commerce. The documents produced show acknowledgement of problems through stated concern of Freeborn Wind regarding use of the County’s road easements for transmission, and concern about utility status and eminent domain, not available to a non-utility.

The Freeborn County responses show that the County was seeking and receiving advice from Commerce’s Larry Hartman regarding use of county road easements for transmission and Freeborn’s utility status.

B. World Health Organization addresses Wind Turbine Noise.

For the first time, the World Health Organization has addressed the issue of wind turbine noise and offered precautionary noise guidelines. Exhibit G (selected).



| Recommendation | Strength |
|--|--------------------|
| <p>For average noise exposure, the GDG conditionally recommends reducing noise levels produced by wind turbines below 45 dB L_{den}, as wind turbine noise above this level is associated with adverse health effects.</p> <p>No recommendation is made for average night noise exposure L_{night} of wind turbines. The quality of evidence of night-time exposure to wind turbine noise is too low to allow a recommendation.</p> | <p>Conditional</p> |
| <p>To reduce health effects, the GDG conditionally recommends that policy-makers implement suitable measures to reduce noise exposure from wind turbines in the population exposed to levels above the guideline values for average noise exposure. No evidence is available, however, to facilitate the recommendation of one particular type of intervention over another.</p> | <p>Conditional</p> |

The Commission should review the WHO Environmental Noise Guidelines and consider these

voluntary limitations on noise in the Freeborn Wind project, to be discussed in more detail in that docket's Reconsideration.

VIII. THE COMMISSION SHOULD RECONSIDER ITS DECISION IN THIS TRANSMISSION INTERCONNECTION DOCKET, AND THE ROUTE PERMIT SHOULD BE DENIED, PENDING DEMONSTRATION THAT ALL LAND RIGHTS NEEDED HAVE BEEN ACQUIRED.

The Commission should reconsider its decision, and the Invenergy/Freeborn Wind Transmission Route Permit should be denied. Beyond that, in respect for affected landowners, Association of Freeborn County Landowners takes no position as to the route of the project. Overall, AFCL's position is clear: The community does not consent to this project.

Respectfully submitted,

January 8, 2019



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LINE BY LINE EXCEPTIONS

These are Exceptions of Association of Freeborn County Landowners, and are not all inclusive. Omission of an exception is not acceptance or agreement with any Finding.

AFCL asks that this transmission permit Recommendation be rejected in its entirety. If a wind site permit (IP6946/WS-17-410) should be approved at some point in the future, this transmission docket should be then remanded and set for rehearing. In the alternative, the application should be put on hold, until land rights are secured and a decision is made to grant the Freeborn Wind project site permit (IP6946/WS-17-410), and then remanded and set for rehearing.

Nonetheless, AFCL offers these Exceptions:

SUMMARY OF RECOMMENDATIONS

The Administrative Law Judge concludes that Freeborn Wind has partially satisfied the criteria set forth in Minnesota law for a Route Permit and that both the Orange Route and the Orange Route with the Purple Parallel Segment (Purple Parallel Route) meet the routing criteria and minimize impacts to the human and natural environments.

~~Given the Applicant's preference for the Purple Parallel Route, the Commission should GRANT the Route Permit for the Purple Parallel Route with the modification the Applicant proposed to maintain the entire route on participating landowners' property. That modification would narrow the route at 130th street to match the Orange Route in this area. (invalid due to consideration and weight of "Applicant's preference.")~~

~~Given the Recommendation of the Administrative Law Judge in the wind siting case which this transmission line is to serve, Applicant's preference for the Purple Parallel Route, the Commission should not GRANT the Route Permit unless and until a site permit is granted for the Freeborn Wind Project and the transmission route has been demonstrated to be routed only on participants land. The Administrative Law Judge in this transmission docket recommends for the Purple Parallel Route with the modification the Applicant proposed to maintain the entire route on participating landowners' property. That modification would, however, improperly narrow the route at 130th street to match the Orange Route in this area.~~

In the alternative, the Administrative Law Judge recommends the Commission should grant a Route Permit for the Orange Route but should not GRANT the Route Permit unless and until a site permit is granted for the Freeborn Wind Project and the transmission route has been demonstrated to be routed only on participants land.

FINDINGS OF FACT

2. As part of Invenergy's various generation projects, including wind farms, natural gas facilities, solar projects, and battery storage, Invenergy has, in other states, built 401

miles of transmission lines greater than 69 kV and continues to operate 251 miles of those lines.⁵

5. Freeborn Wind has entered into an agreement with Xcel Energy whereby Xcel Energy will acquire Freeborn Wind upon conclusion of all development activities and subsequently construct, own, and operate the Project.¹⁰ On September 21, 2016, Freeborn Wind entered into a Purchase and Sale Agreement (PSA) with Xcel Energy, and Invenergy.¹¹ The Commission approved the Purchase and Sale Agreement on September 1, 2017.¹² Xcel Energy's acquisition of Freeborn Wind was part of a 1,550 MW wind portfolio proposed by Xcel Energy and approved by the Commission.¹³ Thus, no Certificate of Need is required, and no Certificate of Need has been issued. Xcel Energy will assume the obligations of Freeborn Wind, whether made by the company or imposed by the Commission.¹⁴ Permits, ownership and operation will continue under the Freeborn Wind, LLC, organization.:

7. The Commission's rules establish two tracks for the permitting of HVTL. The "full permitting process" includes preparing an environmental impact statement (EIS) and holding a contested case hearing.¹⁸ The "alternative permitting process" in practice generally applies to modestly sized projects that are not contested or controversial.¹⁹ It requires an EA instead of an EIS and a public hearing instead of a contested case hearing.²⁰ This permitting proceeding is controversial.

15. Fifteen public comments were received during the initial and reply comment periods on the completeness of the Application. The comments were largely related to the potential impacts of the Project and requested the appointment of an advisory task force.³⁵ The Association of Freeborn County Landowners (AFCL) raised completeness issues including organizational form of Freeborn Wind; issues of timing; Minnesota's policy of non-proliferation; viewshed; a listing of eagle nests; no disclosure of eagle and transmission collision potential; County and Township land use plans; routing over non-participants; lack of cost analysis; lack of attribution and apportionment of system upgrade costs; conflicting interconnection information; and requested that "[b]ecause this project and the Freeborn Wind project³⁶ are tied and dependent, these two dockets should be joined as one, ideally the pre-existing 17-410."³⁷ The dockets were not joined.

17. On November 2, 2017, DOC-EERA filed a letter stating that Freeborn Wind's reply comments provided the requested information, including Freeborn's statement that it has acquired all land needed for the project and that it has the power of eminent domain.³⁹

19. On November 8, 2017, Commission Staff filed Briefing Papers for the November 16, 2017, Commission meeting.⁴¹ Staff recommended that the Commission refer this matter to an Administrative Law Judge for a "summary proceeding" which would involve findings of fact, conclusions of law, and a recommendation.⁴² On November 16, 2017, Staff filed amended decision options to provide an option to "combine this application with Docket IP6946/17-410" as requested by AFCL.⁴³ The interdependent nature of this

transmission docket and the wind project siting docket is noted in light of the AJL's Recommendation in Docket IP6946/17-410.

25. On January 2 and January 3, 2018, three individuals filed public comments.⁵⁰ On January 3, 2018, AFCL filed 10 pages of comments, raising issues regarding use of eminent domain; future development and relationship to the land; property values and marketability; MISO interconnection and size/spec of line questions; policy of non-poliferation; existing local corridors; no prohibition of consideration of size, type, and timing; 16 proposed permit conditions and an alternate route (expressly stated as not acceptance of that route).⁵¹

28. On January 25, 2018, DOC-EERA filed comments summarizing the EA scoping process and informing the Commission of the route and route segments that DOC-EERA intended to recommend for inclusion in the scoping decision for the EA.⁵⁴ DOC-EERA considered the comments submitted during the scoping process regarding the various alternatives proposed.⁵⁵ DOC-EERA identified the "Purple Route" and the "Gold Route" segments as alternative routes that co-locate or parallel the Project with existing transmission infrastructure.⁵⁶ DOC-EERA recommended that the Deputy Commissioner of Commerce include in the scoping decision the original route proposed by Freeborn Wind (which it calls the "Teal Route"), the Orange Route (which limits the route to participating landowners' property), and the Purple Route.⁵⁷ DOC-EERA did not recommend the Gold Route be included in the scope due to impacts to non-participating landowners and other issues.⁵⁸ Impacts to landowners on any route option are unavoidable, and will be long-term and significant.

31.5 On February 15, 2015, the Commission filed "Public Comment Batch One" which contained 16 comments supporting the project, from those with a stated interest such as a participant, a business/contractual interest, or a wind developer/financier.

34. On April 2, 2018, a prehearing conference was held before Administrative Law Judge Jim Mortenson. There is no eFiled notice of this prehearing conference. On April 4, 2018, the Administrative Law Judge issued the First Prehearing Order, establishing a schedule for the proceedings.⁶⁷ On May 17, 2018, the Administrative Law Judge issued an Amended First Prehearing Order.⁶⁸

43. Minn. Stat. § 216B.243, subd. 2 (2016) states that "no large energy facility" shall be sited or constructed in Minnesota without the issuance of a Certificate of Need by the Commission.⁸⁶ The proposed Project is not classified as a "large energy facility" under Minn. Stat. §§ 216B.243 and 216B.2421, subd. 2(3) (2016).⁸⁷ While the Project is an HVTL with a capacity of 100 kV or more, it is not more than 10 miles long in Minnesota and it does not cross a state line.⁸⁸ Therefore, a Certificate of Need is not required for the Project.⁸⁹ Because no Certificate has been issued, there is no prohibition of consideration of size, type, and timing.¹

¹ Minn. Stat. §216E.02, Subd. 2; Minn. R. 7850.4200.

48. The Project is located entirely within Shell Rock Township in Freeborn County, Minnesota.¹⁰⁰ This transmission project is expressly designed to serve the Freeborn Wind project, located in Shell Rock, London, Hayward and Oakland townships in Minnesota's Freeborn County, as well as the Iowa Freeborn Wind project in Worth County, Iowa.² All of the Freeborn Wind project's Minnesota and Iowa generation will be sent through a collector system to the project substation, and through this transmission line to the Glenworth substation.

52. In response to comments at the scoping meeting that the route width should be located entirely on land owned by participating landowners, "EERA staff provided Freeborn Wind with a route alternative that also moves the route width to participating landowners' property . . . In response, Freeborn Wind suggested that an adapted EERA route replace the proposed route and be included in the scoping decision. Freeborn Wind proposed a reduced route width for a more precise route location and a slight expansion in the route width for the half-mile segment south of 130th Street to allow for potential colocation with the existing ITC Line, should the company be able to secure easement agreements to obtain adequate right-of-way."¹⁰² Freeborn Wind proposed a new route with the same alignment as the Teal Route, but with a narrower route width that attempts to avoid non-participants' land through use of a 22 foot wide diagonal crossing of a county and township road intersection. This narrowed easement does encroach on the corners of non-participants land. This route is identified as the Orange Route. The Orange Route is not constructible. The Orange Route follows the same alignment as the Teal Route with route widths varying from 225, 250, and 400 feet.¹⁰³

53. The Purple Route Segment was proposed during scoping and follows an existing transmission line corridor.¹⁰⁵ The EA studied two possibilities for this route segment: running the proposed HVTL parallel to the existing ITC Line (paralleling) (Purple Parallel) or overbuilding the proposed HVTL above the ITC Line on new structures within the existing ITC ROW (overbuilding) (Purple Overbuild).¹⁰⁶ The Purple Route Segment includes a small area of the route width of this route segment, located to the east of 810th Avenue crossing 130th Street, with two non-participating landowners,¹⁰⁷ but the Purple Parallel routing option could be constructed entirely on participants' land.¹⁰⁸ As an LLC, Freeborn Wind does not have the power of eminent domain. The Purple Parallel route is not constructible.

54. Traveling south to north, the Purple Route Segment breaks from the Teal/Orange route in the NE 1/4 of S28, T101, R20W where it continues west approximately 1,000 feet along field lines to the existing ITC Line. The route segment turns north and travels along the ITC Line for approximately one and one-quarter miles until it reaches 130th Street, where it rejoins the Teal and Orange routes. Route widths vary from 250, 400, and 600 feet.¹⁰⁹ Constructing the Purple Overbuild Route south of 120th Street would cause some of the ROW to be on a nonparticipant's land. Overbuilding for the first half mile north of 120th could be done all on participating land. The remaining half mile towards 130th Street would require two new transmission easements.¹¹⁰ As an LLC, Freeborn Wind does not have the power of eminent domain. Without the two new

² See Freeborn Wind application, PUC Docket IP6946/WS-17-410.

transmission easements, this route is not constructible.

61. For certain segments, Freeborn Wind proposes to use a vertical configuration, with all conductors located on one side of the pole.¹²⁰ This design is needed to create the correct approach angle for the segment of turn 2 to turn 3 that uses the 22-foot wide ROW across County Road 108/830th Avenue.¹²¹ For the single-circuit 161 kV vertical-designed poles, a braced post structure TSP-161 structure type will be used.¹²² Any route attempting to utilize the 22-foot wide ROW encroaches on non-participant land and is not constructible.

67. Route widths vary from 250, 400, and 600 feet for the Purple Route.¹³² The Purple Route includes a small area with two non-participating landowners,¹³³ but there is no documentation in the record that the Purple Parallel routing option could be constructed entirely on participants' land.¹³⁴ As an LLC, Freeborn Wind does not have the power of eminent domain. Without the landowner easements, this route is not constructible.

70. Contrary to Minnesota's policy of route non-proliferation,³ the entire length of the proposed Project will require new ROW.¹³⁷

73. In one location, at the crossing of County Road 108/830th Avenue at one quarter mile south of 120th Street, a narrowed ROW is proposed to maintain the ROW for the Project within land owned by participating landowners and within public road ROW where Freeborn Wind is seeking a utility permit from Freeborn County. A vertical design with a 22-foot ROW will be used on this single, short span. Freeborn Wind engineers developed a design in this limited area that can be operated in a 22-foot ROW, which is within the 66-foot wide County Road 108 ROW. To ensure adequate clearances, Freeborn Wind proposes a special design using two dead-end structures. The two poles will be located 123 feet apart and the 22-foot ROW would apply only to the area between the two poles. The area needed for construction will be contained on the participating landowners' parcels. The existing distribution line will be buried in this location. Freeborn Wind continues to talk with adjacent landowners and Freeborn County and may propose to change the design and alignment if a voluntary easement is obtained or to meet Freeborn County requirements.¹⁴⁰ As an LLC, Freeborn Wind does not have the power of eminent domain. There is no information in the record regarding authority of Freeborn County to enter into an agreement regarding the 22-foot ROW. Without landowner agreements, this is not constructible. When the proposed line is parallel to a roadway, Freeborn Wind does not intend to locate structures within road ROW, and poles will be placed within the private ROW adjacent to the roadway ROW.¹⁴¹

76. Total Project costs are estimated to be approximately \$3.8-8.05 million, depending on which route option is approved and a variety of other factors, including

³ People for Environmental Enlightenment & Responsibility (PEER), Inc. v. Minnesota Environmental Quality Council, 266 N.W.2d, 858, 868 (Minn. 1978); Minn. Stat. §216E.03, Subd. 7(e).

timing of construction, cost of materials, and labor.¹⁴⁴ Total costs are summarized below in Table 1:¹⁴⁵ * Total includes the cost to construct the entire HVTL, not just the route segment. (chart makes no sense, applies to oranges comparison)

78. The permittee for the Project is Freeborn Wind Energy LLC. Freeborn Wind is currently owned by Invenergy, LLC. Should the Commission issue a route permit for the project, Freeborn Wind will be transferred from Invenergy to Xcel Energy, and Freeborn Wind, LLC would own and operate the transmission line. Freeborn Wind, LLC, is not a public service corporation.¹⁴⁷

87. The Gold Route would have the most impact on non-participating landowners because it would require placing the Project on non-participants' land. Impacts to nonparticipating landowners along the Gold routing options are unavoidable, and will be long-term and significant, as they would be with any route.¹⁵⁷

88. The Purple Overbuild Route would also require constructing the Project on nonparticipants' land, and impacts are unavoidable and will be long-term and significant.¹⁵⁸

89. The Orange and Purple Parallel routes have the least impact on nonparticipating Landowners, only because there are fewer non-participating landowners. The impacts will be the same, unavoidable, long-term, and significant, no matter what route is chosen. Freeborn Wind has, through voluntary agreements, obtained the rights necessary to construct the Project along the Teal, Orange, and Purple Parallel routes on participants' land except for a road crossing associated with 830 Avenue.¹⁵⁹ Freeborn Wind is seeking a utility permit from Freeborn County for this road crossing to keep the transmission line entirely within participating landowner property or public ROW.¹⁶⁰ As an LLC, Freeborn Wind does not have the power of eminent domain.

95. Freeborn Wind committed to take steps to comply with all applicable Minnesota noise standards.¹⁷⁰ For example, noise from intermittent and infrequent construction activities will be mitigated by the distance of the activity from a receptor (e.g., construction activities will not be near residences, farmsteads, etc.), using sound control devices on vehicles and equipment, conducting construction activities during daylight hours as much as possible during normal business hours, and not running vehicles and equipment when not needed.¹⁷¹ When exceedences occur, the activity must stop. Compliance with noise standards shall be a condition of the permit.

99. Aesthetic impacts are associated with residents viewing the HVTL from their homes, residents traveling in the project area, recreationalists along the Shell Rock River and Shell Rock Water Trail, and nonresidents traveling through the Project Area. Residents and recreationalists generally have a higher sensitivity to potential aesthetic impacts than temporary observers.¹⁷⁹

120. The results of these studies can be summarized, generally, as follows:

- Over time, there is a consistent pattern with about half of the studies

finding negative property value effects and half finding none.

- When effects have been found, they tend to be small; almost always less than 10 percent and usually in the range of three percent to six percent. A 3 or 6 or 10% impact on a typical \$150-300k home with acreage would not be “small” to that homeowner, and a 3 or 6 or 10% impact on a \$1.2 million dollar farm is significant amount of money. This loss would also represent a loss in property tax revenue.

- Where effects are found, they decay rapidly as distance to the lines increases and usually disappear at about 200 feet to 300 feet.

- Two studies investigating the behavior of the effect over time find that, where there are effects, they tended to dissipate over time.²¹⁸

122. There is no evidence in the record that shows a property value guarantee is or is not warranted for the Project.

134. ~~Magnetic-Electric~~ fields may interfere with implantable electromechanical medical devices, such as pacemakers, defibrillators, neurostimulators, and insulin pumps.²³¹ However, interference from magnetic fields in pacemakers is not observed until 2,000 mG—a field strength greater than that associated with transmission lines.²³²

152. Prior to construction, Freeborn Wind will coordinate with the applicable local and state road jurisdictional authorities to obtain the necessary permits for road access and public road ROW use.²⁵⁵ For example, Freeborn Wind is seeking a utility permit from Freeborn County for the crossing of County Road 108/830th Avenue at one-quarter mile south of 120th Street, where Freeborn Wind has proposed a narrowed ROW in order to maintain the ROW for the Project within land owned by participating landowners and within public road ROW.²⁵⁶ As an LLC, Freeborn Wind does not have the power of eminent domain. There is no evidence in the record demonstrating that Freeborn Wind has had multiple constructive discussions with Freeborn County Staff and Shell Rock Township officials, and there has been no notice of any meetings with Shell Rock Township officials.⁴and is confident a thorough Three Part Agreement will be reached that will address all of these issues.²⁵⁷

242. The Gold Route and Purple Route co-locate the Project with existing transmission lines for their entire lengths.⁴⁰³ The Teal Route and Orange Route do not share ROW with an existing transmission line route; however, a significant portion 21% of these routes follow existing roadways.⁴⁰⁴ Agricultural field boundaries are not existing transportation, pipeline, and electrical transmission right of way.

246. The evidence on the record does not demonstrates that it will be most cost-effective to collect all energy generated in Minnesota and Iowa and transmit to the Minnesota project substation and to- construct the Project along the Teal, Orange, or Purple Parallel routes to the new Glenworth substation in Minnesota.⁴⁰⁸ Absent a

⁴ There are only 3 voting supervisors, and any meeting of more than two requires publication of notice under Open Meeting Law.

Minnesota wind siting permit, there is no evidence in the record regarding cost effectiveness of this transmission project.

255. The PPSA presumes irreversible and irretrievable commitments of resources, such as land for the project lost for production, a permanent change in vista with transmission lines, and establishment of a transmission corridor where there once was none. Project will require minimal commitments of resources that are irreversible and irretrievable. Only Others include construction resources, such as concrete, steel, and hydrocarbon fuels, will be irreversibly and irretrievably committed to this Project. During construction, vehicles necessary for these activities would be deployed on site and would need to travel to and from the construction area, consuming hydrocarbon fuels. Other resources would be used in pole construction, pole placement, and other construction activities.⁴¹⁷

~~262. As set forth above, because the Teal, Orange, and Purple Parallel routes make use of existing ROW and generally compare favorably in terms of cost to the route alternatives, the record demonstrates that the Teal, Orange, and Purple Parallel routes best meet Minnesota's route selection criteria. Based on consideration of all routing factors and the Applicant's preference, the Orange Route combined with the Purple Parallel Route is the best route for the Project. (invalid due to weight given to "the Applicant's preference.") (There is no analysis in this summary section of the PEER and Minn. Stat. §216E.03, Subd. 7(e) non-proliferation factor.)~~

266. The EA process is the alternative environmental review approved for high voltage transmission lines.⁴²⁰ The Commission is required by the rule to determine the "completeness" of the EA.⁴²¹ An EA is complete if it and the record address the issues and alternatives identified in the Scoping Decision. Adequacy of the EA should also be determined for MEPA compliance. Minn. Stat. §116D.04.

CONCLUSIONS OF LAW

12. The evidence on the record demonstrates that, in addition to the Special Route Permit Conditions referenced above, the general Route Permit conditions are appropriate for the Project, including a requirement of compliance with MPCA noise standards.

~~The Commission should **GRANT** a Route Permit with the general and special route permit conditions for a 161 kV HVTL along the Purple Parallel Route **based on Applicant's preference** and with Applicant's proposed modification to narrow the route by 130th Street to match the Orange Route in this area. (invalid due to weight and consideration of "Applicant's preference.")~~

~~In the alternative, the Commission should grant a Route Permit for the Orange Route with the general and special route permit conditions **based on the Applicant's preference.** (invalid due to consideration and weight of "Applicant's preference.")~~

STATE OF MINNESOTA
BEFORE THE
MINNESOTA PUBLIC UTILITIES COMMISSION

Nancy Lange
Dan Lipschultz
Matt Schuerger
Katie Sieben
John A. Tuma

Chair
Commissioner
Commissioner
Commissioner
Commissioner

In the Matter of the Application of Freeborn
Wind Farm, LLC for a Large Wind
Energy Conversion System Site Permit for the
84 MW Freeborn Wind Farm in Freeborn
County.

PUC Docket No. IP-6946/WS-17-410

In the Matter of the Application of Freeborn
Wind Energy LLC for a Route Permit for the
Freeborn Wind Transmission Line in
Freeborn County

PUC Docket No. IP-6946/TL-17-322

AFFIDAVIT OF CAROL A. OVERLAND
IN SUPPORT OF ASSOCIATION OF FREEBORN COUNTY LANDOWNERS
PETITION FOR RECONSIDERATION

STATE OF MINNESOTA)
) ss.
COUNTY OF GOODHUE)

Carol A. Overland, after duly affirming on oath, states and deposes as follows:

1. I am an attorney in good standing, licensed in the State of Minnesota, Lic. No. 254617, and have extensive experience in utility regulatory proceedings in many venues.
2. I am representing the Association of Freeborn County Landowners in both of the above-captioned proceedings.

3. I offer the Exhibits below in support of Association of Freeborn County Landowners' Petition for Reconsideration in the siting docket and the transmission docket.

INFORMATION THE COMMISSION IGNORED – IRREGULARITIES AND ILLEGALITIES – LAND RIGHTS MUST BE INDEPENDENTLY VERIFIED

4. Attached as Exhibit A is a true and correct copy of Robert B. Knutson's notarized eDockets filing dated August 10, 2018.
5. Attached as Exhibit B is a true and correct copy of Carol A. Overland's eDockets filing dated July 24, 2018. In that filing is a copy of the Order revoking the notary Commission of Thomas Spitzer dated June 26, 2018.

IRREGULARITIES – LAND RIGHTS MUST BE INDEPENDENTLY VERIFIED

6. Attached as Exhibit C is a true and correct copy of three easements and easement amendments signed by William Glen Gillen, identified as "a single person." The initial Grant of Easement was dated July 24, 2015; the First Amendment of Easement was dated July 31, 2017; and the Second Amendment of Easement was dated April 10, 2018. Each of these three agreements was signed by William Glen Gillen as "a single person." The July 31, 2017 and April 10, 2018 agreements were notarized by Thomas Spitzer, prior to revocation of his notary commission.
7. Attached as Exhibit D is a true and correct copy of William Glen Gillen's marriage license dated September 21, 2013. A search of District Court files does not show any record of a divorce for William Glen Gillen's since that time.

NEW INFORMATION

8. A Data Practices Act to Freeborn County revealed that County staff had been seeking and receiving advice from Larry Hartman, Commerce, about utility status of Freeborn Wind and power of eminent domain, and the use by Freeborn Wind of county road easements for transmission. Attached as Exhibit E is a true and correct copy of emails received in response to the AFCL Data Practices Act request to Freeborn County.
9. The Freeborn County Data Practices Act responsive emails that discuss use of the County Road for the transmission easement, over non-participant's land established a trail to Larry Hartman of Commerce, and AFCL sent a Data Practices Act Request to the Dept. of Commerce for any documents in its possession regarding the Freeborn Wind transmission easement and county road easement, and the utility status of Freeborn Wind and the power of eminent domain. Attached as Exhibit F is a true and correct copy of selected emails referencing easements and right of way, utility status, and discussions

10. Other directly relevant new information has surfaced since the Commission's meeting. On October 10, 2018, the World Health Organization released its Environmental Noise Guidelines. Attached as Exhibit G is a true and correct copy of selected pages of the World Health Organization report, those related to wind noise, pages 77-86. The full report is available online at: <http://www.euro.who.int/en/media-centre/sections/press-releases/2018/press-information-note-on-the-launch-of-the-who-environmental-noise-guidelines-for-the-european-region>

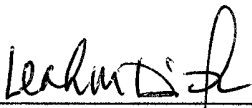
Further your affiant sayeth naught.

Dated: January 8th, 2019



Carol A. Overland MN Lic. 254617
Attorney for Association of Freeborn
County Landowners
Legalelectric
1110 West Avenue
Red Wing, MN 55066
(612) 227-8638
overland@legalelectric.org

Signed and sworn to before me this
8th day of January, 2019



Notary Public



Exhibit A

eFiled Notarized Letter from Robert B. Knutsen

Commerce Enforcement Complaint re: Invenergy's Thomas Spitzer

August 10, 2018 – eDockets # 20188-145697-01

EXECPTIONS TO RECOMMENDATION

August 10, 2018

PUC Docket 17-322

PUC Docket 17-410

Dear Public Utility Commissioners,

I am the person who filed a complaint against Thomas Spitzer for falsely notarizing my signature. When I was not present, he notarized a signature as mine that was not mine.

He was removed from his office as a notary in the state of Minnesota and he was fined by the MN Commerce Department.

I ask the following of the PUC:

- Review all leases notarized by Thomas Spitzer;
- Declare my lease invalid because I didn't sign it and it's fraudulent;
- Require Freeborn Wind to renew leases with all parties with a lease notarized by Thomas Spitzer; and
- Deny the transmission and the siting permit because of fraudulent land acquisition practices.

Robert B Knutson
76901 150th St
Albert Lea MN 56007
507-402-1250
Lknutson@deskmedia.com

Robert B Knutson
8-10-18

Notary
State of MN
Freeborn County

Subscribed to and sworn before me
this 10 day of August 2018
by Robert B Knutson

Brenda S Bangs

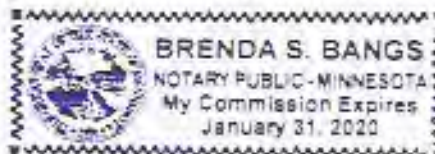


Exhibit B

eFiled Letter - Commerce Enforcement Action Order

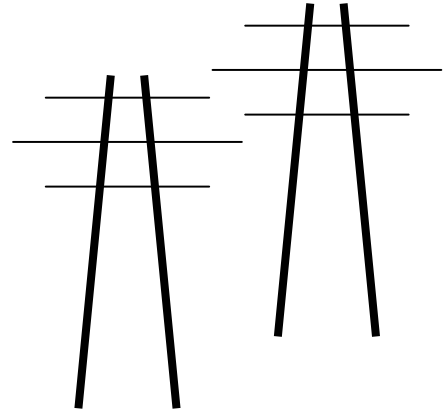
Invenergy's Thomas Spitzer

July 24, 2018 – eDockets # 20187-145162-01

Legalelectric, Inc.

Carol Overland Attorney at Law, MN #254617
Energy Consultant—Transmission, Power Plants, Nuclear Waste
overland@legalelectric.org

1110 West Avenue
Red Wing, Minnesota 55066
612.227.8638



July 24, 2018

Dan Wolf
Executive Secretary
Public Utilities Commission
121 – 7th Place East, Suite 350
St. Paul, MN 55101

via eFiling and eService only

RE: Order - Commerce Enforcement Action – Invenergy’s Thomas Spitzer
Commerce Enforcement Action and Order Revoking Commission and Fine
Freeborn Wind, LLC - MPCU Docket: IP-6946/WS-17-410; IP-6946/WS-17-322

Dear Mr. Wolf:

On behalf of Association of Freeborn County Landowners, I attach a copy of a Commerce Enforcement Action Order regarding Thomas Spitzer, revoking his notary commission and assessing a \$500 fine.¹ AFCL awaits further information from the Commerce investigation file through the Data Practices Act earlier this month.

Thomas Spitzer notarized leases for Invenergy and because he notarized improperly, sufficient for his commission to be revoked, this calls into question the validity of at least one, and perhaps more, land leases for the Freeborn Wind Project.

AFCL requests that the Commission make a direct request and obtain the primary documentation from Commerce for review prior to consideration of the Freeborn Wind site permit.

Thank you for your consideration of these matters.

Very truly yours,

Carol A. Overland
Attorney at Law

¹Online at: <https://www.cards.commerce.state.mn.us/CARDS/security/search.do?documentId={9DE2F4F8-D4CE-46E0-99F5-EC586625586A}>

JUN 26 2018

Rec'd \$

500

File: 49913/lr

STATE OF MINNESOTA
DEPARTMENT OF COMMERCE

In the Matter of
Thomas S Spitzer
Notary Commission #31080307

CONSENT ORDER

TO: Thomas Spitzer
24800 41st NE
Wilton, ND 58579

Commissioner of Commerce Jessica Looman (Commissioner) has determined as follows:

The Commissioner has advised Thomas Spitzer (Respondent) that she is prepared to commence formal action pursuant to Minn. Stat. § 45.027 (2016), and other applicable law, against Respondent based on allegations that Respondent affixed his signature and notary stamp to a document without witnessing the actual signing of the document by another person in violation of Minn. Stat. § 359.085 subd. 3 (2016).

Respondent acknowledges that he has been advised of his rights to a hearing in this matter, to present argument to the Commissioner and to appeal from any adverse determination after a hearing, and Respondent hereby expressly waives those rights. Respondent further acknowledges that he has been represented by legal counsel throughout these proceedings, or has been advised of his right to be represented by legal counsel, which right he hereby expressly waives.

Respondent has agreed to informal disposition of this matter without a hearing as provided under Minn. Stat § 14.59 (2016) and Minn. R. 1400.5900 (2016).

The following Order is in the public interest.

NOW, THEREFORE, IT IS HEREBY ORDERED, pursuant to Minn. Stat. § 45.027, subd. 6 (2016), that Respondent shall pay to the state of Minnesota a civil penalty of \$500.

IT IS HEREBY ORDERED, pursuant to Minn. Stat. §§ 45.027, subd. 7 and 359.12 (2016), that Respondent is removed from his office as a notary in the state of Minnesota.

IT IS HEREBY ORDERED, pursuant to Minn. Stat. § 359.12 (2016), that Respondent shall surrender his official notary stamp and deliver it to the Commissioner within five days of the effective date of this order.

This Order shall be effective upon signature on behalf of the Commissioner.

Dated: 6-29-2018

JESSICA LOOMAN
Commissioner

By:



MARTIN FLEISCHHACKER
Minnesota Department of Commerce
Assistant Commissioner of Enforcement
85 Seventh Place East, Suite 280
Saint Paul, Minnesota 55101
651-539-1600

CONSENT TO ENTRY OF ORDER

The undersigned, Thomas Spitzer ("Respondent"), states that he has read the foregoing Consent Order; that he knows and fully understands its contents and effect; Respondent acknowledges that he has been advised of his rights to a hearing in this matter, to present argument to the Commissioner and to appeal from any adverse determination after a hearing, and Respondent hereby expressly waives those rights. Respondent further acknowledges that he has been represented by legal counsel throughout these proceedings, or has been advised of his right to be represented by legal counsel, which right he hereby expressly waives; and he consents to entry of this Order by the Commissioner. It is further understood that this Consent Order constitutes the entire settlement agreement between the parties, there being no other promises or agreements, either express or implied.

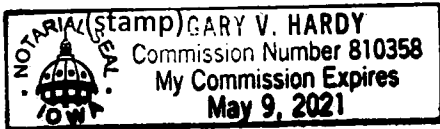
Respondent

By: *Thomas S. Spitzer*
Thomas S. Spitzer

STATE OF IOWA
COUNTY OF Worth

This instrument was acknowledged before me this 21st day of June, 20 18,
by Gary V. Hardy.

Gary V. Hardy
(Signature of notary officer)



My commission expires: 5-9-21

Exhibit C

William Gillen Easements and Easement Amendments

Signed as “a single person”

OFFICE OF COUNTY RECORDER
FREEBORN COUNTY, MINNESOTA



Document A- 524349

Certified, Filed, and/or Recorded on:

October 28, 2016 11:15 AM

KELLY CALLAHAN

FEE: \$46.00

FREEBORN COUNTY RECORDER

By: NH

The space above this line is reserved for recording purposes.

GRANT OF EASEMENTS

THIS GRANT OF EASEMENTS (this "Agreement") is made, dated and effective as of July 24, 2015 (the "Effective Date"), between **William Gillen, a single person** (together with his successors, assigns and heirs, "Owner"), and INVENERGY WIND DEVELOPMENT LLC, a Delaware limited liability company (together with its transferees, successors and assigns, "Grantee"), and in connection herewith, Owner and Grantee agree, covenant and contract as set forth in this Grant of Easements.

1. Grant of Easement and Profits. For good and valuable consideration, the receipt of which is hereby acknowledged by Owner, Owner hereby grants, bargains, sells, conveys and warrants to Grantee an exclusive easement for wind energy purposes and for any and all activities related thereto upon, over, across, through and under the real property of Owner located in the County of Freeborn, State of Minnesota and legally described on Exhibit A attached hereto and incorporated herein (the "Property"), together with the right to all rents, royalties, credits and profits derived from wind energy purposes upon, over and across the Property.

The Easement Premises are that portion of the Property shown on Exhibit B which shall consist horizontally three hundred and sixty degrees (360°) from any point where any Windpower collection Facilities are or may be located at any time from time to time (each such location referred to as a "Site") and for a distance from each Site to the boundaries of the Easement Premises together vertically through all space located above the surface of the Easement Premises, that is, one hundred eighty degrees (180°) or such greater number or numbers of degrees as may be necessary to extend from each point on and along a line drawn along the surface from each point along the exterior boundary of the Easement Premises through each Site to each point and on and along such line to the opposite exterior boundary of the Easement Premises.

2. Wind Energy. Under this Grant of Easements, "wind energy purposes" means converting wind energy into electrical energy, and collecting and transmitting the electrical energy so converted, together with any and all activities related thereto, including, without limitation:

(a) determining the feasibility of wind energy conversion and other power generation on the Property, including studies of wind speed, wind direction and other meteorological data, extracting soil samples, and erecting anemometers;

(b) constructing, laying down, installing, using, replacing, relocating and removing from time to time, and maintaining and operating, wind turbines, overhead and

IN WITNESS WHEREOF, Owner and Grantee, acting through their duly authorized representatives, have executed this Agreement with the intent that it be effective as of the Effective Date, and certify that they have read, understand and agree to the terms and conditions of this Agreement.

OWNER:

William Gillen, a single person

William Gillen
William Gillen, a single person

GRANTEE:

INVENERGY WIND DEVELOPMENT LLC,
a Delaware limited liability company

By: Kevin Parzyck
Name: Kevin Parzyck
Title: Vice President, Development

This Document Drafted By:

Invenergy Wind Development LLC
Attn: Michael Svedeman
One South Wacker Drive
Chicago, IL 60606 312-224-1400

**Recording Requested By and
When Recorded Return to:**

Invenergy Wind Development LLC
c/o Invenergy LLC
Attn: Land Administration
One South Wacker Drive
Chicago, IL 60606 312-224-1400

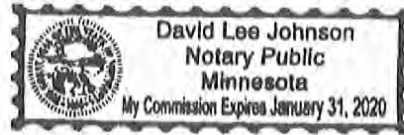
ACKNOWLEDGMENT

STATE OF MINNESOTA)
) SS.
COUNTY OF Freeborn)

4

Personally came before me this 10 day of September, 2015
William Gillen, who executed the foregoing instrument, and
acknowledged the same. a single person

(SEAL)



Name: David Lee Johnson
Notary Public, State of Minnesota
My Commission: January 31, 2020

ACKNOWLEDGMENT

STATE OF ILLINOIS)
) SS.
COUNTY OF COOK)

Personally came before me this 23 day of September
2015, Kevin Parzyck, the Vice President of Invenergy Wind Development LLC, who executed
the foregoing instrument, and acknowledged the same, on behalf of Invenergy Wind
Development LLC, a Delaware limited liability company.

(SEAL)



Name: Samia K. Atasi
Notary Public, State of Illinois
My Commission: 4/9/19

EXHIBIT A
The Property

Schedule of Locations:

| <u>Parcel Number</u> | <u>County</u> | <u>Township/ Range</u> | <u>Section</u> | <u>Acreage</u> |
|----------------------|---------------|------------------------|----------------|----------------|
| 020140051 | Freeborn | 101/20 | 14 | 40.00 |
| | | | Total | <hr/> 40.00 |

Legal Description:

NW 1/4 NW 1/4 of Section 14, Township 101 North, Range 20 West containing 40.00 acres more or less.

OFFICE OF COUNTY RECORDER
FREEBORN COUNTY, MINNESOTA



Document A- 528580

Certified, Filed, and/or Recorded on:

August 17, 2017 9:20 AM

KELLY CALLAHAN

FEE: \$46.00

FREEBORN COUNTY RECORDER

By: NH

DRAFTED BY AND UPON RECORDING RETURN TO:
INVENERGY WIND DEVELOPMENT LLC
ONE SOUTH WACKER DRIVE, SUITE 2020
CHICAGO, IL 60606

THE SPACE ABOVE THIS LINE IS RESERVED FOR RECORDING PURPOSES.

FIRST AMENDMENT TO AGREEMENT REGARDING EASEMENTS

THIS FIRST AMENDMENT TO AGREEMENT REGARDING EASEMENTS (this "Amendment") is made as of July 31, 2017 by and between William Gillen, a single person (together with his successors, assigns and heirs, "Owner") and Invenergy Wind Development LLC, a Delaware limited liability company (together with its transferees, successors and assigns "Grantee") and in connection herewith, Owner and Grantee agree, covenant and contract as set forth in this Amendment

WITNESSETH:

WHEREAS, Grantee and Owner are parties to that certain Agreement Regarding Easements dated July 24, 2015 as evidenced by that certain Grant of Easements recorded on October 28, 2016 as Document No. A-524349 in the official records of Freeborn County, Minnesota (collectively, the "Agreement"), as such property is more particularly described in Schedule A hereto.

WHEREAS, Grantee and Owner desire to amend the Agreement on the terms and conditions as provided below.

NOW THEREFORE, in consideration of the mutual covenants contained herein and other good and valuable consideration the receipt and sufficiency of which is hereby acknowledged, Grantee and Owner hereby agree that the Agreement shall be amended as follows:

1. **Recitals.** The foregoing recitals are hereby incorporated herein by this reference.
2. **Exhibit C.** Exhibit C of the Agreement Regarding Easements is amended as shown on Schedule B hereto. Schedule B will be removed prior to recording, and the removal thereof shall not affect the validity hereof.

OFFICE OF COUNTY RECORDER
FREEBORN COUNTY, MINNESOTA



Document A- 531971

Certified, Filed, and/or Recorded on:

April 16, 2018 1:25 PM

KELLY CALLAHAN

FEE: \$46.00

FREEBORN COUNTY RECORDER

By: NH

DRAFTED BY AND UPON RECORDING RETURN TO:
INVENERGY WIND DEVELOPMENT LLC
ONE SOUTH WACKER DRIVE, SUITE 1800
CHICAGO, IL 60606

THE SPACE ABOVE THIS LINE IS RESERVED FOR RECORDING PURPOSES.

SECOND AMENDMENT TO AGREEMENT REGARDING EASEMENTS

THIS SECOND AMENDMENT TO AGREEMENT REGARDING EASEMENTS (this "Amendment") is made as of April 10, 2018 by and between **William Gillen; a single person** (together with its transferees, successors and assigns, "Owner") and Invenergy Wind Development LLC, a Delaware limited liability company (together with its transferees, successors and assigns "Grantee") and in connection herewith, Owner and Grantee agree, covenant and contract as set forth in this Amendment

WITNESSETH:

WHEREAS, Grantee and Owner are parties to that certain Agreement Regarding Easements dated July 24, 2015 as evidenced by that certain Grant of Easements recorded on October 28, 2016 as Document No. A-524349, and amended by that First Amendment to Agreement Regarding Easements dated July 31, 2017, recorded on August 17, 2017 as Document No. A-528580 in the official records of Freeborn County, Minnesota (collectively, the "Agreement"), as such property is more particularly described in Schedule A hereto.

WHEREAS, Grantee and Owner desire to amend the Agreement on the terms and conditions as provided below.

NOW THEREFORE, in consideration of the mutual covenants contained herein and other good and valuable consideration the receipt and sufficiency of which is hereby acknowledged, Grantee and Owner hereby agree that the Agreement shall be amended as follows:

1. **Recitals.** The foregoing recitals are hereby incorporated herein by this reference.

IN WITNESS WHEREOF, the parties hereto having due authorization on behalf of their respective entities have executed this Amendment as of the day and year set forth above.

Owner:

William Gillen
William Gillen

Grantee: ~~Invenergy~~ Wind Development LLC

By: Kevin E. Parzyck
Its: Vice President

STATE OF Minnesota)
) ss.
COUNTY OF Fuelton)

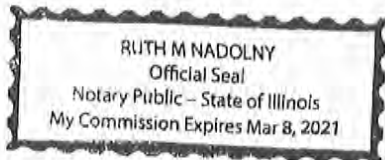
On the 5th day of April, 2018 before me, a Notary Public, in and for said County personally appeared William Gillen, a single person, to me known to be the same person(s) described in and who executed the within instrument, who acknowledged the same to be his/her/their free act and deed.



Thomas Spitz
Notary Public

STATE OF Illinois)
) ss. 1-31-2022
COUNTY OF COOK)

The foregoing instrument was acknowledged before me this 10th day of April, 2018, by Kevin E. Parzyck the Vice President of Invenergy Wind Development LLC, a Delaware limited liability company, on behalf of the limited liability company.



Ruth M. Nadolny
Notary Public

3-8-2021

**SCHEDULE A
TO
SECOND AMENDMENT
TO AGREEMENT REGARDING EASEMENTS**

LEGAL DESCRIPTION OF OWNER'S PROPERTY

The Northwest Quarter of the Northwest Quarter (NW1/4 NW1/4) of Section Fourteen (14), Township One Hundred One (101) North, Range Twenty (20) West of the Fifth Principal Meridian, Freeborn County, Minnesota.

Tax Parcel ID No. 02.014.0051

Exhibit D

William Gillen Marriage License

Filed October 10, 2013

NOT FOR LEGAL PURPOSES

STATE OF IOWA
IOWA DEPARTMENT OF PUBLIC HEALTH
CERTIFICATE OF MARRIAGE
Marriage Ceremony Performed In the State of Iowa

114-

LICENSE COUNTY: WORTH NUMBER: 28141

| | | |
|--|--------------|--|
| PARTY A - NAME BEFORE MARRIAGE FIRST MIDDLE LAST SUFFIX, if any | | LAST NAME PRIOR TO ANY MARRIAGE |
| 1. Melinda Marie Bartz | | 1b. Berg |
| PARTY A - NAME AFTER MARRIAGE FIRST MIDDLE LAST SUFFIX, if any | | |
| 1c. Melinda Marie Bartz Gillen | | |
| 2a. Iowa | 2b. Worth | 2c. Northwood |
| 3. Iowa | | 4. December 10, 1961 |
| 5. Allen Jene Berg | | 6. Marsha Rae Fox |
| PARTY B - NAME BEFORE MARRIAGE FIRST MIDDLE LAST SUFFIX, if any | | LAST NAME PRIOR TO ANY MARRIAGE |
| 7. William Glen Gillen | | 7b. Gillen |
| PARTY B - NAME AFTER MARRIAGE FIRST MIDDLE LAST SUFFIX, if any | | |
| 7c. William Glen Gillen | | |
| 8a. Minnesota | 8b. Freeborn | 8c. Glenville |
| 9. Minnesota | | 10. October 23, 1963 |
| 11. Jacob Gregory Gillen | | 12. Ruth Schwistal |
| 13a. <i>Melinda Bartz Gillen</i> | | 13b. <i>William Glen Gillen</i> |
| 13c. <i>September 21 2013</i> | | |
| 14. <i>09/21/2013</i> | | 14b. <i>Worth</i> |
| 14c. <i>Kensett</i> | | 14d. <i>No</i> |
| 15a. <i>Rev Thomas E. Martin</i> | | 15b. <i>P.O. BOX 38, KENSETT, IA 50498</i> |
| 16a. <i>Tamera Patterson</i> | | 16b. <i>Adam Bartz</i> |
| 17a. <i>Liz Kerison</i> | | 17b. <i>OCTOBER 10, 2013</i> |

PLEASE PRINT NAMES OF:
 OFFICIANT REV. THOMAS E. MARTIN
 FIRST WITNESS Tamera Patterson
 SECOND WITNESS Adam Bartz

NOT FOR LEGAL PURPOSES

Exhibit E

Data Practices Act Request Responses

Requested November 21, 2018

Freeborn County

References to discussions with Commerce's Larry Hartman p. 10, 13, 19.

Sue G. Miller

From: Sue G. Miller
Sent: Tuesday, November 29, 2016 3:21 PM
To: John Kluever
Subject: Re: Wind energy informational workshop

Most of my company will be gone by then so I should be there...

Thanks.
Sue

On Nov 29, 2016, at 3:16 PM, John Kluever <John.kluever@co.freeborn.mn.us> wrote:

Chicago guy(s) here for the workshop on 12/28 at 9:00.

From: John Kluever
Sent: Tuesday, November 29, 2016 3:16 PM
To: 'Litchfield, Daniel'
Cc: Svedeman, Michael
Subject: RE: Wind energy informational workshop

Thanks for the call and look forward to seeing you on 12/28 at 9:00.

From: Litchfield, Daniel [<mailto:DLitchfield@invenergyllc.com>]
Sent: Monday, November 28, 2016 12:11 PM
To: John Kluever
Cc: Svedeman, Michael
Subject: Wind energy informational workshop

Hi John,

I just left you a voicemail about an idea for a wind energy workshop. It partially came from a meeting with Commissioner Belshan a few weeks ago. I asked if we should come present to a Commissioners' meeting and he said no, but maybe a workshop. I'm wondering what he meant by that. We are considering our own concept for a workshop/informational forum and I'd appreciate your opinion on a few matters.

Dan Litchfield | Senior Manager, Project Development
Invenergy LLC | One South Wacker Drive, Suite 1800, Chicago, IL 60606
ditchfield@invenergyllc.com T 312-582-1057 | C 773-318-1289 | F 312-224-1444

<image001.jpg>

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Sue G. Miller

From: Sue G. Miller
Sent: Friday, November 04, 2016 2:37 PM
To: 'Dan Belshan'
Cc: John Kluever
Subject: Xcel Wind
Attachments: Xcel Wind Farm initial mtg w PW 102616.docx; tentative boundary as of 102616 per invenergy.pdf

Hi Dan,

Here is the information on Xcel that we have...let us know if there is more going on out there that we should be involved in now.

Thanks. And enjoy this awesome weather!!

sue

Susan G. Miller
Freeborn County Engineer
3300 Bridge Avenue
Albert Lea, MN
sue.miller@co.freeborn.mn.us
(507) 377-5188

NOTE TO FILE

Xcel Wind Farm Development Meeting

1:30 pm, Wednesday @ FCHD

October 26, 2016

John Kluever and Sue Miller met with Dan Litchfield, Invenergy (see contact info below) for an introductory meeting with Public Works. Previously, John Kluever and Wayne Sorensen have met with representatives of Invenergy regarding future development in the southeast corner of Freeborn County.

Area and Plan:

Proposed is the construction of 200 Mega Watt Wind Farm (2 mW towers ~ 100 towers).

Area will include parts of Riceland, Hayward, Oakland, London, Shell Rock and Worth County.

Substation to serve this area is south of the City of Glenville

Tentative Timeline:

Acquisition – Completed by Jan/Feb 2017

Layout/Permitting – Beginning in Spring 2017; completed in 2017 including the County developer agreement.

Construction – Earliest in 2018. Latest in 2020.

Invenergy

www.invenergyllc.com

Dan Litchfield, Sr. Mgr, Business Development

office: 312.582.1057 cell: 773.318.1289

dlitchfield@invenergyllc.com

One South Wacker Drive, Suite 1800
Chicago, IL 60606

General Discussion:

Tower siting and haul roads have not been determined as landowner lease agreements are about 60% of what they would need to move forward. Landowner dinners have been held and most of the town boards have been visited for introductory meetings. No laydown yard has been sited. It has not been determined if rail will be used or not, but certainly this area has good highway access so Invenergy stated that is more probable.

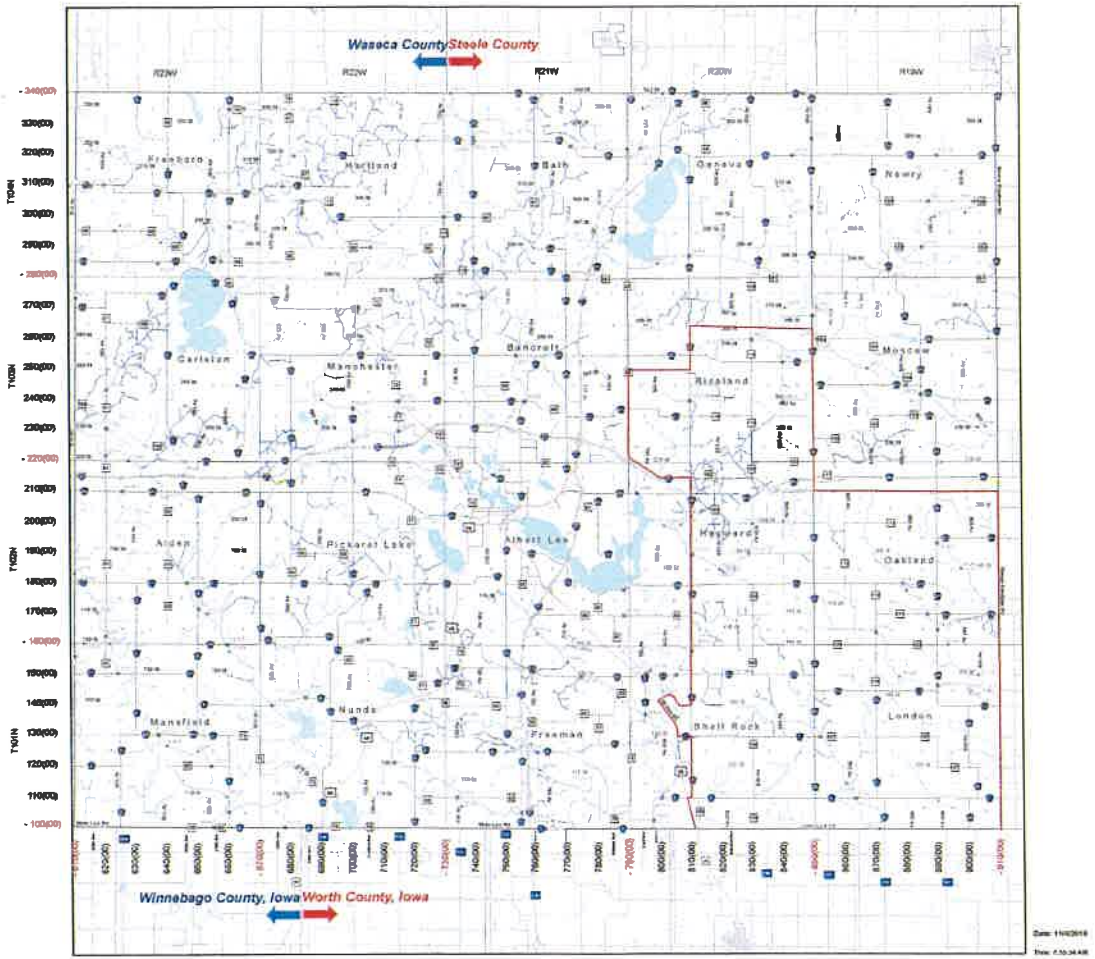
Invenergy will work with Xcel Power Company as the eventual owner. Invenergy will do all the siting and permitting including the county developer agreement with haul roads, etc; but not including building permits and access permits. Xcel will do the building permits and access permits. Xcel will also hire the contractors and run the actual construction. Concern was expressed from the County on the perspective that Xcel should be a signatory to the developers agreement citing a previous project and the problems with a large pipeline constructed in the County with the contractors unawareness and lack of contractual inclusion of County requirements in third party negotiated agreements and permits.

Discussion about environmental impacts and communication impacts from the towers and construction also yielded Invenergy's knowledge and mapping of existing conditions but admitted that communications can be one of the biggest post construction complaints. Invenergy has not done a project in Minnesota but has completed projects in VanWert and Pauling counties in Ohio. As in Ohio, a repeated theme from landowners is the concern for agricultural drainage. John Kluever also noted the need to include the County agricultural drainage system in the discussion.

Next steps:

- Public Works should dust off Township agreements in order to offer to the townships the option of designation of their road authority to the County for project purposes.
- Public Works should contact County Engineer in Ohio counties mentioned, maybe even check with Fred to see what he knows of the Ohio projects.
- Public Works should reach out to Rich in Worth County to see their level of involvement and understand their road agreements if any.

end-----



Sue G. Miller

From: Litchfield, Daniel <DLitchfield@invenergyllc.com>
Sent: Tuesday, October 25, 2016 10:19 AM
To: Sue G. Miller
Subject: tomorrow

Hi Sue,

Are we on track for tomorrow at 1:30? I don't intend to take too much of your time – just want to introduce myself and our project, show you where we are working and discuss your experience with wind farm construction in the county and lessons learned.

Dan Litchfield | Senior Manager, Project Development
Invenergy LLC | One South Wacker Drive, Suite 1800, Chicago, IL 60606
dlitchfield@invenergyllc.com T 312-582-1057 | C 773-318-1289 | F 312-224-1444



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Sue G. Miller

From: Sue G. Miller
Sent: Wednesday, October 05, 2016 1:09 PM
To: John Kluever
Subject: Re: Freeborn Wind Farm

I asked and Daniel said he has already met with you and Wayne but I think it would be good if you are available as we both know certain folks will be asking you a lot of questions?!

On Oct 5, 2016, at 12:44 PM, John Kluever <John.kluever@co.freeborn.mn.us> wrote:

Ok, do you want me there? Sounding like this is having more traction all the time.

Sent from my iPhone

On Oct 5, 2016, at 12:25 PM, Sue G. Miller <Sue.Miller@co.freeborn.mn.us> wrote:

Fyi – Mr. Litchfield will be meeting with me on 10/26 at 1:30 pm here in my office. Wanted you to be up to date so you could relay to the Commissioner of that district. Note: Mr. Litchfield said they plan to begin the conversations with the townships next week I think.

sue

From: Litchfield, Daniel [<mailto:DLitchfield@invenergyllc.com>]
Sent: Wednesday, September 28, 2016 3:01 PM
To: Sue G. Miller
Cc: Svedeman, Michael
Subject: Freeborn Wind Farm

Hello Ms. Miller,

Michael Svedeman and I are developing a new wind farm in the southeastern corner of Freeborn County. The project has been under development for quite a while, but we are starting to get busier on it and hope to get into permitting next year. I don't believe our team has met with you before and if you have some time available, I would like to have an introductory meeting and learn about your experience with wind in the County and how we can best prepare our project to meet your requirements. Are you available on Tuesday, October 11?

Sincerely,

Dan Litchfield | Senior Manager, Project Development
Invenergy LLC | One South Wacker Drive, Suite 1800, Chicago, IL 60606
dlitchfield@invenergyllc.com T 312-582-1057 | C 773-318-1289 | F 312-224-1444

<image001.jpg>

Sue G. Miller

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Sent: Wednesday, September 28, 2016 3:01 PM
To: Sue G. Miller
Cc: Svedeman, Michael
Subject: Freeborn Wind Farm

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Sincerely,

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dlitchfield@invenergyllc.com T 312-582-1057 | C 773-318-1289 | F 312-224-1444



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Sue G. Miller

From: John Kluever
Sent: Thursday, September 08, 2016 9:23 AM
To: Sue G. Miller
Cc: Wayne Sorensen
Subject: RE: Wind Farm

No maps or anything to that level. This was just another check in visit as they have been doing periodically over the past year or two.

If what he says holds to form, I would guess more substantive conversations, documents, plans, developers agreements, etc... all start to take place next year if they begin the permit process as he stated and wish to be fully operational by end of 2019

They are still keeping everyone close (i.e. ask if he could ID the buyer for the project and he politely said no).

From: Sue G. Miller
Sent: Thursday, September 08, 2016 9:15 AM
To: John Kluever
Cc: Wayne Sorensen
Subject: RE: Wind Farm

Did he provide a revised map of the wind farm footprint? We have several projects in this neck of the woods in the next couple years....

From: John Kluever
Sent: Thursday, September 08, 2016 8:06 AM
To: Sue G. Miller
Cc: Wayne Sorensen
Subject: Wind Farm

Chicago guy (Dan) from Invenergy was here yesterday to update the proposed wind farm project:

What he said was:

- Signing buyer agreement for the project in the near future;
- Secure all the land/property owners by the end of 2016;
- Begin permit process in 2017; and
- Looking at being fully operational at end of 2019 (when the current federal tax credits run out)

All for now and stay tuned to this local station for more updates as they come available. Now back to our regular broadcasting.

Sue G. Miller

From: Litchfield, Daniel <DLitchfield@invenergyllc.com>
Sent: Wednesday, March 08, 2017 3:59 PM
To: Sue G. Miller
Cc: Svedeman, Michael
Subject: ROW permits

Follow Up Flag: Follow up
Flag Status: Completed

Hi Sue,

I understand that you are out of the office this week. When you get a moment, would you be able to call or email me back to answer some questions about the use of County ROW easements for running collection lines?

I spoke with Sandy at your office and she was very helpful but deferred some questions to you.

The approval process is pretty straightforward – the road maintenance engineer visits the site to inspect and if he signs off, then you could approve. The typical charge is \$100 per site permit. If we are seeking a route and not a specific site, the permit fee would be commensurately higher. She said the turnaround time is usually a couple days or weeks and you are the approver, but you sometimes take more complex applications to the Board of Commissioners. What would trigger that review? Sandy said the concept of getting a permit in the near term but not building for several years shouldn't be a problem, as long as we state our plans at the time of application.

One question: are you able to grant sub-easements of your easement, as an alternative to the ROW permit?

Dan Litchfield | Senior Manager, Project Development
Invenergy | One South Wacker Drive, Suite 1800, Chicago, IL 60606
dlitchfield@invenergyllc.com | M 312-224-1400 | D 312-582-1057 | C 773-318-1289 | @InvenergyLLC
@danlitch

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Sue G. Miller

From: Michal Hanson <micah@CO.MOWER.MN.US>
Sent: Thursday, March 09, 2017 1:54 PM
To: Sue G. Miller
Subject: RE: ROW permits

Well then I screwed up too ☺ But...

These wind projects are done as "turn key" where a contractor builds it and then a company like xcel take it. So I consider them public utilities.

From: Sue G. Miller [mailto:Sue.Miller@co.freeborn.mn.us]
Sent: Thursday, March 09, 2017 12:41 PM
To: Michal Hanson
Subject: Re: ROW permits

Yes that is my question. I forwarded the email below to Larry Hartman asking if I screwed up on Bent Tree by treating these lines as a public utility and if Invenergy would be considered a public utility or ultimately XCel.

On Mar 9, 2017, at 12:21 PM, Michal Hanson <micah@CO.MOWER.MN.US> wrote:

I would say an emphatic no to granting "sub-easements".

I do not see where there would be any advantage to the county...or whether you even could grant them for that matter.

I would also say that they (or will be after constructed) a public utility....

Are those your questions?

From: Sue G. Miller [mailto:Sue.Miller@co.freeborn.mn.us]
Sent: Thursday, March 09, 2017 9:44 AM
To: Michal Hanson
Subject: Fwd: ROW permits

Mike, read below please. Also, can you send me your fee schedule? Much appreciated!
Sue

Begin forwarded message:

From: "Sue G. Miller" <Sue.Miller@co.freeborn.mn.us>
Date: March 8, 2017 at 4:02:06 PM CST

To: Michal Hanson <michal@co.mower.mn.us>

Subject: Fwd: ROW permits

I defer to your vast experience with Alliant, they are a public utility so that is how we treated permitting the electrical collection lines, right or wrong?

How have you handle this element of wind farm construction?

Begin forwarded message:

From: "Litchfield, Daniel" <DLitchfield@invenergyllc.com>
Date: March 8, 2017 at 3:59:00 PM CST
To: "Susan G. Miller (sue.miller@co.freeborn.mn.us)" <sue.miller@co.freeborn.mn.us>
Cc: "Svedeman, Michael" <MSvedeman@invenergyllc.com>
Subject: ROW permits

Hi Sue,

I understand that you are out of the office this week. When you get a moment, would you be able to call or email me back to answer some questions about the use of County ROW easements for running collection lines?

I spoke with Sandy at your office and she was very helpful but deferred some questions to you.

The approval process is pretty straightforward – the road maintenance engineer visits the site to inspect and if he signs off, then you could approve. The typical charge is \$100 per site permit. If we are seeking a route and not a specific site, the permit fee would be commensurately higher. She said the turnaround time is usually a couple days or weeks and you are the approver, but you sometimes take more complex applications to the Board of Commissioners. What would trigger that review? Sandy said the concept of getting a permit in the near term but not building for several years shouldn't be a problem, as long as we state our plans at the time of application.

One question: are you able to grant sub-easements of your easement, as an alternative to the ROW permit?

Dan Litchfield | Senior Manager, Project Development
Invenergy | One South Wacker Drive, Suite 1800, Chicago, IL 60606
dlitchfield@invenergyllc.com | M 312-224-1400 | D 312-582-1057 | C 773-318-1289 | @InvenergyLLC @danlitch

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Sue G. Miller

From: Hartman, Larry (COMM) <larry.hartman@state.mn.us>
Sent: Thursday, March 09, 2017 3:16 PM
To: Sue G. Miller
Subject: RE: Future Freeborn County Wind Farm

Follow Up Flag: Follow up
Flag Status: Completed

Sue: Thank you for your inquiry. However, without more information I am unable to respond. It would be helpful to discuss this matter on the phone in order to provide an appropriate response. Please contact me at your convenience.

Larry B. Hartman
Larry.hartman@state.mn.us
Tel: 651-539-1839

From: Sue G. Miller [mailto:Sue.Miller@co.freeborn.mn.us]
Sent: Thursday, March 09, 2017 3:08 PM
To: Hartman, Larry (COMM) <larry.hartman@state.mn.us>
Subject: Future Freeborn County Wind Farm

Good Morning Mr. Hartman:

You were very helpful in the past with the planning and implementation of the Bent Tree Wind Farm in Freeborn County. I was hopeful that you could assist me with responding to the email below.

With the County's experience on Bent Tree, we permitted the underground electrical collection system as a public utility able to be placed in the road right easement. Upon initial meetings the Invenergy, we proposed the same process. This is the second phone call/email questioning our process and now I am wondering if the County didn't handle this correctly with Bent Tree.

The core question would be: are these underground electric collection lines considered a public utility allowable in the public right of way?

I would so appreciate your guidance. We have a new county attorney who has previously focused his career on the criminal side and is not immediately knowledgeable in this area.

Thank you so much!

sue

Begin forwarded message:

From: "Litchfield, Daniel" <DLitchfield@invenergyllc.com>
Date: March 8, 2017 at 3:59:00 PM CST
To: "Susan G. Miller (sue.miller@co.freeborn.mn.us)" <sue.miller@co.freeborn.mn.us>
Cc: "Svedeman, Michael" <MSvedeman@invenergyllc.com>
Subject: ROW permits

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I spoke with Sandy at your office and she was very helpful but deferred some questions to you.

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One question: are you able to grant sub-easements of your easement, as an alternative to the ROW permit?

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[@InvenergyLLC](#) [@danlitch](#)

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Via Certified Mail

March 31, 2017

Susan Miller, Engineer
 Highway Department
 3300 Bridge Avenue
 Albert Lea, MN 56007

RE: Freeborn Wind Farm, Freeborn County, Minnesota

Dear Susan Miller:

Freeborn Wind Energy LLC, a wholly-owned subsidiary of Invenergy LLC, is proposing a wind energy project in Freeborn County, Minnesota and Worth County, Iowa called the Freeborn Wind Farm (Project). The purpose of this letter is to request agency comments and gather additional information regarding the Minnesota-portion of the Project Boundary as indicated in the attached Figure 1. Comments and information we receive will be included in the Site Permit Application for a Large Wind Energy Conversion System we will be submitting to the Minnesota Public Utilities Commission (MPUC).

The locations of turbines, access roads, collection lines, crane paths and related facilities are being finalized. The following sections are located within the Project Boundary in Minnesota.

Table 1 Sections within the Freeborn Wind Farm Project Boundary

| County | Civil Township Name | Township | Range | Sections |
|---------------|----------------------------|-----------------|--------------|---|
| Freeborn | Hayward | 102 | 20 | 12, 13, 14, 15, 22, 23, 24, 25, 26, 27, 34, 35, 36 |
| Freeborn | London | 101 | 19 | 13, 14, 19, 20, 21, 22, 23, 24, 27, 28, 29, 30, 31, 32, 33 |
| Freeborn | Oakland | 102 | 19 | 7, 8, 9, 14, 15, 16, 17, 18, 19, 20, 21, 22 |
| Freeborn | Shell Rock | 101 | 20 | 1, 2, 8, 11, 12, 13, 14, 15, 16, 17, 21, 22, 23, 24, 25, 26, 27, 28, 34, 35, 36 |



The Project would include a nameplate wind energy capacity of up to 100 megawatts (MW) in Minnesota. Project facilities include:

- Wind turbines and associated equipment;
- Gravel access roads to turbine sites and necessary modification to existing roads;
- Buried electric collection lines;
- Overhead electric collection lines;
- An operations and maintenance facility;
- A Project substation and
- Permanent meteorological towers.

Temporary facilities for the Project include staging areas for construction of the Project, two temporary meteorological towers that are currently in place, temporary batch plant area, and improvements to public and private roads for delivery of materials and equipment.

Please respond with any comments and/or questions within 30 days of receipt of this letter so that we can address, as appropriate, and include them within the MPUC Site Permit Application.

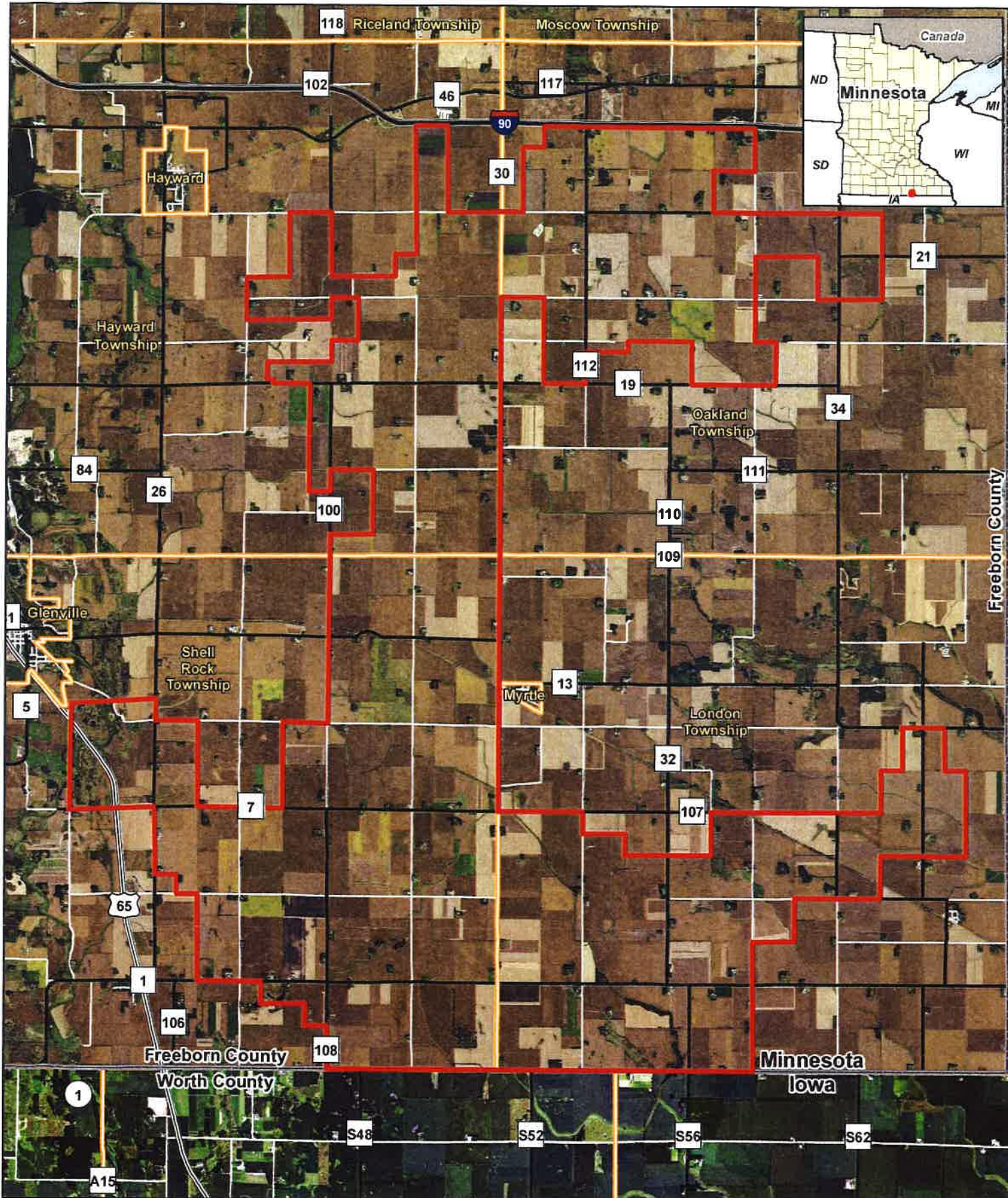
Should you require additional information, please feel free to contact me at dlitchfield@invenergyllc.com, 312.582.1057, or Freeborn Wind Energy LLC, c/o Invenergy LLC, One South Wacker Drive, Suite 1800, Chicago, IL 60606.

Sincerely,

Freeborn Wind Energy LLC

Dan Litchfield
Senior Manager, Project Development

Enc. Figure 1 Project Boundary Map



0 0.75 1.5
Miles

1 inch = 1.5 miles



Figure 1
Freeborn Wind Farm
Project Boundary
Freeborn County, MN

Project Boundary

Freeborn Wind Energy LLC
c/o Invenergy LLC
One South Wacker Drive, Suite 1800
Chicago, IL 60606

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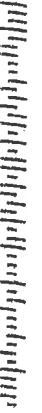
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Highway Department
Susan Miller
Engineer
3300 Bridge Avenue
Albert Lea, MN 56007



56007-424600

Sue G. Miller

From: Sue G. Miller
Sent: Monday, April 10, 2017 8:26 AM
To: Wayne Sorensen; John Kluever
Subject: RE: Two more questions

I did talk with Larry Hartman at the PUC and he confirmed the status.

Thanks Wayne!

From: Wayne Sorensen
Sent: Monday, April 10, 2017 8:22 AM
To: Sue G. Miller; John Kluever
Subject: RE: Two more questions

It appears this “mega” company probably has various divisions that are proceeding to try and get their ducks in a row. To my knowledge the State permit has not been formally applied for though, so I am still guessing 2018 construction.

That being said, they do appear to be putting the cart ahead of the horse. I agree with Sue that the developers agreement should be started.

Wayne

From: Sue G. Miller
Sent: Monday, April 10, 2017 7:53 AM
To: John Kluever; Wayne Sorensen
Subject: FW: Two more questions

I am of the opinion that these folks need to formally initiate the developers agreement. This feels like the cart ahead of the horse or a divide and conquer type approach versus the holistic project management I believe we strive to execute.

Let me know your thoughts.....I have been fielding a few calls from Townships and also believe a comprehensive approach would be beneficial to them as well.

sue

From: Birmingham, Daniel [<mailto:DBirmingham@invenergyllc.com>]
Sent: Monday, April 10, 2017 7:49 AM
To: Sue G. Miller
Cc: Svedeman, Michael; Litchfield, Daniel; Halley, Nicholas; Leon, Andrew; Correa, Esteban
Subject: RE: Two more questions

Good morning Sue,

I am following up on Dan’s behalf to introduce Nick, Andy, and Esteban (copied) from Invenergy’s construction and electrical engineering teams. They had some specific questions regarding the required documentation for the ROW permit along T-236/840th or CSAH 30/850th that you discussed with Dan last week. I will defer to them but wanted to make the introduction.

Thanks,

Daniel

From: Litchfield, Daniel
Sent: Wednesday, April 5, 2017 9:50 AM
To: Halley, Nicholas <NHalley@invenergyllc.com>
Cc: Birmingham, Daniel <DBirmingham@invenergyllc.com>; Svedeman, Michael <MSvedeman@invenergyllc.com>
Subject: FW: Two more questions

FYI below, both on electrical routes and roads.

Dan Litchfield | Senior Manager, Project Development
Invenergy | One South Wacker Drive, Suite 1800, Chicago, IL 60606
dlitchfield@invenergyllc.com | M 312-224-1400 | D 312-582-1057 | C 773-318-1289 | @InvenergyLLC
@danlitch

From: Sue G. Miller [<mailto:Sue.Miller@co.freeborn.mn.us>]
Sent: Wednesday, April 05, 2017 8:46 AM
To: Litchfield, Daniel <DLitchfield@invenergyllc.com>
Cc: loren.lair@yahoo.com
Subject: Re: Two more questions

Hi Dan-

CSAH 30 will need to be widened/regarded at some point in future but transportation funding in Minnesota is in flux right now so not defined dates.

The County has not met with the townships to see if they would want to work with the County as their road authority agent for the purposes of this project only. The County did act as the agent for the townships on the previous Wind Farm development project and it worked well.

I would imagine that the same public utilities question raised by the County would apply to use of the township right of way for electrical lines as well since the same Statutes apply.

Sue

On Apr 5, 2017, at 7:55 AM, Litchfield, Daniel <DLitchfield@invenergyllc.com> wrote:

Good morning Sue,

Are there any impending plans to widen or do other major work on County Highway 30/850th ave?

T-236/840th ave may be a better solution as we have a majority of private ROW asking that corridor. Should I ask the townships directly about that or also work with you on a ROW permit?

Dan Litchfield
773-318-1289

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Sue G. Miller

From: Halley, Nicholas <NHalley@invenergyllc.com>
Sent: Monday, April 10, 2017 8:59 AM
To: Birmingham, Daniel; Sue G. Miller
Cc: Svedeman, Michael; Litchfield, Daniel; Leon, Andrew; Correa, Esteban
Subject: RE: Two more questions

Hello Sue,

I think it would be best to have a short call with the team. What time works for you this week?

Kind Regards,

Nicholas C. Halley | Senior Project Manager
Invenergy LLC | One South Wacker Drive, Suite 1800, Chicago, IL 60606
nhalley@invenergyllc.com | D +1 312-582-1256 | M +1 614-507-1937 | @InvenergyLLC

From: Birmingham, Daniel
Sent: Monday, April 10, 2017 7:49 AM
To: Sue G. Miller <Sue.Miller@co.freeborn.mn.us>
Cc: Svedeman, Michael <MSvedeman@invenergyllc.com>; Litchfield, Daniel <DLitchfield@invenergyllc.com>; Halley, Nicholas <NHalley@invenergyllc.com>; Leon, Andrew <ALEon@invenergyllc.com>; Correa, Esteban <ECorrea@invenergyllc.com>
Subject: RE: Two more questions

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Subject: FW: Two more questions

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Dan Litchfield | Senior Manager, Project Development
Invenergy | One South Wacker Drive, Suite 1800, Chicago, IL 60606

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Cc: loren.lair@yahoo.com
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Dan Litchfield
773-318-1289

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Sue G. Miller

From: Litchfield, Daniel <DLitchfield@inenergyllc.com>
Sent: Wednesday, April 12, 2017 10:32 AM
To: Sue G. Miller
Cc: Brusven, Christina; Leon, Andrew; Svedeman, Michael; Birmingham, Daniel; Halley, Nicholas
Subject: Freeborn wind farm ROW permit discussion

Hi Sue,

I'd like to set up a phone call with our team and anyone else on the County's side to discuss our potential use of public ROW along either township or county roads. We'd like to cover the definition of public utility and issues around that, and also understand a bit better what you would want to see in an eventual permit application. We are available on Friday from 10:30-11:30. Would that work for you? I'll send a calendar event with a call-in #.

Dan Litchfield | Senior Manager, Project Development
Inenergy | One South Wacker Drive, Suite 1800, Chicago, IL 60606
dlitchfield@inenergyllc.com | M 312-224-1400 | D 312-582-1057 | C 773-318-1289 | @InenergyLLC
@danlitch

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VIA UPS

April 27, 2017

Susan G. Miller, Engineer
Highway Department
3300 Bridge Avenue
Albert Lea, MN, 56007

**RE: Freeborn Wind Energy Proposed Transmission Line Project
Notice of Availability for Meeting**

Dear Susan G. Miller:

Freeborn Wind Energy LLC ("Freeborn Wind"), a wholly-owned subsidiary of Invenergy LLC ("Invenergy"), is proposing the Freeborn Wind Farm, a wind energy project in Freeborn County, Minnesota and Worth County, Iowa ("Project"). You should have recently received a letter from me requesting input regarding the Project for the purposes of its upcoming Minnesota Public Utilities Commission ("MPUC") Site Permit Application.

The Project will also include the construction of an approximately seven-mile long 161 kilovolt ("kV") transmission line from the Project Substation in Shell Rock Township to the interconnection point located at the existing Glenworth Substation just southeast of Glenville, Minnesota in Shell Rock Township as well. A map of the proposed route for the transmission line is included with this letter.

Freeborn Wind is currently gathering information in preparation for filing a Route Permit Application for a High Voltage Transmission Line ("Route Permit") to the MPUC under its alternative review procedures. This Route Permit process would be separate but more or less contemporaneous with the Project's Site Permit application, thus this separate letter seeking comment. We would appreciate any input you have regarding the proposed transmission line, and we would be happy to meet with you to discuss the transmission line if desired.

Please respond with any comments and/or questions to me at ditchfield@invenergyllc.com, 773-318-1289, or Freeborn Wind Energy LLC, c/o Invenergy LLC, One South Wacker Drive, Suite 1800, Chicago, IL 60606.

We would appreciate hearing from you by May 15, 2017 to ensure that we have adequate time to address questions or concerns in our Route Permit Application.

Sincerely,

Freeborn Wind Energy LLC

Dan Litchfield
Senior Manager, Project Development Enc. Freeborn Wind Proposed Transmission Line Route Map

Enc. Freeborn Wind Proposed Transmission Line Route Map

Sue G. Miller

From: Litchfield, Daniel <DLitchfield@invenergyllc.com>
Sent: Friday, June 16, 2017 9:09 AM
To: glenmath@frontiernet.net; Christopher Shoff; ccmikelee@yahoo.com; dbelshan@clear.lakes.com
Cc: Hayley Pirsig; Sue G. Miller; Kelly Callahan
Subject: RE: Freeborn wind farm update

Follow Up Flag: Follow up
Flag Status: Completed

The application for our proposed wind farm is now online:

<https://www.edockets.state.mn.us/EFiling/edockets/searchDocuments.do?method=showPoup&documentId={F76DF730-2CD0-4517-A7B8-31F1DE48E1E9}&documentTitle=20176-132804-01>

We don't have a docket page yet, but will in about a week and in the meantime if you want to see what was posted, you can also search eDockets by entering 17-410 for the wind farm: https://www.edockets.state.mn.us/EFiling/edockets/searchDocuments.do?method=showeDocketsSearch&showE_docket=true&userType=public

As we detail in the application, we are proposing 42 turbines in Freeborn County that would occupy only 33 acres of farmland and would produce almost \$400,000 per year in new local tax revenue.

Please let me know if you have any questions.

Dan Litchfield | Senior Manager, Project Development
Invenergy | One South Wacker Drive, Suite 1800, Chicago, IL 60606
dlitchfield@invenergyllc.com | M 312-224-1400 | D 312-582-1057 | C 773-318-1289 | @InvenergyLLC
@danlitch

From: Litchfield, Daniel
Sent: Friday, June 02, 2017 10:51 AM
To: glenmath@frontiernet.net; christopher.shoff@co.freeborn.mn.us; ccmikelee@yahoo.com; 'dbelshan@clear.lakes.com' <dbelshan@clear.lakes.com>
Cc: 'hayley.pirsig@co.freeborn.mn.us' <hayley.pirsig@co.freeborn.mn.us>; Susan G. Miller (sue.miller@co.freeborn.mn.us) <sue.miller@co.freeborn.mn.us>; 'kelly.callahan@co.freeborn.mn.us' <kelly.callahan@co.freeborn.mn.us>
Subject: Freeborn wind farm update

Dear Freeborn County Commissioners,

When we last met I pledged to get our permit application filed by June 1 and I wanted to let you know that we have missed that date. I do hope to file the application with the state by the end of next week, so it is not a significant delay. If you have any questions, please ask.

Sincerely,

Dan Litchfield | Senior Manager, Project Development
Invenergy | One South Wacker Drive, Suite 1800, Chicago, IL 60606

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Sue G. Miller

From: Sue G. Miller
Sent: Monday, July 17, 2017 10:37 AM
To: 'Litchfield, Daniel'
Cc: Kelly Callahan
Subject: RE: Freeborn wind farm road agreement discussions

Tuesday, July 25th would only work for me as I am booked for MnDOT Disaster Review committee on July 28. Does 1 pm work for you? We can meet out here at the Highway shop, 3300 Bridge Avenue in our conference room. I will try to see if others can attend as well.

Thanks Dan!
sue

From: Litchfield, Daniel [mailto:DLitchfield@invenergyllc.com]
Sent: Monday, July 10, 2017 7:42 PM
To: Sue G. Miller
Cc: Kelly Callahan
Subject: RE: Freeborn wind farm road agreement discussions

Sure. Tuesday-Friday could work just fine for me. Any preference?

Dan Litchfield | Senior Manager, Project Development
Invenergy | One South Wacker Drive, Suite 1800, Chicago, IL 60606
dlitchfield@invenergyllc.com | M 312-224-1400 | D 312-582-1057 | C 773-318-1289 | @InvenergyLLC
@danlitch

From: Sue G. Miller [mailto:Sue.Miller@co.freeborn.mn.us]
Sent: Monday, July 10, 2017 8:52 AM
To: Litchfield, Daniel <DLitchfield@invenergyllc.com>
Cc: Kelly Callahan <Kelly.Callahan@co.freeborn.mn.us>
Subject: Re: Freeborn wind farm road agreement discussions

I will be out of the office most of that week for meetings out of town. Can we look at the following week?

On Jul 7, 2017, at 3:42 PM, Litchfield, Daniel <DLitchfield@invenergyllc.com> wrote:

Hi Sue,

I will be back in your area the week after next. Would you, Kelly and possibly Wayne Sorensen (if he is going to be involved) like to meet on Thursday the 20th to discuss a first draft 3-part agreement?

Dan Litchfield | Senior Manager, Project Development
Invenergy | One South Wacker Drive, Suite 1800, Chicago, IL 60606

dlitchfield@invenergyllc.com | M 312-224-1400 | D 312-582-1057 | C 773-318-1289 |
@InvenergyLLC @danlitch

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Sue G. Miller

From: Sue G. Miller
Sent: Monday, July 17, 2017 10:54 AM
To: Kelly Callahan; David Walker; Wayne Sorensen; Winston Beiser
Cc: Wayne Sorensen
Subject: Invenergy Meetings

Good Morning folks:

Dan Litchfield from Invenergy would like to meet on Tuesday July 25th with County staff. I have proposed 1 pm in the Freeborn County Highway Conference room.

What would you all think of meeting later this week to review and discuss internally first. Anytime on Thursday morning would work for me or most of the day Friday, but if on Friday, can we do it out here at the Hwy shop as we are short staffed and I need to be a little more accessible.

I placed the most recent southern MN wind farm development documents in a folder on the Common drive under Invenergy/SW MN. Every iteration yields a better agreement ☺

Thanks.

sue

Susan g. Miller
Freeborn County Engineer
3300 Bridge Avenue
Albert Lea, MN
sue.miller@co.freeborn.mn.us
(507) 377-5188

Sue G. Miller

From: Litchfield, Daniel <DLitchfield@inverenergyllc.com>
Sent: Monday, July 17, 2017 10:56 AM
To: Sue G. Miller
Cc: Kelly Callahan
Subject: Re: Freeborn wind farm road agreement discussions

Good morning Sue and Kelly,

Yes, Tuesday 7/25 at 1 PM at Sue's office will work for me. I'll block that time off and we can be in touch later this week to create an agenda for the meeting. I may have some folks from Xcel interested in joining too if that's ok. They are very interested in a smooth handover from us and extending you their assurances they will be a good neighbor and take care of the public infrastructure, etc.

Dan Litchfield
773-318-1289

----- Original message -----

From: "Sue G. Miller" <Sue.Miller@co.freeborn.mn.us>
Date: 7/17/17 10:37 AM (GMT-06:00)
To: "Litchfield, Daniel" <DLitchfield@inverenergyllc.com>
Cc: Kelly Callahan <Kelly.Callahan@co.freeborn.mn.us>
Subject: RE: Freeborn wind farm road agreement discussions

Tuesday, July 25th would only work for me as I am booked for MnDOT Disaster Review committee on July 28. Does 1 pm work for you? We can meet out here at the Highway shop, 3300 Bridge Avenue in our conference room. I will try to see if others can attend as well.

Thanks Dan!
sue

From: Litchfield, Daniel [mailto:DLitchfield@inverenergyllc.com]
Sent: Monday, July 10, 2017 7:42 PM
To: Sue G. Miller
Cc: Kelly Callahan
Subject: RE: Freeborn wind farm road agreement discussions

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Dan Litchfield | Senior Manager, Project Development
Inverenergy | One South Wacker Drive, Suite 1800, Chicago, IL 60606
dlitchfield@inverenergyllc.com | M 312-224-1400 | D 312-582-1057 | C 773-318-1289 | @InverenergyLLC
@danlitch

From: Sue G. Miller [mailto:Sue.Miller@co.freeborn.mn.us]
Sent: Monday, July 10, 2017 8:52 AM

To: Litchfield, Daniel <DLitchfield@invenergyllc.com>
Cc: Kelly Callahan <Kelly.Callahan@co.freeborn.mn.us>
Subject: Re: Freeborn wind farm road agreement discussions

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Sue G. Miller

From: Wayne Sorensen
Sent: Monday, July 17, 2017 1:16 PM
To: Sue G. Miller; Kelly Callahan; David Walker; Wayne Sorensen; Winston Beiser
Subject: RE: Invenergy Meetings

Kelly,

Do you wish for me to participate? Going forward I will not be involved, but perhaps some of my experience would be helpful.

Either way let me know.

Thanks, Wayne

PS. Thursday before 10:30 would not work

From: Sue G. Miller
Sent: Monday, July 17, 2017 10:54 AM
To: Kelly Callahan; David Walker; Wayne Sorensen; Winston Beiser
Cc: Wayne Sorensen
Subject: Invenergy Meetings

Good Morning folks:

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What would you all think of meeting later this week to review and discuss internally first. Anytime on Thursday morning would work for me or most of the day Friday, but if on Friday, can we do it out here at the Hwy shop as we are short staffed and I need to be a little more accessible.

I placed the most recent southern MN wind farm development documents in a folder on the Common drive under Invenergy/SW MN. Every iteration yields a better agreement 😊

Thanks.

sue

Susan g. Miller
Freeborn County Engineer
3300 Bridge Avenue
Albert Lea, MN
sue.miller@co.freeborn.mn.us
(507) 377-5188

Sue G. Miller

From: David Walker
Sent: Monday, July 17, 2017 1:49 PM
To: Sue G. Miller; Kelly Callahan; Wayne Sorensen; Winston Beiser
Cc: Wayne Sorensen
Subject: RE: Invenergy Meetings

Good Afternoon,

I would be happy to participate in the meeting. I MAY be available on July 25th. Jury trials are scheduled on that date. If they all settle, the day will be open for me.

I am available late Thursday morning this week and Friday afternoon.

Please advise.

David

David Walker
Freeborn County Attorney



Freeborn County Attorney's Office

411 South Broadway Avenue

Albert Lea, MN 56007

(507) 377-5192

www.co.freeborn.mn.us/attorney

From: Sue G. Miller
Sent: Monday, July 17, 2017 10:54 AM
To: Kelly Callahan; David Walker; Wayne Sorensen; Winston Beiser
Cc: Wayne Sorensen
Subject: Invenergy Meetings

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sue

Susan g. Miller
Freeborn County Engineer
3300 Bridge Avenue
Albert Lea, MN
sue.miller@co.freeborn.mn.us
(507) 377-5188

Sue G. Miller

From: Kelly Callahan
Sent: Monday, July 17, 2017 2:01 PM
To: Sue G. Miller; David Walker; Wayne Sorensen; Winston Beiser
Cc: Wayne Sorensen
Subject: RE: Invenergy Meetings

Thursday (earlier in the AM – I have an 11:30 speaking engagement) or Friday works for me.

From: Sue G. Miller
Sent: Monday, July 17, 2017 10:54 AM
To: Kelly Callahan; David Walker; Wayne Sorensen; Winston Beiser
Cc: Wayne Sorensen
Subject: Invenergy Meetings

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Thanks.

sue

Susan G. Miller
Freeborn County Engineer
3300 Bridge Avenue
Albert Lea, MN
sue.miller@co-freeborn.mn.us
(507) 377-5188

Sue G. Miller

From: Kelly Callahan
Sent: Monday, July 17, 2017 2:05 PM
To: Wayne Sorensen; Sue G. Miller; David Walker; Wayne Sorensen; Winston Beiser
Subject: RE: Invenergy Meetings

I would appreciate that if possible, since you were involved with the Bent Tree project.

From: Wayne Sorensen
Sent: Monday, July 17, 2017 1:16 PM
To: Sue G. Miller; Kelly Callahan; David Walker; Wayne Sorensen; Winston Beiser
Subject: RE: Invenergy Meetings

Kelly,

Do you wish for me to participate? Going forward I will not be involved, but perhaps some of my experience would be helpful.

Either way let me know.

Thanks, Wayne

PS. Thursday before 10:30 would not work

From: Sue G. Miller
Sent: Monday, July 17, 2017 10:54 AM
To: Kelly Callahan; David Walker; Wayne Sorensen; Winston Beiser
Cc: Wayne Sorensen
Subject: Invenergy Meetings

Good Morning folks:

Dan Litchfield from Invenergy would like to meet on Tuesday July 25th with County staff. I have proposed 1 pm in the Freeborn County Highway Conference room.

What would you all think of meeting later this week to review and discuss internally first. Anytime on Thursday morning would work for me or most of the day Friday, but if on Friday, can we do it out here at the Hwy shop as we are short staffed and I need to be a little more accessible.

I placed the most recent southern MN wind farm development documents in a folder on the Common drive under Invenergy/SW MN. Every iteration yields a better agreement 😊

Thanks.

sue

Susan G. Miller
Freeborn County Engineer
3300 Bridge Avenue
Albert Lea, MN

Sue G. Miller

From: Winston Beiser
Sent: Monday, July 17, 2017 3:31 PM
To: Sue G. Miller; Kelly Callahan; David Walker; Wayne Sorensen
Cc: Wayne Sorensen
Subject: RE: Invenergy Meetings

Either day works for me as of now.

Winston Beiser

From: Sue G. Miller
Sent: Monday, July 17, 2017 10:54 AM
To: Kelly Callahan; David Walker; Wayne Sorensen; Winston Beiser
Cc: Wayne Sorensen
Subject: Invenergy Meetings

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Thanks.

sue

Susan G. Miller
Freeborn County Engineer
3300 Bridge Avenue
Albert Lea, MN
sue.miller@co.freeborn.mn.us
(507) 377-5188



WIDSETH SMITH NOLTING

JOB 7/11/17 Brd Mtg (Wind)

JOB NO. 953:38

CALCULATED BY _____ DATE _____

CHECKED BY _____ DATE _____

Ordinance 1141' Required setbacks

Open fields project
 Have 6 towers
 < 1500'
 1 is a participating landowner
 2 may have good neighbor agreement

1109' w/ participating
 1248' - Schumacher
 1366'
 1399'

1476'
 1495'

42 towers total in Freedom County

discussions @ 7/11/17 10:00 am
 County Board Meeting under Commissioner Items
 would eliminate this tower to > setbacks due to other setbacks

1000 Tower Hanson
 + 45 towers - 17 towers within 1500' from PUC duct

PUC application says 1126' ~~1000'~~
 FC Ordinance 26-51 say 1,000' setbacks
 142 turbines?

Sue G. Miller

From: David Walker
Sent: Tuesday, July 18, 2017 2:35 PM
To: Sue G. Miller
Subject: Invenergy Meetings

Sue,

...just to confirm:

Meeting #1: Thursday, July 20 at 10:30, County Atty conference rm

Meeting #2: Tuesday, July 25 at 1:00, County Atty conference rm (but I may be in a Jury trial)

Right?

David

From: Kelly Callahan
Sent: Monday, July 17, 2017 2:05 PM
To: Wayne Sorensen; Sue G. Miller; David Walker; Wayne Sorensen; Winston Beiser
Subject: RE: Invenergy Meetings

I would appreciate that if possible, since you were involved with the Bent Tree project.

From: Wayne Sorensen
Sent: Monday, July 17, 2017 1:16 PM
To: Sue G. Miller; Kelly Callahan; David Walker; Wayne Sorensen; Winston Beiser
Subject: RE: Invenergy Meetings

Kelly,

Do you wish for me to participate? Going forward I will not be involved, but perhaps some of my experience would be helpful.

Either way let me know.

Thanks, Wayne

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Thanks.

sue

Susan g. Miller
Freeborn County Engineer
3300 Bridge Avenue
Albert Lea, MN
sue.miller@co.freeborn.mn.us
(507) 377-5188

Sue G. Miller

From: Sue G. Miller
Sent: Tuesday, July 18, 2017 3:04 PM
To: David Walker
Subject: Re: Invenergy Meetings

Meeting on Tuesday July 25 is out at highway. Will be a larger group with Invenergy and Xcel folks attendance.

On Jul 18, 2017, at 2:34 PM, David Walker <David.Walker@co.freeborn.mn.us> wrote:

Sue,

...just to confirm:

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Meeting #2: Tuesday, July 25 at 1:00, County Atty conference rm (but I may be in a Jury trial)

Right?

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Either way let me know.

Thanks, Wayne

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Thanks.

sue

Susan G. Miller
Freeborn County Engineer
3300 Bridge Avenue
Albert Lea, MN
sue.miller@co.freeborn.mn.us
(507) 377-5188

Sue G. Miller

From: Winston Beiser
Sent: Thursday, July 20, 2017 11:40 AM
To: Kelly Callahan; Sue G. Miller; David Walker; Wayne Sorensen
Subject: Wind Farm Development Agreement items 5-15-15
Attachments: Wind Farm Development Agreement items 5-15-15.docx

Here are some items I put together after consulting with Morreim Drainage on some lessons learned from the Bent Tree experience.

Thanks,

Winston Beiser



WINSTON BEISER, DRAINAGE INSPECTOR
Government Center, P.O. Box 1147, 411 S. Broadway
Albert Lea, Minnesota 56007
Telephone 507/379-2962 Fax 507/377-5175
Cell 507/320-0552 Home 507/265-3416



WINSTON BEISER, DRAINAGE INSPECTOR
 Government Center, P.O. Box 1147, 411 S. Broadway
 Albert Lea, Minnesota 56007
 Telephone 507/379-2962 Fax 507/377-5175
 Cell 507/320-0552 Home 507/265-3416

7-19-2017

By Winston Beiser

Wind Farm Development Agreement

Items to include with a Wind Farm Development Agreement

- 1- The electric collector lines should be installed with a "chain trencher" and all collector lines must have a minimum 5.5 feet of cover over the collector line. A shallower cover could be allowed where it is determined that the County Tile is at that depth and a shallower installation of the collector line would avoid the lines being at the same depth. When a shallow large main tile is crossed the County Drainage Authority can require the collector line be bored under the main tile. *Typical*
- 2- The developer would employ a local Tile Drainage Contractor to have a person / repair crew on site at the time of any installation of collector lines so that the identification of cut tile lines would be immediately flagged and Geo Tagged and repaired by a crew of the local Tile Contractor immediately. *2' below recorded grade?*
- 3- All County Ditches that are crossed with a collector line would be bored to a sufficient depth to allow for future ditch cleaning and a possible deeper flow line of the County Ditch. *how to define*
IMPROVEMENT
- 4- To lessen soil compaction and tile line damage on the crane paths between turbine towers, the developer would utilize moveable crane mats while moving cranes between towers. *Private issue*
- 5- Before the developer applies for a permit for the exact location of each tower the developer must work with the Drainage Authority or their designated Drainage Inspector to determine if there is a main tile line 8" or larger underneath or very close to the footprint of the tower and then relocate the tower away from that main tile. This would not apply to small regular tile laterals. When the contractor is digging the hole for the turbine pad and pinches off a tile line the contractor must identify the exact location and the size and type of tile line pinched off *gis conflict points*

at conflict areas only

gis conflict points

Private issue

gis conflict points

tough sell?

6- In reference to Construction Related Damages to county and private tile lines, the developer would retain a local Tile Contractor to repair any undiscovered damage for 10 years afterwards instead of 5 years.

7- The County Board can choose to direct a person to represent the Private Ditch and Tile systems of the affected landowners in the wind farm footprint to coordinate with the Developer the same provisions as with the County Ditch and Tile systems.

8- Developer is required to bury a "tracer wire" with all fiber optic communication lines installed within the Wind Farm. *standard*

Board has authority on private systems

landowners should be protecting themselves within their own agreement

Sue G. Miller

From: Sue G. Miller
Sent: Thursday, July 20, 2017 2:40 PM
To: 'Litchfield, Daniel'
Cc: Kelly Callahan; David Walker
Subject: RE: Freeborn wind farm road agreement discussions

Hi Dan,

Mr. Walker has confirmed that he will not be able to be in attendance.

Thank you!

sue

From: Litchfield, Daniel [mailto:DLitchfield@invenergyllc.com]
Sent: Thursday, July 20, 2017 10:15 AM
To: Sue G. Miller
Cc: Kelly Callahan; David Walker
Subject: RE: Freeborn wind farm road agreement discussions

Sue –

When do you think you can confirm whether the County Attorney will attend? Is that Mr. Walker, copied here? I ask because I would welcome his attendance and if he is able to attend, I'd like to bring our attorney as well.

Dan Litchfield | Senior Manager, Project Development
Invenergy | One South Wacker Drive, Suite 1800, Chicago, IL 60606
dlitchfield@invenergyllc.com | M 312-224-1400 | D 312-582-1057 | C 773-318-1289 | @InvenergyLLC
@danlitch

From: Sue G. Miller [mailto:Sue.Miller@co.freeborn.mn.us]
Sent: Wednesday, July 19, 2017 10:40 AM
To: Litchfield, Daniel <DLitchfield@invenergyllc.com>
Cc: Kelly Callahan <Kelly.Callahan@co.freeborn.mn.us>; David Walker <David.Walker@co.freeborn.mn.us>
Subject: RE: Freeborn wind farm road agreement discussions

Hi Dan –

I received your voicemail regarding confirmation of next week's meeting. Kelly and I for sure will be able to meet with you and Xcel folks. Our County Attorney may be in a jury trial so his attendance is tentative at this point.

Regarding agenda for the meeting, I would assume this meeting to be considered the initial discussion regarding the formulation of a developers agreement. In the coming weeks, the County will need to meet with townships to see if they would like the County to act on their behalf as road authority for the purposes of the project. Any documents you have regarding tower siting, access requests, utility requests, drainage system impacts, etc. would be great so we can get a draft agreement for all to review.

See you next week.

sue

From: Litchfield, Daniel [<mailto:DLitchfield@invenergyllc.com>]
Sent: Monday, July 17, 2017 10:56 AM
To: Sue G. Miller
Cc: Kelly Callahan
Subject: Re: Freeborn wind farm road agreement discussions

Good morning Sue and Kelly,

Yes, Tuesday 7/25 at 1 PM at Sue's office will work for me. I'll block that time off and we can be in touch later this week to create an agenda for the meeting. I may have some folks from Xcel interested in joining too if that's ok. They are very interested in a smooth handover from us and extending you their assurances they will be a good neighbor and take care of the public infrastructure, etc.

Dan Litchfield
773-318-1289

----- Original message -----

From: "Sue G. Miller" <Sue.Miller@co.freeborn.mn.us>
Date: 7/17/17 10:37 AM (GMT-06:00)
To: "Litchfield, Daniel" <DLitchfield@invenergyllc.com>
Cc: Kelly Callahan <Kelly.Callahan@co.freeborn.mn.us>
Subject: RE: Freeborn wind farm road agreement discussions

Tuesday, July 25th would only work for me as I am booked for MnDOT Disaster Review committee on July 28. Does 1 pm work for you? We can meet out here at the Highway shop, 3300 Bridge Avenue in our conference room. I will try to see if others can attend as well.

Thanks Dan!
sue

From: Litchfield, Daniel [<mailto:DLitchfield@invenergyllc.com>]
Sent: Monday, July 10, 2017 7:42 PM
To: Sue G. Miller
Cc: Kelly Callahan
Subject: RE: Freeborn wind farm road agreement discussions

Sure. Tuesday-Friday could work just fine for me. Any preference?

Dan Litchfield | Senior Manager, Project Development
Invenergy | One South Wacker Drive, Suite 1800, Chicago, IL 60606
dlitchfield@invenergyllc.com | M 312-224-1400 | D 312-582-1057 | C 773-318-1289 | @InvenergyLLC
@danlitch

From: Sue G. Miller [<mailto:Sue.Miller@co.freeborn.mn.us>]
Sent: Monday, July 10, 2017 8:52 AM
To: Litchfield, Daniel <DLitchfield@invenergyllc.com>

Cc: Kelly Callahan <Kelly.Callahan@co.freeborn.mn.us>

Subject: Re: Freeborn wind farm road agreement discussions

I will be out of the office most of that week for meetings out of town. Can we look at the following week?

On Jul 7, 2017, at 3:42 PM, Litchfield, Daniel <DLitchfield@invenergyllc.com> wrote:

Hi Sue,

I will be back in your area the week after next. Would you, Kelly and possibly Wayne Sorensen (if he is going to be involved) like to meet on Thursday the 20th to discuss a first draft 3-part agreement?

Dan Litchfield | Senior Manager, Project Development
Invenergy | One South Wacker Drive, Suite 1800, Chicago, IL 60606
dlitchfield@invenergyllc.com | M 312-224-1400 | D 312-582-1057 | C 773-318-1289 |
@InvenergyLLC @danlitch

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This electronic message and all contents contain information which may be privileged, confidential or otherwise protected from disclosure. The information is intended to be for the addressee(s) only. If you are not an addressee, any disclosure, copy, distribution or use of the contents of this message is prohibited. If you have received this electronic message in error, please notify the sender by reply e-mail and destroy the original message and all copies.

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87340 135th St
Glenville, MN 56036

MINNEAPOLIS MN 553

18 JUL 2013 PM 7.1



Freshman Seventy Highway Dept.
3300 Bridge Ave.
Albert Lea, MN 56007

56007-424800



London Township

90314 2nd St.

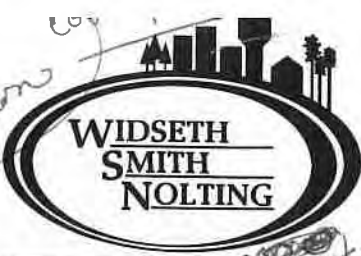
Glenville, MN 56036

Sue Miller,

Thank you, but at this time London Township has decided to decline the County's road ordinance written up for the Freeborn Wind Farm Project. We will be following our own ordinance relating to the Oversize Truck Use, Resolution #17-1, written up by Messerli & Kramer PA. For any questions or comments, please contact Daniel Schleck at 612.672.3683.

Thanks,

London Township Board of Supervisors



WV110
 JOB Freeborn ~~End~~ Development 1pm
Construction 202-0 JOB NO. July 25
 CALCULATED BY _____ DATE Kelly 1:10 pm
 CHECKED BY _____ DATE asleep by 1:45 pm

Sue Kelly Winston
 Manage Contractors

Sarah X
 Cox
 Tricia X
 (community relations)
 Local governments

Chad
 Bonhiring
 (Land Rights)
 Reason w/ the
 landowners
 w/ in the
 project

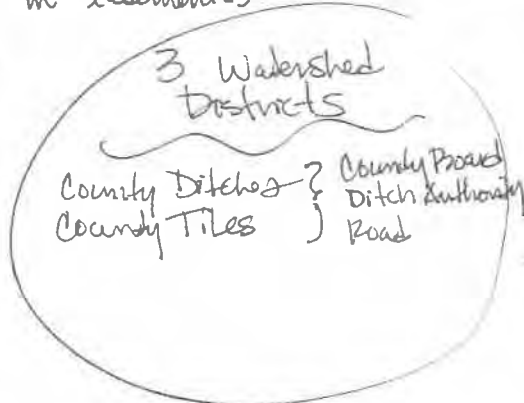
Emanuel X
 (Construction)

Dan L. I
 (Developer)

- Introductions
- Project facilities
- Public ROW (gaps in easements)
- Road Agreement
- O&M yard

Concerns

- agreements w/ Inmanenergy to XCEL to Contractor XYZ
- crane walks



△ from Bent tree

more spread out larger turbines

Robot...

WB ?

- private tiles
 - 3yr warranty & use of local
 - Dan in the lease
- Wouldn't be opposed.

true up
 * crushed tile on crane paths
 Dan to Winston

County tiles

placement of the pads

Abrahms farm
 Ellingson Drainage

Statman County ND

gaps in ROW
 Dam circle

- log and trap
 - St John Av (trap)
 - T-69
 - CSAH 30
- Use of ROW

Winston > depth for collector line should be at 5' to 5.5'



JOB _____

JOB NO. _____

CALCULATED BY _____ DATE _____

CHECKED BY _____ DATE _____

WB wants a chain trencher
and at 5' to 5' 5"
and Morrison - shouldn't recommend

(*) turbine 31

CL 3 / CL 4 Wetland

2.9 Roto diameters → ordinance

118 planned

110 → 2dB quieter

} possibility
of
variance

yellow line above ground transmission line

3 part agreement

Road

Drainage

Development

}



JOB _____

JOB NO. _____

CALCULATED BY _____ DATE _____

CHECKED BY _____ DATE _____

August 10 Public Hearing

July 6 completeness

July 13 reply

Aug 10 - hearing on completeness

Sept / Oct public hearing
w/ ~~Open~~ public comment period

Early September; next meeting w/ us

(*) She to send letter to all 4 twps.
Ask to attend August twp mtgs
Ask for yea or nca to twp resolution
before early October 2017

Sue G. Miller

From: Rich Brumm <richard.brumm@worthcounty.org>
Sent: Tuesday, July 25, 2017 12:56 PM
To: Sue G. Miller
Subject: Re: wind
Attachments: Invenergy Road Agreement - Worth County_61773198(4)-c.docx;
freeborn_roadagreements_ia_11x17l_20170720.pdf

Sue,

This is the latest and probably final version of the agreement.

Rich

On Tue, Jul 25, 2017 at 11:29 AM, Sue G. Miller <Sue.Miller@co.freeborn.mn.us> wrote:

Hi Rich:

Wondering what you have agreed to for road use agreements with the Freeborn Wind Development. Can you give me a call to discuss sometime?

Thanks.

sue

Susan g. Miller

Freeborn County Engineer

3300 Bridge Avenue

Albert Lea, MN

sue.miller@co.freeborn.mn.us

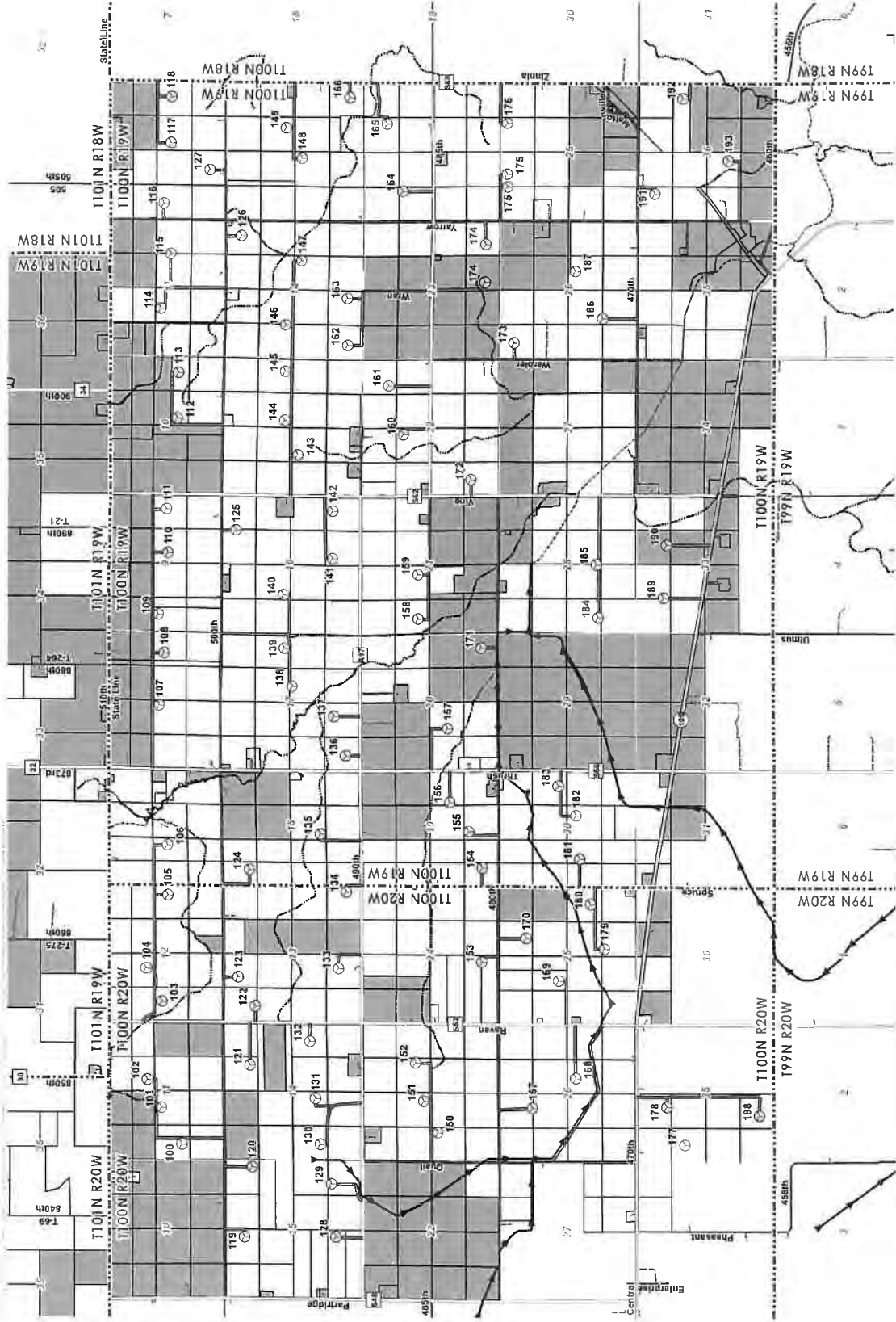
[\(507\) 377-5188](tel:(507)377-5188)

--
Richard C. Brumm, PE
County Engineer
Mitchell Co. 641-732-5849
Worth Co. 641-324-2154



Legend

- Proposed Turbine Location (JA)
- Proposed Access Road
- Participating Property
- Non-Participating Property
- Section Line
- Township/Range Boundary
- Road Classification
- US/State Route
- County Road
- Local Road
- Dirt/Unpaved Road
- Stream Type (NHD)
 - 334 Connector
 - 336 Ditch
 - 460 Stream
 - 558 Artificial Path



Road Agreement Summary

Freeborn Wind Energy Project | Worth County, Iowa

**ROAD AND DRAINAGE EASEMENT AND MAINTENANCE
AGREEMENT
Recorder's Cover Sheet**

Preparer Information: Jennifer Hodge Burkett
(Name & Address of Preparer) 505 East Grand Avenue, Ste. .200
Des Moines, IA 50309
515-242-8900

Taxpayer Information: _____
(Name & Address of Owner) _____

Return Document To: **Jennifer Hodge Burkett**
505 East Grand Avenue, Ste. 200
Des Moines, IA 50309

Grantors: Board of Supervisors of Worth County, Iowa and
Board of Supervisors as Trustees of Drainage Districts in Worth County, Iowa

Grantees: Freeborn Wind Energy LLC

Legal Description: See Exhibit B

Document or instrument number of previously recorded documents: N/A

**ROAD AND DRAINAGE EASEMENT AND MAINTENANCE
AGREEMENT**

THIS ROAD AND DRAINAGE EASEMENT AND MAINTENANCE AGREEMENT (this "Agreement") is made as of the ____ day of _____, 2017, by and among Freeborn Wind Energy LLC, a Delaware limited liability company ("Freeborn Wind"), the Board of Supervisors of Worth County, Iowa ("Board of Supervisors", "Worth County" or "County"), and the Board of Supervisors of Worth County, Iowa as Trustees of Drainage Districts in Worth County, Iowa ("Trustees") (to the extent the Drainage Districts in Worth County, Iowa are applicable, "Worth County" or the "County" shall include both the Board of Supervisors and the Trustees; Freeborn Wind and County are sometimes referred to individually as a "Party" or collectively as the "Parties").

RECITALS:

- A. Freeborn Wind desires to develop, construct and operate a wind-powered electrical generating facility in Worth County (the "Project") with all necessary associated facilities such as underground power collection lines and access roads.
- B. The Parties agree that it is in the best interest of each to memorialize the rights, obligations, and responsibilities of the Parties with respect to Freeborn Wind's use of Worth County roads and rights-of-way during construction and operation of the Project, as well as potential repair of Worth County public drainage infrastructure.

AGREEMENT:

NOW, THEREFORE, in consideration of the mutual promises, covenants, and agreements contained herein, and for other good and valuable consideration, the receipt and adequacy of which are hereby acknowledged, the Parties to this Agreement hereby stipulate and agree as follows:

- 1. **Planning**
 - a. Preliminary Site Plan. Exhibit A is a preliminary plan for construction of aboveground facilities in Worth County. At least ninety (90) days prior to the start of construction, Freeborn Wind shall meet with the County Engineer (the "pre-construction meeting") to present a final plan for use of public roads (the "Haul Roads"), including temporary modifications to the roads such as widened intersections. Freeborn Wind shall advise the County Engineer of plans for heavily-laden vehicles and/or equipment over Worth County's public roads, and in the event the County Engineer identifies a reasonable safety concern regarding the load-bearing capacity of any road or structure, said road or structure shall not be used for the transportation of any heavily laden vehicles or equipment until the safety concern has been alleviated. Such alleviation can include a mutually agreeable alternate route or temporary upgrades to the deficient road or

structure, and such alternates shall not be unreasonably conditioned or delayed.

- b. Initial Evaluation. At the pre-construction meeting, the parties shall decide upon a scope of work for evaluating the condition of the roads and Drainage Infrastructure immediately prior to construction, which Freeborn Wind shall carry out at its expense. Freeborn Wind shall present a complete copy of the evaluation (the "Initial Evaluation") to the County Engineer prior to starting construction.
- c. Later changes. The parties recognize that despite good faith efforts, additional information may later reveal needs to modify some portions of the plans for use of public roads and crossing of Drainage Infrastructure and the parties agree to collaborate in good faith to address any changes necessary to such plans.

2. **Use of Rights-of-Way and Drainage Infrastructure**

a. Use. The Parties anticipate and acknowledge that in connection with the construction, operation and maintenance of electric collection lines, conductors, cables and other equipment appurtenant thereto (collectively, the "Facilities"), Freeborn Wind will use Worth County road rights-of-way and the County grants Freeborn Wind an easement to use such road rights-of-way as set forth in this Agreement. It is further anticipated that all right-of-way crossings of paved roadways will be by underground borings perpendicular to the rights-of-way, plus or minus thirty (30) degrees. All underground borings across any right-of-way shall commence and terminate outside of the right-of-way. No boring shall be made across a right-of-way at the intersection of rights of way. Trenching across gravel roadways may be approved with permission of the County Engineer. The County also grants Freeborn Wind an easement to cross rights-of-way to walk heavy lift construction cranes from one turbine site to another, and the Trustees grant Freeborn Wind an easement to maintain the Facilities along, over, through or across the public drainage infrastructure owned by drainage districts managed by the Worth County Board of Supervisors as Trustees (the "Drainage Infrastructure"). The parties intend that this agreement, and the grants contained herein, shall constitute an easement and shall satisfy the requirements for an easement in Iowa Code Chapter 468.

b. Ownership. The Facilities installed pursuant to this Agreement shall remain the property of Freeborn Wind. Notwithstanding the foregoing, Freeborn Wind shall have the right to sell, assign, or lease all or portions of its Facilities to other parties and, in that event, such other parties shall, with Freeborn Wind or, in the event of a total assignment or transfer, in lieu of Freeborn Wind, have the right, in the manner and to the same extent above, to operate the Facilities in, along, under, and across said rights-of-way and Drainage Infrastructure. Freeborn Wind, its successors or assigns, shall, at all times and at its sole cost and expense, maintain the Facilities in good condition and repair, ordinary wear and tear excepted.

c. Termination. In the event the Project is terminated by Freeborn Wind, Freeborn Wind shall remove all the Facilities above four feet below grade in, along, and across certain rights of way in Worth County within twenty four months of such termination.

3. Obligations of Freeborn Wind

a. Road Repair Obligations. Throughout the construction of the Project, Freeborn Wind shall maintain public road infrastructure in a safe condition for passage by the public. At the conclusion of construction, Freeborn Wind, at its expense, shall repair any damage to the Haul Roads due to any cause connected with the Project, but excluding repair caused by the County's negligence or intentional misconduct, to as-good or better than the condition they were in prior to construction, as documented in the Initial Evaluation (the "Road Repair Obligations"). The Parties shall rely upon the Initial Evaluation for purposes of determining the type of repair required. Upon completion of the repair, Freeborn Wind and the County Engineer will jointly inspect the repair to determine if it has been completed in accordance with the standard set forth in this Section. In the event a hazardous road condition exists that presents a likely safety hazard to the motoring public (a "hazardous road condition") and is not promptly corrected by Freeborn Wind after receipt of notice of the same, the County Engineer may make emergency road repairs or order emergency road repairs to be performed by qualified contractors, and Freeborn Wind shall promptly reimburse Worth County for reasonable emergency road repair costs. Except in the case of emergency road repair, Freeborn Wind shall notify the County Engineer's Office forty-eight (48) hours in advance of any road repair project and/or the closing or partial closing of any road in connection with the road repair project. Weather permitting, the final Road Repair Obligations shall be completed to the reasonable satisfaction of the County Engineer within six (6) months after the completion of construction of the Project as determined by Freeborn Wind, or as soon thereafter as weather conditions permit, or as mutually agreed upon by the Parties. Road repair shall include restoration of original configuration (as documented in the Initial Evaluation) of ditches, slopes, embankments or fills within the right-of-way unless special circumstances dictate otherwise and specific approval has been requested by Freeborn Wind and granted by the County Engineer. In the event it becomes necessary to remove or displace any traffic control device along the transportation routes, the same shall be reinstalled by Freeborn Wind at their original locations and restored to their original condition. All materials and construction methods shall be equal to or better than the standards established by AASHTO for "utilities within highway right of way." All warning and work zone signs shall comply with the "Uniform Manual for Traffic Control Devices." Road closures shall only be allowed after notification to the County Engineer in person or by telephone.

b. Emergency Services. To the extent Freeborn Wind's construction or operation of the Project results in an increase in expenses for emergency services provided by Worth County (e.g., increased emergency personnel

training and equipment), Freeborn Wind agrees to pay directly to the County its allocable share of such increased expenses as determined in good faith by the Parties with reference to documentation supporting such increase in expenses.

c. Drainage Infrastructure. If Drainage Infrastructure is damaged by Freeborn Wind, Freeborn Wind shall restore the Drainage Infrastructure to its Pre-existing Condition. Notwithstanding the foregoing, to the extent required by Iowa Code Section 468.186, if Freeborn Wind's actions disturb or cause replacement of any portion of a tile drain less than twenty inches in diameter and a portion of such drain will remain wholly or partially exposed after the project has been completed, the portion which is to remain exposed and not less than three feet of such drain immediately on either side of the portion which is to remain exposed, shall be replaced either with steel pipe of not less than sixteen gauge or polyvinyl chloride pipe conforming to current industry standards regarding diameter and wall thickness. For the purposes of this Agreement, "Pre-existing Condition" shall mean the flow capacity existing immediately prior to Freeborn Wind commencing construction of the Project. Freeborn Wind is responsible for all expenses related to repairs, relocations, reconfigurations, and replacements to the Drainage Infrastructure in accordance with this Agreement.

4. Obligations of Worth County. Worth County agrees to furnish Freeborn Wind with any and all road construction and maintenance records it has on the Haul Roads and any drainage district maps within sixty (60) days upon written notice from Freeborn Wind. Worth County agrees to make the County Engineer or his designee available to perform his obligations as set forth herein. Worth County shall give timely notification to Freeborn Wind of any conditions which come to its attention and may give rise to damage to the Drainage Infrastructure, a Road Repair Obligation or which would constitute a "hazardous road condition" as described in Paragraph 3(a) above. On a negotiated case by case basis, Worth County will perform snow removal on its Schedule B roads that are required to access wind turbine access roads.

5. Cooperation. Freeborn Wind and the County agree to communicate and cooperate in good faith concerning the safe construction and operation of the Project and preventing or correcting any hazardous road condition that may be created by the Project.

6. Indemnification. Freeborn Wind agrees to defend, indemnify, and hold harmless Worth County and its supervisors, trustees, administrators, employees, and representatives (collectively the "Indemnified Party") against any and all losses, damages, claims, expenses, including reasonable attorneys' fees, and liabilities for physical damage to the property of Worth County and for physical injury to any person, to the extent the same is a result of any activities or operations of Freeborn Wind, its agents and employees, on the property of the County for the performance or non-performance of its duties pursuant to this Agreement except to the extent caused by the negligence or intentional misconduct of the County. Furthermore, Freeborn Wind agrees to defend, indemnify, and hold harmless the Indemnified ROAD AND DRAINAGE EASEMENT AND MAINTENANCE AGREEMENT, Page 5 of 12 Pages.

Party from any third party claims arising out of terms and conditions of this Agreement, except to the extent that such claims are caused by the negligence or intentional misconduct of the County. This indemnification obligation shall survive the termination of this Agreement.

7. Insurance. Freeborn Wind shall at all times during construction and operation of the Project, carry: (i) Worker's Compensation insurance in accordance with the laws of the State of Iowa and Employer's Liability insurance, (ii) Commercial General Liability insurance with minimum limit of \$5,000,000 per occurrence, and (iii) Automobile Liability insurance with minimum limit of \$1,000,000 per occurrence. Certificates of insurance will be provided to County upon written request to Freeborn Wind.

8. Compliance with Laws. Freeborn Wind shall at all times comply with all federal, state, and local laws, statutes, ordinances, rules, regulations, judgments, and other valid orders of any governmental authority with respect to Freeborn Wind's activities associated with the Project and shall obtain all permits, licenses, and orders required to conduct any and all such activities.

9. Entire Agreement. It is mutually understood and agreed that this Agreement constitutes the entire agreement between the Parties and supersedes any and all prior oral or written understandings, representations, or statements, and that no understandings, representatives, or statements, verbal or written, have been made which modify, amend, qualify, or affect the terms of this Agreement. This Agreement may not be amended except in writing and executed by both Parties.

10. Default. Any failure by a Party to perform a material obligation hereunder which is not remedied within thirty (30) days after receipt by the defaulting Party of written notice of such failure shall be deemed a default under this Agreement and, in such case, the non-defaulting Party shall be entitled to pursue any remedies available at law or in equity, including terminating this Agreement and collecting reasonable attorneys' fees from the defaulting Party. Notwithstanding the foregoing, so long as the defaulting Party has initiated and is diligently working to cure, the defaulting Party's cure period shall extend for a time period reasonably sufficient for the default to be remedied.

11. Relationship of the Parties. The duties, obligations, and liabilities of each of the Parties are intended to be several and not joint or collective. This Agreement shall not be interpreted or constructed to create an association, joint venture, fiduciary relationship, or partnership between the Parties hereto or to impose any partnership obligation or liability or any trust or agency obligation or relationship upon either Party. The Parties shall not have any right, power, or authority to enter into any agreement or undertaking for, or act on behalf of, or to act or be an agent or representative of, or otherwise to bind, the other Party.

12. Successors and Assigns. This Agreement shall inure to the benefit of and shall be binding upon the Parties hereto, their respective successors, assignees and legal representatives.

(i) Assignment Requiring Consent. This Agreement may not be assigned without the written consent of the other Parties and such consent shall not be unreasonably withheld, conditioned or delayed.

(ii) Permitted Assignment. Notwithstanding subparagraph (i) above, Freeborn Wind shall be entitled to assign this Agreement, in whole or in part, without the prior written consent of the County to any affiliate of Freeborn Wind, to any purchaser of any portion of the assets of Freeborn Wind, or to any person or entity providing financing to Freeborn Wind or any such affiliate or any collateral agent or security trustee acting on behalf of any such person or entity (each a "Permitted Assignment"). Any such assignment that is a collateral assignment for financing purposes will not relieve Freeborn Wind of its obligations under this Agreement. In the event of a Permitted Assignment, Freeborn Wind shall, not more than sixty days after such assignment, provide written notice to the County of the name, address, entity type and state of incorporation of the assignee, as well as the name and address of the assignee's registered agent in the State of Iowa. It is understood, however that any assignee shall be bound by the terms and conditions contained within this agreement.

13. Notices. Notices, requests, demands, and other communications shall be sent to the following addresses:

If to Freeborn Wind:

Freeborn Wind Energy LLC
c/o INVENERGY WIND DEVELOPMENT LLC
Attn: Dan Litchfield
One South Wacker Drive
Suite 1900
Chicago, IL 60606
dlitchfield@invenergyllc.com
773-318-1289

If to Worth County:

Worth County Engineer Richard Brumm
1000 Central Ave
Northwood, IA 50459
engineer@worthcounty.org
641-324-2154

All notices shall be in writing. Any notice shall be deemed to be sufficiently given (i) on the date, if delivered in person; (ii) five (5) days after being sent by United States registered or certified mail, postage prepaid, return receipt requested; or (iii) on the next Business Day if sent by overnight delivery service (e.g. Federal Express) to the notified Party at its address set forth above. These addresses shall remain in effect unless another address is

substituted by written notice. Notices may be sent via email transmission the email addresses provided, however, notice sent via email shall be followed by notice delivered by personal service or by registered or certified mail, return receipt requested, or by overnight delivery.

14. Relevant Law. Any and all disputes arising under this Agreement and/or relating to the actual development and/or construction of the Project shall be resolved pursuant to the laws of the State of Iowa.

15. Disputes. Should a dispute arise between the Parties on whether hazardous road conditions exist as defined in Section 2a, such determination shall be made by an independent civil engineer licensed in Iowa and selected by the mutual agreement of the Parties (the "Independent Engineer"). If the parties cannot agree on an independent engineer, they each shall select an independent engineer and the two independent engineers shall select a third independent engineer within thirty days, and this third independent engineer shall be the independent engineer for settling such disputes. Compensation for work performed by the Independent Engineer shall be shared equally by the Parties.

16. Waiver of Breach. No waiver of a breach of this Agreement shall be deemed a waiver of any subsequent breach.

17. Severability. If any provision of this Agreement shall be held by a court of competent jurisdiction to be contrary to public policy or unenforceable for any reason, such finding shall not invalidate any other provision of this Agreement and such provision shall be replaced with a suitable and equitable provision in order to carry out, so far as may be valid and enforceable, the extent of such provision that has been found to be contrary to public policy or unenforceable.

18. Binding Effect. This Agreement shall bind the assigns and successors of the respective Parties hereto to the same full degree and extent as the Parties themselves are hereby bound.

19. **Mortgagee Protection.** In the event that any mortgage is entered into by Freeborn Wind, then the mortgagee shall, for so long as its mortgage is in existence and until the lien thereof has been extinguished, be entitled to the protections set forth in this section. Freeborn Wind shall send written notice to Worth County of the name and address of any such mortgagee; provided that failure of Freeborn Wind to give notice of any such mortgagee shall not constitute a default under this Agreement and shall not invalidate such mortgage, however it is understood that any successor in interest to Freeborn Wind, be it a mortgagee, or other entity, shall be bound by the terms and conditions set forth in this agreement.

(a) **Mortgagee's Right to Possession, Right to Acquire and Right to Assign.** A mortgagee of Freeborn Wind shall have the absolute right: (i) to assign its security interest; (ii) to enforce its lien and acquire Freeborn Wind's rights, including without limitation rights to the permit to install, construct,

operate, repair, replace, remove, inspect and perpetually maintain the Facilities, by any lawful means; (iii) to take possession of and operate the Facilities or any portion thereof, to exercise all of Freeborn Wind's rights hereunder, and to perform all obligations to be performed by Freeborn Wind hereunder, or to cause a receiver to be appointed to do so; and (iv) following exercise of its rights under applicable mortgage, to assign or transfer Freeborn Wind's rights to a third party. The County's consent shall not be required for any of the foregoing.

(b) Notice of Default; Opportunity to Cure. As a precondition to exercising any rights or remedies as a result of any default of Freeborn Wind, the County shall give notice of Freeborn Wind's failure to perform to each mortgagee, of which it has notice, concurrently with delivery of such notice to Freeborn Wind. In the event the County gives such notice of failure to perform, the following provision shall apply:

i) The mortgagee shall have the same period after receipt of the notice of failure to perform to remedy the failure to perform, or cause the same to be remedied, as is given to Freeborn Wind, plus, in each instance, sixty (60) days, provided that such 60-day period shall be extended for the time reasonably required to complete such cure, including the time required for the mortgagee to perfect its right to cure failure to perform by obtaining possession (including possession by a receiver) or by instituting foreclosure proceedings, and provided the mortgagee acts with reasonable and continuous diligence. The mortgagee shall have the absolute right to substitute itself for Freeborn Wind and perform the duties of Freeborn Wind hereunder for purposes of curing such failure to perform. The County expressly consents to such substitution, agrees to accept such performance, and authorize the mortgagee (or its employees, agents, representatives or contractors) to enter upon the County roads to complete such performance with all the rights, privileges and obligations of the original Freeborn Wind hereunder.

(c) No Waiver. No payment made to the County by a mortgagee shall constitute an agreement that such payment was, in fact, due under the terms of this Agreement; and a mortgagee, having made any payment to the County pursuant to the County's wrongful, improper or mistaken notice or demand, shall be entitled to the return of any such payment.

[signature page to follow]

IN WITNESS WHEREOF, the Parties have caused this Agreement to be executed on the day and year first above written.

BOARD OF SUPERVISORS
/

FREEBORN WIND ENERGY LLC

By: _____
Printed Name: _____
Title: _____

By: _____
Printed Name: _____
Title: _____

By: _____
Printed Name: _____
Title: _____

By: _____
Printed Name: _____
Title: _____

ATTEST:

By: _____
County Clerk

BOARD OF SUPERVISORS, AS TRUSTEES OF
DRAINAGE DISTRICTS IN WORTH COUNTY, IOWA

By: _____
Printed Name: _____
Title: _____

By: _____
Printed Name: _____
Title: _____

By: _____
Printed Name: _____
Title: _____

ATTEST:

By: _____
County Auditor

STATE OF _____)
)
COUNTY OF _____)

The foregoing instrument was acknowledged before me this ___ day of _____, 20__ by _____, as _____ of Freeborn Wind Energy LLC, a Delaware limited liability company, on its behalf.

Notary Public for _____
My commission expires: _____

STATE OF IOWA)
)ss:
COUNTY OF WORTH)

The foregoing instrument was acknowledged before me this ___ day of _____, 20__ by _____, Supervisor.

Notary Public for _____
My commission expires: _____

STATE OF IOWA)
)ss:
COUNTY OF WORTH)

The foregoing instrument was acknowledged before me this ___ day of _____, 20__ by _____, Supervisor.

Notary Public for _____
My commission expires: _____

STATE OF IOWA)
)ss:
COUNTY OF WORTH)

The foregoing instrument was acknowledged before me this ___ day of _____, 20__ by _____, Supervisor.

Notary Public for _____

My commission expires: _____

STATE OF IOWA)
)ss:
COUNTY OF WORTH)

The foregoing instrument was acknowledged before me this ___ day of _____, 20__ by _____, Supervisor, as Trustee of the Drainage Districts in Worth County, Iowa.

Notary Public for _____
My commission expires: _____

STATE OF IOWA)
)ss:
COUNTY OF WORTH)

The foregoing instrument was acknowledged before me this ___ day of _____, 20__ by _____, Supervisor, as Trustee of the Drainage Districts in Worth County, Iowa.

Notary Public for _____
My commission expires: _____

STATE OF IOWA)
)ss:
COUNTY OF WORTH)

The foregoing instrument was acknowledged before me this ___ day of _____, 20__ by _____, Supervisor, as Trustee of the Drainage Districts in Worth County, Iowa.

Notary Public for _____
My commission expires: _____

EXHIBIT A

EXHIBIT B
LEGAL DESCRIPTION

T100N, R20W, Sections 10-15, 23-26 and 35.

T100N, R19W, Sections 7-30, 34-36

Sue G. Miller

From: Litchfield, Daniel <DLitchfield@invenergyllc.com>
Sent: Thursday, July 27, 2017 10:56 AM
To: Sue G. Miller; Kelly Callahan; Winston Beiser
Cc: Amanuel Haile (amanuel.t.haile@xcelenergy.com); Ruberg, Brittni J; Peterson, Chad T; Rosenfeld, Trisha A; Cox, Sarah
Subject: Freeborn Wind Farm 3-part agreement discussion
Attachments: L060_final turbines_FOR FILING.zip; L060_final_roads_rev02.zip; Freeborn.zip; Freeborn_RPA_Data_for_Review_20170720.zip; L058_collection.zip; L058_crane paths.zip

Dear Sue, Kelly and Winston,

Thank you so much for your time on Tuesday. I look forward to continued, productive discussions.

Attached are shape files per Sue's request.

I look forward to Sue's feedback from the townships and a potential next meeting in early September. I think we may have a state-run Public Information Meeting for the project mid-September, so maybe we could schedule our next meeting for that morning when we will all be in town anyway. I will let you know when a date is set. I think we can pencil in September 16, but that is far from final.

Dan Litchfield | Senior Manager, Project Development
Invenergy | One South Wacker Drive, Suite 1800, Chicago, IL 60606
dlitchfield@invenergyllc.com | M 312-224-1400 | D 312-582-1057 | C 773-318-1289 | @InvenergyLLC
@danlitch

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Exhibit F

Data Practices Act Request Responses

Requested November 30, 2018

Minnesota Department of Commerce

Received January 3, 2019

Subject: November 30 Freeborn DPA Response
From: "Wachtler, John (COMM)" <john.wachtler@state.mn.us>
Date: 1/3/2019, 12:15 PM
To: "Carol A. Overland" <overland@legalectric.org>

Hello Carol.

Sorry for the delay getting back to on your Freeborn data practices act request of November 30, 2018. I have attached five emails between Andrew Levi (EERA staff) and Invenegy regarding eminent domain generally. But these are the only documents that we found that are responsive to your DPA request

We do not, however, have any notes, email or correspondence between Commerce staff and Freeborn County officials.

Mr. Hartman does remember talking to someone at the county, but does not have any notes and doesn't remember any details.

Please feel free to get back to me with any questions though.

John

John Wachtler
Energy Program Director
Minnesota Department of Commerce
85 7th Place East, Suite 500, Saint Paul, MN 55101
P: 651-539-1837
C: 651-724-1063

Logo

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From: Carol A. Overland <overland@legalectric.org>
Sent: Thursday, December 13, 2018 12:06 PM
To: Wachtler, John (COMM) <john.wachtler@state.mn.us>
Subject: Fwd: FW: Wind Farm Info.

Here's everything they sent.

References to Hartman are in Packet 2, p. 10, 13, and 19. Not much in writing, but a request to call, and a statement that he was called and that he "confirmed" who knows what. The discussion is both about public utility and the easement on the corner of the problematic route.

----- Forwarded Message -----

Subject:FW: Wind Farm Info.
Date:Wed, 21 Nov 2018 17:44:16 +0000
From:Tom Jensen <Tom.Jensen@co.freeborn.mn.us>
To:Carol A. Overland <overland@legalectric.org>
CC:Dorenne Hansen <dhansen078@gmail.com>

Thomas Jensen

Page 425 of 495

Ex. 7

To: "Levi, Andrew (COMM)" <andrew.levi@state.mn.us>

Still going strong in the small hearing room. I'll let you know when we wrap up.

Attached is what I'd like to discuss if you have the opportunity and inclination to preview it.

Dan Litchfield
773-318-1289

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— ForwardedMessage.eml —

Subject: Eminent Domain
From: "Levi, Andrew (COMM)" <andrew.levi@state.mn.us>
Date: 9/18/2017, 3:30 PM
To: "Litchfield, Daniel" <DLitchfield@invenergyllc.com>
CC: "Wachtler, John (COMM)" <john.wachtler@state.mn.us>

Dan—

Thank you for the opportunity to review a draft public notice. I've discussed the notice with my supervisor and others within Commerce.

We find that Minn. R. 7850.2100, Subp. 3(J) requires applicants to clearly state their eminent domain authority. The draft notice neither states nor implies Freeborn Wind Energy LLC's power of eminent domain to acquire land necessary for the project. As such, we question whether this notice constitutes a "bona fide attempt to comply" with the obligation to inform the public of the project.

We discussed several examples, including [Odell Transmission](#), [Prairie Rose](#), and [Bull Moose](#). The landowner letters in those dockets clearly state the extent of the applicant's authority.

This issue is unavoidable and will be discussed during scoping. It is a necessary component of alternative development provided in Minn. R. 7850.3700. EERA staff evaluates proposed alternatives based on several factors, one of which is feasibility. Easement acquisition certainly plays into that.

If you have further questions regarding this issue, I suggest you contact my supervisor, John Wachtler, at (651) 539-1837 or john.wachtler@state.mn.us.

— Andrew

Andrew Levi, Environmental Review Specialist
Energy Environmental Review and Analysis
85 Seventh Place East, Suite 280 | Saint Paul, MN 55101
P: (651) 539-1840 | F: (651) 539-0109



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— ForwardedMessage.eml —

Subject: call
From: "Levi, Andrew (COMM)" <andrew.levi@state.mn.us>
Date: 9/18/2017, 1:57 PM
To: "Litchfield, Daniel" <DLitchfield@invenergyllc.com>

I received your telephone message. I hope to send you an email later today regarding that section. In the meantime, attached here are several minor changes mostly related to contact information. Are you attaching Figure 1 as the overview map?

—Andrew

—ForwardedMessage.eml

Subject: RE: Route Alternatives
From: "Litchfield, Daniel" <DLitchfield@invenergyllc.com>
Date: 1/17/2018, 10:37 AM
To: "Levi, Andrew (COMM)" <andrew.levi@state.mn.us>

Good morning Andrew,

Below are responses to your questions in red. Please let me know if you require any additional clarification or information. As noted below, I will follow up shortly with your requested shape file.

Dan Litchfield | Senior Manager, Project Development
Invenergy | One South Wacker Drive, Suite 1800, Chicago, IL 60606
dlitchfield@invenergyllc.com | M 312-224-1400 | D 312-582-1057 | C 773-318-1289 | @InvenergyLLC @danlitch

From: Levi, Andrew (COMM) [mailto:andrew.levi@state.mn.us]
Sent: Tuesday, January 16, 2018 11:48 AM
To: Litchfield, Daniel <DLitchfield@invenergyllc.com>
Subject: RE: Route Alternatives

Dan.

Thank you for this.

Please be sure to provide me any additional response you might have regarding Freeborn Wind Energy's review of route or route segment alternatives. For example, AFCL proposes the use of the Barton Switching Station or the Hayward Substation on pages 7 and 8 of their comments. The project's initial interconnection plan had been to connect to Hayward, but we moved the interconnection point to Glenworth, in part to avoid additional wildlife activity near Hayward substation and Albert Lea Lake. MISO was ok with this move because the electrical performance of the Hayward and Glenworth interconnections are similar. The ITC Midwest 161 kV line is from the Worth County substation to Glenworth, then up to Hayward. So there were no significant technical issues presented by this move. Now we have a completed, signed GIA for the Project to connect at Glenworth. Changes to that plan cannot be made at this time.

The Barton substation has a very different electrical performance, and a switch to that substation would not be possible. Also, the Barton substation is in the center of a competitor's wind project, and securing easements necessary to access that substation, at the center of the wind farm, would be impractical at best. Finally, from a timing standpoint, we have executed a Generator Interconnection Agreement with MISO and ITC for our connection to Glenworth and, even if those other substation locations were viable alternative interconnection points (which they are not), a switch at this time would irreparably harm the Project from a cost and schedule standpoint. We would have to terminate a viable GIA to Glenworth (with very low interconnection costs) and start the process anew into Barton. This process would likely require 2 or more years to conclude and cannot be commenced until March 2018. The conclusions could be very negative, for example, that an interconnection into Barton requires substantial network upgrades that make the project economically not viable. Indeed, the mature interconnection position into Glenworth is a major reason why the project was selected by Xcel Energy for its self-build program. Freeborn's excellent access to electrical markets via the Glenworth substation is a prime piece of evidence that it is an ideal site for a wind energy generating facility. For these reasons, Freeborn Wind strongly opposes consideration of any route with a differing end point.

Additionally, I have several follow-up questions. Please don't search for the answers; if you don't know or the answer is "no" that's okay.

How wide is the right-of-way for the ITC Midwest LLC 69 kV line? Would the right-of-way need to be widened to accommodate underbuilding the proposed line? Did you contact ITC Midwest? If so, what did they say about underbuilding or right-of-way sharing? Attached is an example easement that appears to underlie the ITC Midwest LLC 69 kV line. It does not specify a ROW width, but it does specify that it can clear trees to 50' on either side of the land. Yes, we have been in contact with ITC Midwest and they are willing to consider a colocation.

Please provide answers to the above questions for the Dairyland Cooperative Line. You mentioned it would require taller poles and cost more money. Can you tell me anything about how tall the poles would need to be? And how much more expensive? Our very rough estimate is 20-30 feet taller and probably 50% more expensive.

Could you please provide a shapefile of the proposed 1.1x tip height setback from proposed turbines 22 and 23. Yes. Our project engineer is traveling today so I cannot get that for you right away. Will send it as soon as I can. Rich Davis will have shapefiles of all our proposed facilities, including turbine locations. When I can get ahold of our engineer, I will ask him to create a new shapefile that shows the proposed alternate route, presumably with a transmission line alignment centered on the route width, and then a 110% turbine height setback on either side of that.

Thank you.

—Andrew

Andrew Levi, Environmental Review Specialist
[Energy Environmental Review and Analysis](#)
85 Seventh Place East, Suite 280 | Saint Paul, MN 55101
P: (651) 539-1840 | F: (651) 539-0109



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From: Litchfield, Daniel [<mailto:DLitchfield@invenergyllc.com>]
Sent: Friday, January 12, 2018 10:45 AM
To: Levi, Andrew (COMM) <andrew.levi@state.mn.us>
Subject: RE: Route Alternatives

Dear Andrew,

Attached are:

1. Memo discussing the alternate routes
2. Modified route width for proposal #2
3. Participating land shapefiles for the entire area

Please contact me at your convenience if you would like to discuss our response

Dan Litchfield | Senior Manager, Project Development
Invenergy | One South Wacker Drive, Suite 1800, Chicago, IL 60606
dlitchfield@invenergyllc.com | M 312-224-1400 | D 312-582-1057 | C 773-318-1289 | @InvenergyLLC @danlitch

From: Levi, Andrew (COMM) [<mailto:andrew.levi@state.mn.us>]
Sent: Monday, January 08, 2018 3:03 PM
To: Litchfield, Daniel <DLitchfield@invenergyllc.com>
Cc: Levi, Andrew (COMM) <andrew.levi@state.mn.us>
Subject: Route Alternatives

Dan—

Please review and provide a response at your earliest convenience. Let me know you received this. Note: The response will be attached to Commerce comments to the Commission.

—Andrew

* * *

DATE: January 9, 2018

TO: Dan Litchfield, Project Manager
Freeborn Wind Energy LCC

FROM: Andrew Levi, Environmental Review Manager
Minnesota Department of Commerce

RE: Route alternatives identified during scoping

Minnesota Rule 7850.3700, subpart 2, requires that Commerce provide applicants with an opportunity to respond to each request that an alternative be included in the environmental assessment. The following route and route segment alternatives were proposed. Shapefiles are attached. (I may forward additional alternatives based on my continued review of comments.)

Route Alternative 1

The Association of Freeborn Wind Landowners (AFCL) proposed this alternative route to limit land used by the proposed project to only participating landowners. AFCL provided a map as part of their written comments (**Pages from eDockets - AFCL**). When transferring this map to ArcGIS software,

staff maintained a 400-foot route width, and ensured the route width was entirely on participating landowner's property (**Map 1**).

Route Alternative 2

Staff proposes this alternative. It addresses those issues identified in Route Alternative 1. Staff's alternative differs from Route Alternative 1 inasmuch that staff only modified the proposed route where it overlapped onto non-participating landowner's property—staff did not modify the proposed centerline. (**Map 2**)

Route Segment Alternative 1

Ms. Stephanie Richter proposed this alternative route segment to mitigate transmission line proliferation in the project area. She requests the proposed project be routed parallel to existing transmission lines. Staff defines paralleling as immediately adjacent to the existing line (either with or without right-of-way sharing). Ms. Richter provided a map at the public hearing (**Stephanie Richter Document**).

Staff developed Route Segment Alternative 1 (**Map 3**) based on Ms. Richter's comments. This route segment alternative begins west of 820th Avenue at approximately mile three of the proposed line from south to north. The segment alternative continues west from the proposed route. It then travels north along the existing 69 kV line. At 140th Street it turns west until it rejoins the proposed route just south of the Glenworth Substation.

Staff modified the 400-foot route width to 600 feet near the communications tower to allow for the line to pass to the west of the tower. Staff requests that both paralleling and underbuilding be analyzed along the entire route segment.

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Subject: response to inquiry #3
From: "Litchfield, Daniel" <DLitchfield@invenergyllc.com>
Date: 5/4/2018, 5:05 PM
To: "Levi, Andrew (COMM)" <andrew.levi@state.mn.us>

Andrew,

Here you go. Have a great weekend.

Dan Litchfield | Director, Renewable Development
Invenergy | One South Wacker Drive, Suite 1800, Chicago, IL 60606
dlitchfield@invenergyllc.com | M 312-224-1400 | D 312-582-1057 | C 773-318-1289 | @InvenergyLLC

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| HEI - Freeborn Wind Transmission Line Noise Response to MN Inquiry 20180502.pdf | 116 KB |
| Information Inquiry 3 response.pdf | 129 KB |
| FBW-A-T009-5-THI-161S-JX.pdf | 146 KB |

Exhibit G

World Health Organization Environmental Noise Guidelines

Selected -- pages 77-86.

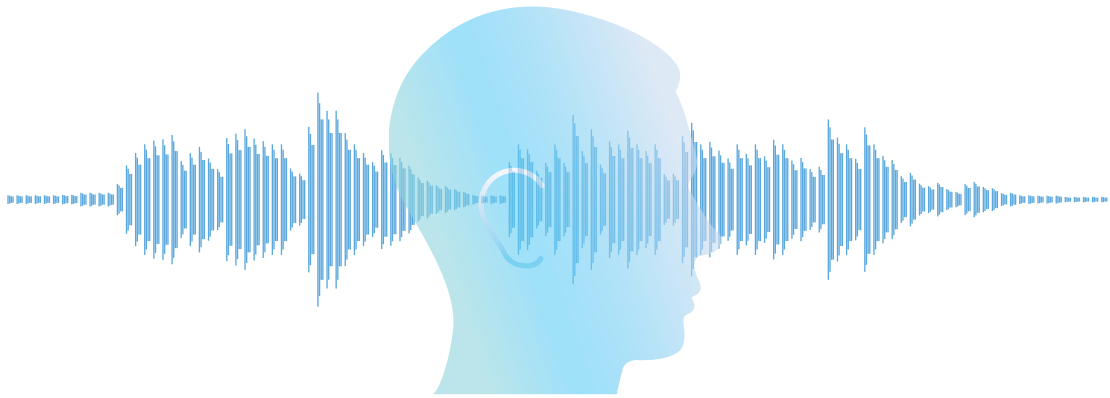
Released October 10, 2018



**World Health
Organization**

REGIONAL OFFICE FOR **Europe**

ENVIRONMENTAL **NOISE** GUIDELINES for the European Region





3.4 Wind turbine noise

Recommendations

For average noise exposure, the GDG **conditionally** recommends reducing noise levels produced by wind turbines below **45 dB L_{den}** , as wind turbine noise above this level is associated with adverse health effects.

To reduce health effects, the GDG **conditionally** recommends that policy-makers implement suitable measures to reduce noise exposure from wind turbines in the population exposed to levels above the guideline values for average noise exposure. No evidence is available, however, to facilitate the recommendation of one particular type of intervention over another.



3.4.1 Rationale for the guideline levels for wind turbine noise

The exposure levels were derived in accordance with the prioritizing process of critical health outcomes described in section 2.4.3. For each of the outcomes, the exposure level was identified by applying the benchmark, set as relevant risk increase to the corresponding ERF. In the case of exposure to wind turbine noise, the process can be summarized as follows (Table 36).

Table 36. Average exposure levels (L_{den}) for priority health outcomes from wind turbine noise

| Summary of priority health outcome evidence | Benchmark level | Evidence quality |
|--|--------------------|---------------------------|
| Incidence of IHD Incidence of IHD could not be used to assess the exposure level. | 5% increase of RR | No studies were available |
| Incidence of hypertension Incidence of hypertension could not be used to assess the exposure level. | 10% increase of RR | No studies were available |
| Prevalence of highly annoyed population Four studies were available. An exposure–response curve of the four studies revealed an absolute risk of 10%HA (outdoors) at a noise exposure level of 45 dB L_{den} . | 10% absolute risk | Low quality |
| Permanent hearing impairment | No increase | No studies were available |
| Reading skills and oral comprehension in children | One-month delay | No studies were available |

In accordance with the prioritization process, the GDG set a guideline exposure level of 45.0 dB L_{den} for average exposure, based on the relevant increase of the absolute %HA. The GDG stressed that there might be an increased risk for annoyance below this noise exposure level, but it could not state whether there was an increased risk for the other health outcomes below this level owing to a lack of evidence. As the evidence on the adverse effects of wind turbine noise was rated low quality, the GDG made the recommendation conditional.

Next, the GDG considered the evidence for night noise exposure to wind turbine noise and its effect on sleep disturbance (Table 37).

Table 37. Night-time exposure levels (L_{night}) for priority health outcomes from wind turbine noise

| Summary of priority health outcome evidence | Benchmark level | Evidence quality |
|--|------------------|------------------|
| Sleep disturbance Six studies were available; they did not reveal consistent results about effects of wind turbine noise on sleep. | 3% absolute risk | Low quality |

Based on the low quantity and heterogeneous nature of the evidence, the GDG was not able to formulate a recommendation addressing sleep disturbance due to wind turbine noise at night time.

The GDG also looked for evidence about the effectiveness of interventions for wind turbine noise exposure. Owing to a lack of research, however, no studies were available on existing interventions and associated costs to reduce wind turbine noise.

Based on this assessment, the GDG therefore provided a conditional recommendation for average noise exposure (L_{den}) to wind turbines and a conditional recommendation for the implementation of suitable measures to reduce noise exposure. No recommendation about a preferred type of intervention could be formulated; nor could a recommendation be made for an exposure level for night noise exposure (L_{night}), as studies were not consistent and in general did not provide evidence for an effect on sleep.

3.4.1.1 Other factors influencing the strength of recommendation

Other factors considered in the context of recommendations on wind turbine noise included those related to values and preferences, benefits and harms, resource implications, equity, acceptability and feasibility. Ultimately, the assessment of all these factors did not lead to a change in the strength of recommendation, although it informed the development of a conditional recommendation on the intervention measures. Further details are provided in section 3.4.2.3.

3.4.2 Detailed overview of the evidence

The following sections provide a detailed overview of the evidence constituting the basis for setting the recommendations on wind turbine noise. It is presented and summarized separately for each of the critical health outcomes, and the GDG's judgement of the quality of evidence is indicated (for a detailed overview of the evidence on important health outcomes, see Annex 4). Research into health outcomes and effectiveness of intervention is addressed consecutively.

A comprehensive summary of all evidence considered for each of the critical and important health outcomes can be found in the eight systematic reviews published in the *International Journal of Environmental Research and Public Health* (see section 2.3.2 and Annex 2).

It should be noted that, due to the time stamp of the systematic reviews, some more recent studies were not included in the analysis. This relates in particular to several findings of the Wind Turbine Noise and Health Study conducted by Health Canada (Michaud, 2015). Further, some studies were omitted, as they did not meet the inclusion criteria, including, for instance, studies using distance to the wind turbine instead of noise exposure to investigate health effects. The justification for including and excluding studies is given in the systematic reviews (Basner & McGuire, 2018; Brown et al.,

2017; Clark & Paunovic, 2018; in press; Guski et al., 2017; Niewenhuijsen et al., 2017; Śliwińska-Kowalska & Zaborowski, 2017; van Kempen et al., 2018; see Annex 2 for further details).

3.4.2.1 Evidence on health outcomes

The key question posed was: in the general population exposed to wind turbine noise, what is the exposure–response relationship between exposure to wind turbine noise (reported as various noise indicators) and the proportion of people with a validated measure of health outcome, when adjusted for main confounders? A summary of the PICOS/PECCOS scheme applied and the main findings is set out in Tables 38 and 39.

Table 38. PICOS/PECCOS scheme of critical health outcomes for exposure to wind turbine noise

| PECO | Description |
|------------|---|
| Population | General population |
| Exposure | Exposure to high levels of noise produced by wind turbines (average/night time) |
| Comparison | Exposure to lower levels of noise produced by wind turbines (average/night time) |
| Outcome(s) | For average noise exposure: 1. cardiovascular disease 2. annoyance 3. cognitive impairment 4. hearing impairment and tinnitus 5. adverse birth outcomes 6. quality of life, well-being and mental health 7. metabolic outcomes |
| | For night noise exposure: 1. effects on sleep |



Table 39. Summary of findings for health effects from exposure to wind turbine noise (L_{den})

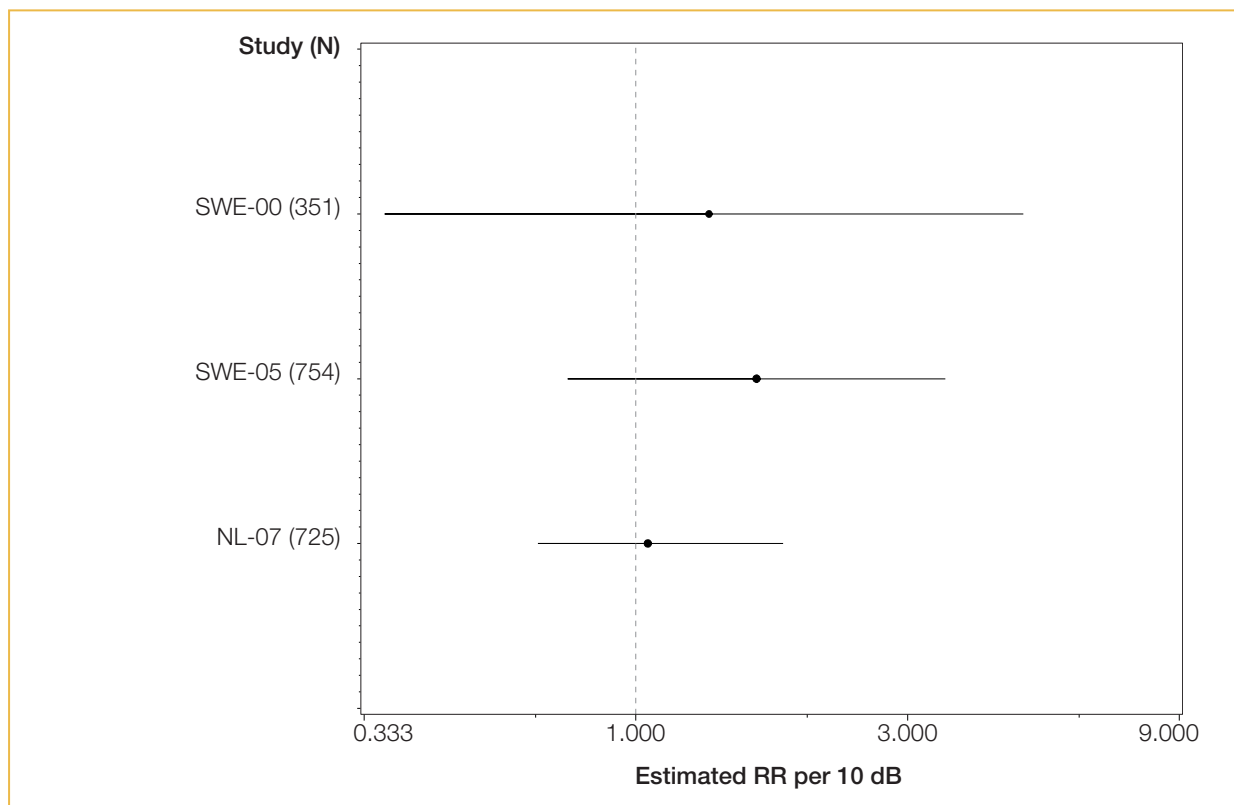
| Noise metric | Priority health outcome measure | Quantitative risk for adverse health | Lowest level of exposure across studies | Number of participants (studies) | Quality of evidence |
|--|---------------------------------|---|---|----------------------------------|--|
| Cardiovascular disease | | | | | |
| L_{den} | Incidence of IHD | – | – | – | – |
| L_{den} | Incidence of hypertension | – | – | – | – |
| Annoyance | | | | | |
| L_{den} | %HA | Not able to pool because of heterogeneity | 30 dB | 2481 (4) | Low (downgraded for inconsistency and imprecision) |
| Cognitive impairment | | | | | |
| L_{den} | Reading and oral comprehension | – | – | – | – |
| Hearing impairment and tinnitus | | | | | |
| L_{den} | Permanent hearing impairment | – | – | – | – |

Cardiovascular disease

For the relationship between wind turbine noise and prevalence of hypertension, three cross-sectional studies were identified, with a total of 1830 participants (van den Berg et al., 2008; Pedersen, 2011; Pedersen & Larsman, 2008; Pedersen & Persson Waye, 2004; 2007). The number of cases was not reported. All studies found a positive association between exposure to wind turbine noise and the prevalence of hypertension, but none was statistically significant. The lowest levels in studies were either <30 or <32.5 L_{den} . No meta-analysis was performed, since too many parameters were unknown and/or unclear. Due to very serious risk of bias and imprecision in the results, this evidence was rated very low quality (see Fig. 14).

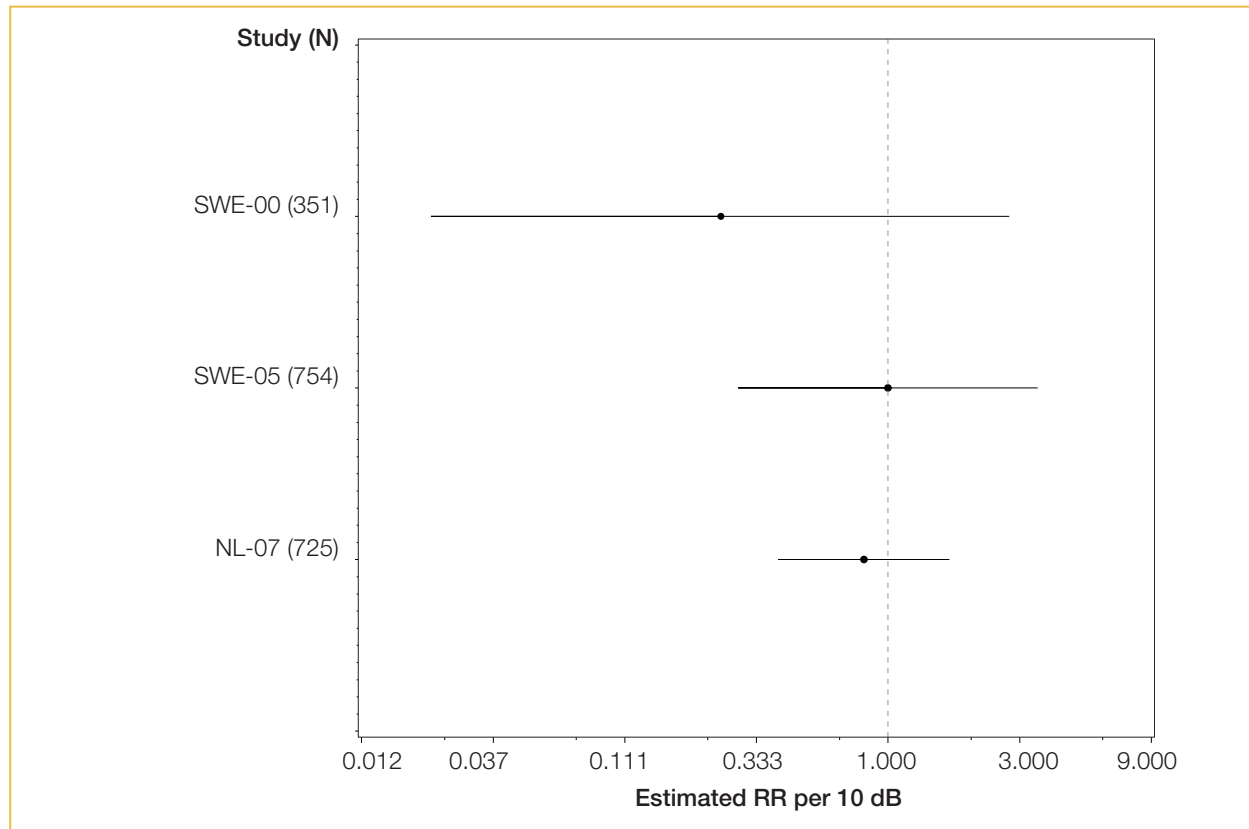
The same studies also looked at exposure to wind turbine noise and self-reported cardiovascular disease, but none found an association. No evidence was available for other measures of cardiovascular disease. As a result, only evidence rated very low quality was available for no considerable effect of audible noise (greater than 20 Hz) from wind turbines or wind farms on self-reported cardiovascular disease (see Fig. 15).

Fig. 14. The association between exposure to wind turbine noise (sound pressure level in dB) and hypertension



Notes: The dotted vertical line corresponds to no effect of exposure to wind turbine noise. The black dots correspond to the estimated RR per 10 dB and 95% CI. For further details on the studies included in the figure please refer to the systematic review on environmental noise and cardiovascular and metabolic effects (van Kempen et al., 2018).

Fig. 15. The association between exposure to wind turbine noise (sound pressure level) and self-reported cardiovascular disease



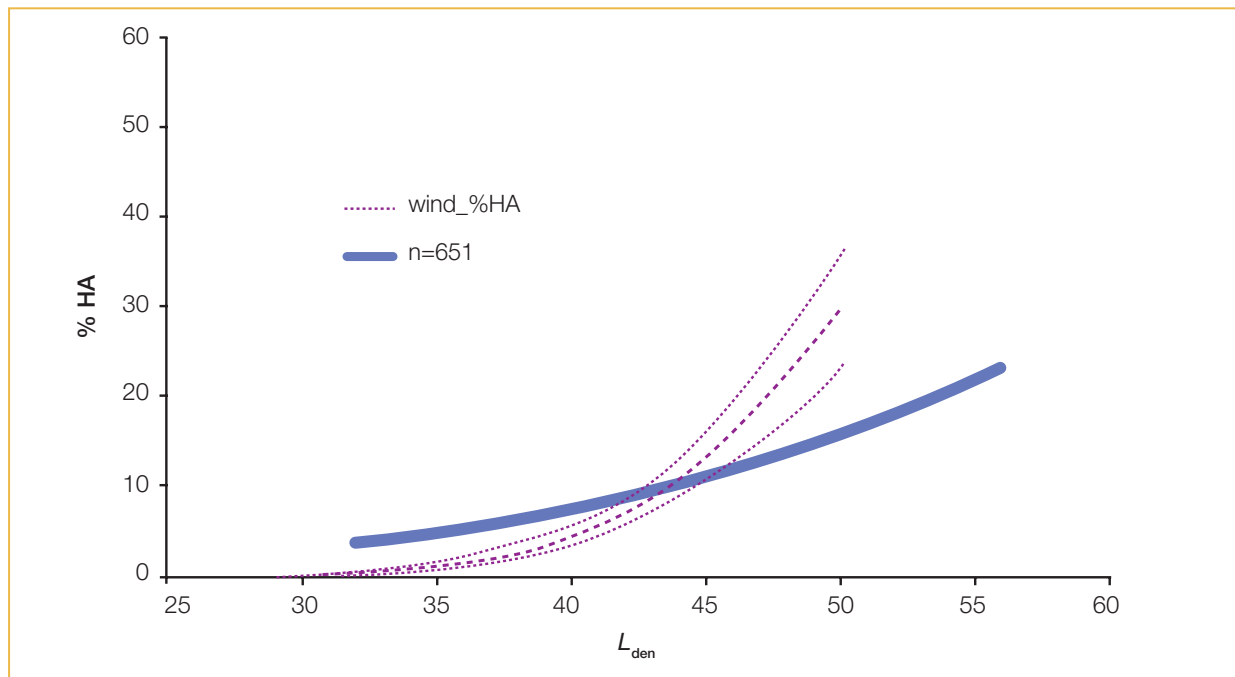
Notes: The dotted vertical line corresponds to no effect of exposure to wind turbine noise. The black circles correspond to the estimated RR per 10 dB (sound pressure level) and 95% CI. For further details on the studies included in the figure please refer to the systematic review on environmental noise and cardiovascular and metabolic effects (van Kempen et al., 2018).

Annoyance

Two publications containing descriptions of four individual studies were retrieved (Janssen et al., 2011; Kuwano et al., 2014). All four studies used measurements in the vicinity of the respondents' addresses; the noise exposure metrics used in the three original studies (Pedersen, 2011; Pedersen & Persson Waye, 2004; 2007) included in Janssen et al. (2011) were recalculated into L_{den} . The noise levels in the studies ranged from 29 dB to 56 dB. Different scales were used to assess annoyance, with slightly different definitions of "highly annoyed" and explicit reference to outdoor annoyance in the data used for the Janssen et al. (2011) curve. Construction of the ERFs provided in the two publications differed and they were therefore not further combined in a meta-analysis. Fig. 16 shows the %HA from the two publications. The 10% criterion for %HA is reached at around 45 dB L_{den} (where the two curves coincide). There was a wide variability in %HA between studies, with a range of 3–13%HA at 42.5 dB and 0–32%HA at 47.5 dB. The %HA in the sample is comparatively high, given the relatively low noise levels. There is evidence rated low quality for an association between wind turbine noise and annoyance, but this mainly applies to the association between wind turbine noise and annoyance and not to the shape of the quantitative relationship.

Further statistical analyses of annoyance yield evidence rated low quality for an association between wind turbine noise and %HA when comparing an exposure at 42.5 dB and 47.5 dB, with a mean difference in %HA of 4.5 (indoors) and 6.4 (outdoors). There is also evidence rated moderate quality for a correlation between individual noise exposure and annoyance raw scores ($r = 0.28$).

Fig. 16. Overlay of the two wind turbine annoyance graphs



Notes: Overlay of the two wind turbine outdoor annoyance graphs adapted from Janssen et al. (2011, red) and Kuwano et al. (2014, blue). The Kuwano et al. curve is based on L_{dn} ; no correction for L_{den} has been applied.¹⁸ For further details on the studies included in the figure please refer to the systematic review on environmental noise and annoyance (Guski et al., 2017).

Cognitive impairment, hearing impairment and tinnitus, adverse birth outcomes

No studies were found, and therefore no evidence was available on the relationship between wind turbine noise and measures of cognitive impairment; hearing impairment and tinnitus; and adverse birth outcomes.

Sleep disturbance

Six cross-sectional studies on wind turbine noise and self-reported sleep disturbance were identified (Bakker et al., 2012; Kuwano et al., 2014; Michaud, 2015; Pawlaczyk-Luszczynska et al., 2014; Pedersen & Persson Wayne, 2004; 2007). Noise levels were calculated using different methods, and different noise metrics were reported. Three of the studies asked how noise affects sleep; the other three evaluated the effect of wind turbine noise on sleep using questions that explicitly referred to noise (Table 40).

¹⁸ L_{dn} is the day-night-weighted sound pressure level as defined in section 3.6.4 of ISO 1996-1:2016.

Table 40. Summary of findings for health effects from exposure to wind turbine noise (L_{night})

| Noise metric | Priority health outcome measure | Quantitative risk for adverse health | Lowest level of effects in studies | Number of participants (studies) | Quality of evidence |
|-------------------------|---------------------------------|---|------------------------------------|----------------------------------|---|
| Effects on sleep | | | | | |
| L_{night} | %HSD | 1.60 (95% CI: 0.86–2.94) per 10 dB increase | 31 dB | 3971 (6) | Low (downgraded for study limitations, inconsistency, precision) |

The risk of bias was assessed as high for all six studies, as effects on sleep were measured by self-reported data. There were a limited number of subjects at higher exposure levels. A meta-analysis was conducted for five of the six studies, based on the OR for high sleep disturbance for a 10 dB increase in outdoor predicted sound pressure level. The pooled OR was 1.60 (95% CI: 0.86–2.94). The evidence was rated low quality.

3.4.2.2 Evidence on interventions

This section summarizes the evidence underlying the recommendation on the effectiveness of interventions for wind turbine noise exposure. The key question posed was: in the general population exposed to wind turbine noise, are interventions effective in reducing exposure to and/or health outcomes from wind turbine noise? A summary of the PICOS/PECCOS scheme applied is set out in Table 41.

Table 41. PICOS/PECCOS scheme of the effectiveness of interventions for exposure to wind turbine noise

| PICO | Description |
|-------------------|--|
| Population | General population |
| Intervention(s) | The interventions can be defined as: (a) a measure that aims to change noise exposure and associated health effects; (b) a measure that aims to change noise exposure, with no particular evaluation of the impact on health; or (c) a measure designed to reduce health effects, but that may not include a reduction in noise exposure. |
| Comparison | No intervention |
| Outcome(s) | For average noise exposure: 1. cardiovascular disease 2. annoyance 3. cognitive impairment 4. hearing impairment and tinnitus 5. adverse birth outcomes 6. quality of life, well-being and mental health 7. metabolic outcomes For night noise exposure: 1. effects on sleep |



No studies were found, and therefore no evidence was available on the effectiveness of interventions to reduce noise exposure from wind turbines.

3.4.2.3 Consideration of additional contextual factors

As the foregoing overview has shown, very little evidence is available about the adverse health effects of continuous exposure to wind turbine noise. Based on the quality of evidence available, the GDG set the strength of the recommendation on wind turbine noise to conditional. As a second step, it qualitatively assessed contextual factors to explore whether other considerations could have a relevant impact on the recommendation strength. These considerations mainly concerned the balance of harms and benefits, values and preferences, and resource use and implementation.

Regarding the balance of harms and benefits, the GDG would expect a general health benefit from a marked reduction in any kind of long-term environmental noise exposure. Health effects of individuals living in the vicinity of wind turbines can theoretically be related not only to long-term noise exposure from the wind turbines but also to disruption caused during the construction phase. The GDG pointed out, however, that evidence on health effects from wind turbine noise (apart from annoyance) is either absent or rated low/very low quality (McCunney et al., 2014). Moreover, effects related to attitudes towards wind turbines are hard to discern from those related to noise and may be partly responsible for the associations (Knopper & Ollson, 2011). Furthermore, the number of people exposed is far lower than for many other sources of noise (such as road traffic). Therefore, the GDG estimated the burden on health from exposure to wind turbine noise at the population level to be low, concluding that any benefit from specifically reducing population exposure to wind turbine noise in all situations remains unclear. Nevertheless, proper public involvement, communication and consultation of affected citizens living in the vicinity of wind turbines during the planning stage of future installations is expected to be beneficial as part of health and environmental impact assessments. In relation to possible harms associated with the implementation of the recommendation, the GDG underlined the importance of wind energy for the development of renewable energy policies.

The GDG noticed that the values and preferences of the population towards reducing long-term noise exposure to wind turbine noise vary. Whereas the general population tends to value wind energy as an alternative, environmentally sustainable and low-carbon energy source, people living in the vicinity of wind turbines may evaluate them negatively. Wind turbines are not a recent phenomenon, but their quantity, size and type have increased significantly over recent years. As they are often built in the middle of otherwise quiet and natural areas, they can adversely affect the integrity of a site. Furthermore, residents living in these areas may have greater expectations of the quietness of their surroundings and therefore be more aware of noise disturbance. Negative attitudes especially occur in individuals who can see wind turbines from their houses but do not gain economically from the installations (Kuwano et al., 2014; Pedersen & Persson Wayne, 2007; van den Berg et al., 2008). These situational variables and the values and preferences of the population may differ between wind turbines and other noise sources, as well as between wind turbine installations, which makes assessment of the relationship between wind turbine noise exposure and health outcomes particularly challenging.

Assessing resource use and implementation considerations, the GDG noted that reduction of noise exposure from environmental sources is generally possible through simple measures like insulating windows or building barriers. With wind turbines, however, noise reduction interventions are more

complicated than for other noise sources due to the height of the source and because outdoor disturbance is a particularly large factor. As generally fewer people are affected (compared to transportation noise), the expected costs are lower than for other environmental sources of noise. The GDG was not aware of any existing interventions (and associated costs) to reduce harms from wind turbine noise, or specific consequences of having regulations on wind turbine noise. Therefore, it could not assess feasibility, or discern whether any beneficial effects of noise reduction would outweigh the costs of intervention. In particular, there is no clear evidence on an acceptable and uniform distance between wind turbines and residential areas, as the sound propagation depends on many aspects of the wind turbine construction and installation.

In light of the assessment of the contextual factors in addition to the quality of evidence, the recommendation for wind turbine noise exposure remains conditional.

Additional considerations or uncertainties

Assessment of population exposure to noise from a particular source is essential for setting health-based guideline values. Wind turbine noise is characterized by a variety of potential moderators, which can be challenging to assess and have not necessarily been addressed in detail in health studies. As a result, there are serious issues with noise exposure assessment related to wind turbines.

Noise levels from outdoor sources are generally lower indoors because of noise attenuation from the building structure, closing of windows and similar. Nevertheless, noise exposure is generally estimated outside, at the most exposed façade. As levels of wind turbine noise are generally much lower than those of transportation noise, the audibility of wind turbines in bedrooms, particularly when windows are closed, is unknown.

In many instances, the distance from a wind farm has been used as a proxy to determine audible noise exposure. However, in addition to the distance, other variables – such as type, size and number of wind turbines, wind direction and speed, location of the residence up- or downwind from wind farms and so on – can contribute to the resulting noise level assessed at a residence. Thus, using distance to a wind farm as a proxy for noise from wind turbines in health studies is associated with high uncertainty.

Wind turbines can generate infrasound or lower frequencies of sound than traffic sources. However, few studies relating exposure to such noise from wind turbines to health effects are available. It is also unknown whether lower frequencies of sound generated outdoors are audible indoors, particularly when windows are closed.

The noise emitted from wind turbines has other characteristics, including the repetitive nature of the sound of the rotating blades and atmospheric influence leading to a variability of amplitude modulation, which can be a source of above average annoyance (Schäffer et al., 2016). This differentiates it from noise from other sources and has not always been properly characterized. Standard methods of measuring sound, most commonly including A-weighting, may not capture the low-frequency sound and amplitude modulation characteristic of wind turbine noise (Council of Canadian Academies, 2015).

Even though correlations between noise indicators tend to be high (especially between L_{Aeq} -like indicators) and conversions between indicators do not normally influence the correlations between the noise indicator and a particular health effect, important assumptions remain when exposure to



wind turbine noise in L_{den} is converted from original sound pressure level values. The conversion requires, as variable, the statistical distribution of annual wind speed at a particular height, which depends on the type of wind turbine and meteorological conditions at a particular geographical location. Such input variables may not be directly applicable for use in other sites. They are sometimes used without specific validation for a particular area, however, because of practical limitations or lack of data and resources. This can lead to increased uncertainty in the assessment of the relationship between wind turbine noise exposure and health outcomes.

Based on all these factors, it may be concluded that the acoustical description of wind turbine noise by means of L_{den} or L_{night} may be a poor characterization of wind turbine noise and may limit the ability to observe associations between wind turbine noise and health outcomes.

3.4.3 Summary of the assessment of the strength of recommendations

Table 42 provides a comprehensive summary of the different dimensions for the assessment of the strength of the wind turbine recommendations.

Table 42. Summary of the assessment of the strength of the recommendation

| Factors influencing the strength of recommendation | Decision |
|--|--|
| Quality of evidence | <p>Average exposure (L_{den}) <i>Health effects</i></p> <ul style="list-style-type: none"> Evidence for a relevant absolute risk of annoyance at 45 dB L_{den} was rated low quality. <p><i>Interventions</i></p> <ul style="list-style-type: none"> No evidence was available on the effectiveness of interventions to reduce noise exposure and/or health outcomes from wind turbines. <p>Night-time exposure (L_{night}) <i>Health effects</i></p> <ul style="list-style-type: none"> No statistically significant evidence was available for sleep disturbance related to exposure from wind turbine noise at night. <p><i>Interventions</i></p> <ul style="list-style-type: none"> No evidence was available on the effectiveness of interventions to reduce noise exposure and/or sleep disturbance from wind turbines. |
| Balance of benefits versus harms and burdens | Further work is required to assess fully the benefits and harms of exposure to environmental noise from wind turbines and to clarify whether the potential benefits associated with reducing exposure to environmental noise for individuals living in the vicinity of wind turbines outweigh the impact on the development of renewable energy policies in the WHO European Region. |
| Values and preferences | There is wide variability in the values and preferences of the population, with particularly strong negative attitudes in populations living in the vicinity of wind turbines. |
| Resource implications | Information on existing interventions (and associated costs) to reduce harms from wind turbine noise is not available. |
| Additional considerations or uncertainties | There are serious issues with noise exposure assessment related to wind turbines. |
| Decisions on recommendation strength | <ul style="list-style-type: none"> Conditional for guideline value for average noise exposure (L_{den}) Conditional for the effectiveness of interventions (L_{night}) |

BEFORE THE MINNESOTA PUBLIC UTILITIES COMMISSION

Katie J. Sieben
Dan Lipschultz
Valerie Means
Matthew Schuerger
John A. Tuma

Chair
Commissioner
Commissioner
Commissioner
Commissioner

In the Matter of Freeborn Wind Energy
LLC's Application for a Large Wind Energy
Conversion System Site Permit for the 84
MW Freeborn Wind Farm in Freeborn
County

ISSUE DATE: May 10, 2019

DOCKET NO. IP-6946/WS-17-410

ORDER AMENDING SITE PERMIT

PROCEDURAL HISTORY

On December 19, 2018, the Commission issued its Order Issuing Site Permit and Taking Other Action (Site Permit Order), granting Freeborn Wind Energy LLC (Freeborn Wind or the Company) a permit to erect a collection of wind turbines and related facilities (a wind farm) in Freeborn County (the Project). In support of its decision, the Commission adopted with modifications the findings, conclusions, and recommendation prepared by an Administrative Law Judge (ALJ).

By January 9, 2019, the Commission had received petitions for reconsideration or clarification from the Association of Freeborn County Landowners (AFCL), Freeborn Wind, Sean and Heidi Gaston, Dorene Hansen, Sue Madson, and Allie Olson. The Commission had also received letters from State Senator Dan Sparks and State Representative Peggy Bennett. Among other topics, commenters raised concerns about provisions in the site permit—and in particular, about Section 7.4 and its subsections, addressing compliance with state noise standards.

On January 18, 2019, the Minnesota Department of Commerce (Department) filed comments and recommendations. In addition, Freeborn Wind filed answers to the petitions for reconsideration, and a motion to strike portions of AFCL's petition as untimely and unsupported by the record.

On January 28, 2019, AFCL filed a response to Freeborn Wind's motion to strike.

By February 14, 2019, the Department had filed revised comments, and AFCL had filed a motion to remand the docket to the Minnesota Office of Administrative Hearings for further proceedings.

On February 26, 2019, the Commission granted rehearing, and granted parties 14 days to provide rationales in support of their proposed changes to the site permit and to propose further revisions to Section 7.4.

On February 27, 2019, Freeborn Wind filed its response to AFCL's motion to remand.

On March 4, 2019, Freeborn Wind filed comments, including an attachment delineating proposed changes to the site permit.

By March 22, 2019, the Commission had received additional filings from AFCL, the Department, and Freeborn Wind.

On March 25, 2019, the Commission's staff filed briefing papers in this docket.

On March 26, 2019, AFLC filed objections to the briefing papers.

On April 1, 2019, the Commission met to consider the matter.

FINDINGS AND CONCLUSIONS

I. Summary

In this order, the Commission declines to act on the parties' motions. Instead, on its own motion, the Commission reconsiders its Site Permit Order and makes corrections in the permit language as recommended by the Department and Freeborn Wind.

II. Positions of the Parties and Commenters

A. Commenters

Commenters raised concerns about a variety of matters, including the permit's site layout and setbacks, turbine noise, shadow flicker, decommissioning, and enforcement.

B. AFCL

AFCL raised a number of objections to the Commission's Site Permit Order, including the following allegations:

- The Department met privately with Freeborn Wind and the Minnesota Pollution Control Agency (MPCA) in violation of Minn. R. 7845.0400.
- The Commission declined to require Freeborn Wind to build its turbines set back at least 1,500 feet from any landowner who has not consented to the Project, as recommended by the ALJ.
- The Commission authorized Freeborn Wind to model its compliance with noise standards based on a 0.5 ground factor rather than the 0.0 ground factor that the Company had used in its application (where a higher factor means a greater tendency to absorb sound).
- The permit provides for Freeborn Wind and the Department to collaborate in developing a methodology for measuring noise arising from the project, rather than directing Freeborn Wind to use a methodology developed in the context of other wind farms.

- Freeborn Wind and the Commission have relied on the MPCA’s 2015 “A Guide to Noise Control in Minnesota; Acoustical Properties, Measurement, Analysis and Regulation” (2015 MPCA Guide), when no party had filed that document into the record.
- The address that Freeborn Wind provided for receiving complaints led to an unoccupied office.
- The Commission granted the site permit notwithstanding the claim that “[t]he community does not consent to the project.”¹

In relief, AFCL asked the Commission to strike various filings from the record, reconsider its Site Permit Order, suspend the site permit, and remand the matter to the Administrative Law Judge for additional record development.

C. Freeborn Wind

Freeborn Wind asked the Commission to deny AFCL’s petitions for relief. The Company also proposed a variety of changes to the permit, summarized below.

- Section 2.0 (Project Description)—Freeborn Wind proposed modifying this section to clarify the wind farm’s generating capacity in Iowa.
- Section 4.9 (Wind Turbine Towers)—Freeborn Wind proposed subdividing the discussion of restrictions related to setbacks and site layout to establish a heading for the discussion of wind turbine towers, and to re-number to subsequent headings accordingly.
- Section 6.2 (Post-Construction Noise Monitoring)—Freeborn Wind proposed correcting an error to substitute the word “monitoring” for “modeling.”
- Section 6.3. (Over-the-Air Television Interference Notice Requirements)—To better conform the language of the permit to the Commission’s order, Freeborn Wind proposed adding a subdivision summarizing the Commission’s requirement that the developer provide certain types of notice related to the risk that wind turbines may interfere with over-the-air television transmissions.
- Section 7.4. (Noise Studies)—Noting that Sections 6.1 and 6.2 already address pre- and post-construction noise regulation, Freeborn Wind proposed omitting much of the language at 7.4.1 and 7.4.2 which address the same topic, and instead restoring Section 7.4 from the Commission’s Draft Site Permit (January 30, 2018).

¹ AFCL Motion for Reconsideration, at 18 (January 8, 2019).

- Section 7.5.1 (Avian and Bat Protection Plan)—While the site permit directs Freeborn Wind to comply with an Avian and Bat Protection Plan filed in 2017, Freeborn Wind proposes to substitute a later version approved by the Minnesota Department of Natural Resources (MDNR).
- Complaint Handling Procedures—Freeborn Wind proposed changing the people designated to receive complaints—and, in particular, to identify Northern States Power Company d/b/a Xcel Energy (Xcel) as the party that will be responsible for the project once construction begins.
- Table of Contents—Freeborn Wind proposed revising the table of contents to reflect the changes listed above.

D. Department

The Department expressed no objection to Freeborn Wind’s proposed changes to the permit—with one proviso. The Department recommended adding language to Section 7.4 to clarify the relationship between the Department, Freeborn Wind, and the independent consultant that would be hired to develop and conduct the study of the Project’s noise during operations, as follows:

The noise study methodology shall be developed by, and the noise monitoring shall be conducted by, an independent consultant approved by the Department of Commerce at Freeborn Wind’s expense.

With this addition, the Department concluded that revised Section 7.4 would provide clear and enforceable language that would help ensure that the necessary noise monitoring is performed and filed.

III. Commission Action

A. Motions

AFCL and Freeborn Wind each filed motions to exclude portions of the other party’s filings from the record, and AFCL moved to remand this matter to the ALJ for further record development. The Commission finds that the record is well developed already, and that the Commission can take each party’s concerns into account when evaluating the appropriate weight to give to the filings. Accordingly the Commission will decline to grant the motions to strike or to refer for further proceeding.

B. *Ex Parte* Meetings

AFCL objects to the fact that the Department met with Freeborn Wind and the MPCA outside the presence of AFCL. AFCL cited Minn. R. 7845.0400 for the proposition that such meetings violated the Commission’s rule requiring Commission employees to avoid actions that might

result in the appearance of impropriety, and the rule limiting *ex parte* communications during contested cases.²

By its terms, the rules applying to the propriety of Commission employees and *ex parte* communications apply to Commissioners and employees of the Commission.³ The rules do not constrain any party or participant—not the Department, not AFCL—from convening meetings, including meetings with other parties, participants, or government agencies, *except* where those meetings would include a Commissioner or employee of the Commission. The record provides no basis for applying Minn. R. 7845.0400 or 7845.7400 to any meeting or meetings between the Department, Freeborn Wind, and/or the MPCA.⁴

C. Noise

1. Introduction

The Commission initially issued a draft Site Permit on January 30, 2018. On September 19, 2018, Freeborn Wind offered its Late Filed Proposed Special Conditions Related to Noise, reflecting permit language agreed to by the Company, the Department, and MPCA. At its September 20, 2018 meeting, the Commission combined the language from the draft Site Permit with language from other sources and incorporated them into Permit Sections 4.3, 6.1, 6.2, 7.4.1, and 7.4.2.⁵ This language prompted requests for reconsideration or clarification from AFCL, Freeborn Wind, and other commenters. At the Commission’s February 15, 2019 meeting, the Commission invited comments specifically about how to reconcile the permit’s terms regulating noise,⁶ and subsequently received comments from AFCL, Freeborn Wind, and the Department.

The Commission finds that Freeborn Wind’s proposed changes to the Permit’s provisions governing noise are reasonable. This proposal would retain the Draft Site Permit’s Section 4.3, correct a typographical error in Section 6.2, and restore the draft Site Permit’s Section 7.4 (replacing Sections 7.4.1 and 7.4.2). In addition, the Commission finds that the Department’s proposed language—clarifying that the consultant that will develop and conduct the noise monitoring must meet with the Department’s approval—is also reasonable. Accordingly the Commission will adopt all these changes.

² AFCL Response to Freeborn Wind Energy LLC’s Request for Clarification/Motion for Reconsideration, at 2 (January 18, 2019).

³ Minn. R. 7845.0400, subp. 2; *see also* Minn. R. 7845.7000 and .7400.

⁴ *See also* Minn. Stat. § 216A.037, subd. 3 (“[T]he commission shall adopt rules prescribing a code of conduct for commissioners and employees of the commission.”).

⁵ Site Permit Order, Attachment 2 (Site Permit).

⁶ Order Continuing Proceedings, Tolling Deadline and Soliciting Comments (February 26, 2019).

2. Distinguishing background noise

AFCL objected that the Commission lacked record support to adopt Sections 6.1 (Pre-Construction Noises Modeling) and 6.2 (Post-Construction Noise Monitoring). These sections limit turbine noise to no more than 47 A-weighted decibels (that is, decibels measured in a manner that reflects the sensitivities of the human ear) for 50 percent of the time during a one-hour testing period (denoted 47 dB(A) L₅₀-one hour).⁷

The Commission's decision is well grounded in the record. According to Freeborn Wind's application, the Company's noise models demonstrated that the Project would meet the state noise standards:

[T]hrough the careful placement of turbines and the selective use of the quieter V110 turbines, *noise levels are approximately 47 dB(A) or less at all non-participating residences*. It should be noted that the noise levels shown in Figure 8 and listed in Table 8.3-4 are the maximum that are ever expected to occur. Noise levels will be less than those shown when the turbines are not operating near full capacity, are off, or when atmospheric conditions are less conducive to sound propagation.⁸

In support of its application, Freeborn Wind's Dr. Mark Roberts filed testimony including a document identifying other jurisdictions that had adopted a noise standard of 47 dB(A).⁹

But more generally, limiting the Project's noise to no more than 47 dB has the desired effect of ensuring that the Project would never contribute more than a barely perceptible amount of noise in an environment with background noise of 47 dB or more. This conclusion results from two facts. First, outside of laboratory conditions, most people cannot perceive a noise increase of less

⁷ AFCL also objected that Freeborn Wind's proposed language for Sections 6.1 and 6.2 would use a 47 dB(A) limit rather than the 45 dB(A) limit set forth in the Site Permit issued by the Commission. While this claim is accurate, the 45 dB(A) limit reflected a typographical error; the Commission approved a noise limit of 47 dB(A). See Minutes—September 20, 2018 Agenda Meeting, at 3 (April 12, 2019).

⁸ Ex. FR-1 (Freeborn Wind Site Permit application) at 34 (emphasis added).

⁹ Ex. FR-6 (Roberts Direct), Sch 22 (Report on Health Impacts of Wind Turbines), at 44 (citing, for example, the Netherlands) (December 22, 2017).

than 3 dB(A).¹⁰ Second, noise combines logarithmically, such that a doubling of noise results in an increase of only 3 dB.¹¹

Thus, adding a 47 dB wind farm to an environment with 47 dB of background noise would increase aggregate noise levels to no more than 50 dB. If background noise levels increase from that point, a 47 dB windfarm's contribution to the total would be less than 3 dB; if background noise levels decrease from that point, then the windfarm's contribution would be more than 3 dB—but not enough to cause aggregate noise levels to exceed 50 dB. In support of this analysis, Freeborn Wind cited the testimony of Mike Hankard and the MPCA's 2015 "A Guide to Noise Control in Minnesota; Acoustical Properties, Measurement, Analysis and Regulation" (2015 MPCA Guide), among other things.¹²

AFCL objected to Freeborn Wind relying on the 2015 MPCA Guide, arguing that the document was not in the record. Freeborn Wind incorporated the 2015 MPCA Guide into its initial application by reference.¹³ The Commission may consider documentary evidence that is incorporated by reference to be part of the record.¹⁴ Because the 2015 MPCA Guide is a public document published by a state agency for the purpose of implementing state noise standards, and was incorporated by reference into a document in the record, the Commission considers the Guide to be part of the record, too.¹⁵

3. Ground factor

In addition, AFCL objected that the Commission authorized Freeborn Wind to model noise from the Project based on a 0.5 ground factor, rather than the 0.0 factor discussed in much of the record. The Commission finds no merit to this objection.

Freeborn Wind boasted that its project would meet noise standards even under the "very

¹⁰ *Id.*, Sch. 22 at 28 ("Human subjects under normal conditions, and for sounds of a similar temporal and spectral nature, are generally only capable of noticing changes in noise levels of no less than 3 dB(A)."); Sch. 25 (Analysis of the Research on the Health Effects from Wind Turbines, including Effects from Noise) at 6 ("[A] 3 dB increase correlates to a doubling in objective sound energy levels, but is considered the threshold of perceivable difference in sound levels."); Sch. 26 (Strategic Health Impact Assessment on Wind Energy Development in Oregon) at 12, 32, 57; Tr. Vol. 1B at 115 (Hankard); Site Permit Order, Attachment 1 (Modifications to the ALJ Report), Finding 197.

¹¹ Tr. Vol. 1B at 65 (Hankard).

¹² MPCA 2015 Noise Guide at 11 (Nov. 2015) available at <https://www.pca.state.mn.us/sites/default/files/p-gen6-01.pdf>. Ex. FR-1 (Freeborn Wind Site Permit application), Appendix B (Pre-Construction Noise Analysis); Ex. FR-5 (Hankard Direct); Ex. FR-18 (Aff. of Mike Hankard and Noise Tables); Evid. Hr'g Trans. Vol 1B (February 21, 2018) at 114-115 (Hankard); Freeborn Wind's Late-Filed Proposed Special Conditions Related to Noise (September 19, 2018); Freeborn Wind handout "Special Condition—Example" (October 3, 2018).

¹³ Ex. FR-1 (Freeborn Wind Site Permit application), Appendix B (Pre-Construction Noise Analysis) at 2.

¹⁴ Minn. Stat. § 14.60, subp. 2.

¹⁵ *See* Site Permit Order, Attachment 1 (Modifications to the ALJ Report), Finding 207A.

conservative” assumptions of a 0.0 ground factor and that all homes being modeled would be downwind of the turbines. When the ALJ found that the record did not support Freeborn Wind’s claim, the Company abandoned its needlessly stringent argument and switched to arguing that the Project would meet the noise standards under the more realistic assumption of a 0.5 ground factor. As Freeborn Wind explained in its application:

A ground factor of 0.0 represents a completely reflective surface such as pavement, which would result in a higher level of sound reaching a receiver. A ground factor of 1.0 represents absorptive ground such as thick grass or fresh snow, resulting in a lower level of sound reaching the receiver. For this Project, a ground factor of 0.0 (completely reflective) was used to be conservative. *Actual ground conditions* could, at rare times, be 0.0 when the ground is completely frozen and bare, but *would generally be closer to 0.5 when the ground is covered with vegetation or is bare and unfrozen.*¹⁶

The Commission never understood Freeborn Wind to argue that the ground factor *would* be 0.0. Rather, the Commission understood the Company to offer its analysis with a 0.0 ground factor to demonstrate that its Project would cross any regulatory hurdle with room to spare. Freeborn Wind now argues that the Project will merely comply with the noise standard. Because the noise standard requires compliance, not “room to spare,” the Commission finds no fault with Freeborn Wind’s position. The Commission finds that the Company has fulfilled its regulatory obligations.

4. World Health Organization study

AFCL argued that the Commission should reconsider its decision based on the Environmental Noise Guidelines issued by the World Health Organization.¹⁷

However, the text of the portion of the study filed by AFCL states that the WHO’s recommendations are “conditional” and based on low-quality studies with no association, or

¹⁶ Ex. FR-1 (Freeborn Wind Site Permit application), Appendix B (Pre-Construction Noise Analysis) at 12 (emphasis added). *See also* EERA-9 (Department’s 2012 Guidance for Large Wind Energy Conversion System Noise Study Protocol and Report), including Appendix B which references, among other documents, the National Association of Regulatory Utility Commissioners’ *Assessing Sound Emissions from Proposed Wind Farms and Measuring the Performance of Completed Projects*, October 2011 (“Assume a ground absorption coefficient (Ag from ISO 9613-2) appropriate to the site area (a moderate value of 0.5 generally works well as an annual average for rural farmland, although higher values specifically for farm fields during summer conditions may be appropriate. A value of 0 (100% reflective ground) is likely to produce highly conservative results.”).

¹⁷ AFCL Petition for Reconsideration, Ex. G.

statistically insignificant association, with public health outcomes.¹⁸ Accordingly the Commission will decline to reconsider its decision on this basis.

5. Low-Frequency Noise and Infrasound

Commentors objected to the Commission’s failure to establish conditions on low frequency noise and/or infrasound.

The Commission considered this matter in its Site Permit Order and concluded that there was insufficient basis to include any specific conditions in the Site Permit related to low-frequency noise/infrasound. The MPCA has established no standard explicitly limiting infrasound. Because wind turbine noise has a relatively consistent spectral shape, once any part of the spectrum of sound is limited, this effectively limits the rest of the spectrum.¹⁹

6. Noise Studies

Finally, AFCL objected that Section 7.4 (with language proposed by the Department) requires Freeborn Wind to work with the Department in developing a study to measure noise coming from the Project after it is in operation. AFCL argued that this process is unnecessary as the Department has already developed such studies for purposes of evaluating other wind farms. In support of this argument, AFCL cites prior wind farm projects.²⁰

The Commission acknowledges that the Department has developed some experience in post-construction noise monitoring. Nevertheless, circumstances and the state of technology change with each project. Accordingly the Commission will continue its practice of offering wind farm developers the opportunity of working with the Department in developing a noise-monitoring methodology—just as the Commission did in the prior wind farm dockets that AFCL cites with approval.²¹

D. Setbacks

AFCL and others objected that the Site Permit authorizes Freeborn Wind to erect wind turbines within 1,000 feet of residences, rather than set back 1,500 feet as recommended by the ALJ. AFCL argued that 1,000 feet is arbitrary and may lead to residents experiencing excessive noise from the turbine’s operation.

First, the Commission clarifies that the setback standard is not a substitute for the noise standards; Freeborn Wind must comply with both standards. Permit Section 4.2 states that the turbine towers “shall not be located closer than 1,000 feet from all residences *or the distance*

¹⁸ *Id.*, Ex. G at 77–78 and 84–85.

¹⁹ Site Permit Order at 16.

²⁰ *See. e.g., In the Matter of the Site Permit Issued to the Wisconsin Power and Light Company for the Bent Tree Wind Project in Freeborn County, Minnesota*, Docket No. ET-6657/WS-08-573, Order (October 20, 2009).

²¹ *See. e.g., id.*, Site Permit Section III.F.2.

required to comply with the noise standards ..., whichever is greater.” (Emphasis added). Likewise, Section 4.3 states, “The wind turbine towers shall be placed such that the Permittee shall, at all times, comply with noise standards....”

Second, as the Commission explained in its Site Permit Order,²² the ALJ’s finding was based on an erroneous interpretation of the Commission’s Order Establishing General Wind Permit Standards (Wind Standards Order),²³ and ran contrary to the setback requirements the Commission had adopted in other wind farm siting dockets.²⁴ Instead, Freeborn Wind agreed—with one exception, related to a wetland²⁵—to set back its turbines in the manner prescribed by the county’s ordinances.²⁶ Ultimately the Commission found that Freeborn Wind and the Department provided the most reasonable assessment of the appropriate trade-offs in establishing a setback requirement.²⁷ Implementing this trade-off provides good cause to deviate from strict adherence to the standard articulated in the County ordinance.²⁸

Likewise, the Commission finds no new arguments for reconsidering its setbacks from public road rights-of-way or designated public trails.²⁹

²² Site Permit Order at 9–10, 18.

²³ *See In the Matter of Establishment of General Permit Standards for the Siting of Wind Generation Projects Less than 25 Megawatts*, Docket No. E,G-999/M-07-1102, Order Establishing General Wind Permit Standards (January 11, 2008).

²⁴ *See In the Matter of the Application of Red Pine Wind Farm, LLC for a Site Permit for the 200.1 Megawatt Red Pine Wind Project in Lincoln County, Minnesota*, Docket No. WS-16-618, Order Issuing Site Permit for Large Wind Energy Conversion System, at Site Permit Section 4.2 (June 27, 2017) (“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 ..., whichever is greater.”); *In the Matter of the Application of Blazing Star Wind Farm, LLC for a Site Permit for the up to 200 Megawatt Blazing Star Wind Project in Lincoln County*, Docket No. WS-16-686, Order Issuing Site Permit for Large Wind Energy Conversion System, at Site Permit Section 4.2 (August 3, 2017); *In the Matter of the Application of Odell Wind Farm, LLC for a Site Permit for a 200 MW Large Wind Energy Conversion System for the Odell Wind Farm in Cottonwood, Jackson, Martin, and Watonwan Counties*, Docket No. WS-13-843, Order Issuing Site Permit, at Site Permit Section 4.2 (July 17, 2014); *In the Matter of the Application of Prairie Rose Wind, LLC for a Site Permit for a 200 Megawatt Large Wind Energy Conversion System in Rock and Pipestone Counties*, Docket No. WS-10-425, Order Approving Findings of Fact and Issuing Permit, at Site Permit Section 4.2 (September 16, 2011).

²⁵ Ex. FR-1 (Freeborn Wind Site Permit application) at 6.

²⁶ Freeborn County Ordinance § 26-51.

²⁷ *See, e.g.*, Department Comments at 13–15 (December 5, 2017).

²⁸ Minn. Stat. § 216F.081.

²⁹ Site Permit Order at 8–10.

E. Shadow Flicker

The ALJ recommended that Freeborn Wind design its wind farm in a manner that would limit shadow flicker at nearby residences to no more than 27 hours per year, emphasizing the need to err on the side of caution. But Permit Section 7.2 does not require the Company to monitor shadow flicker at any residence unless that location is expected to receive at least 30 hours per year. AFCL argued that this change was arbitrary.

To the contrary, the 30 hour per year standard arose from Freeborn County's own ordinance.³⁰ Given that Freeborn Wind has committed to using software designed to shut down any turbine that would cause a home to experience more than 30 hours of shadow flicker per year,³¹ the Commission found no support for adopting a 27 hour standard.³² That said, if the Project generates an abnormal level of complaints, Section 7.2 also provides that the Commission may require shadow flicker monitoring at any time throughout the life of the permit.

F. Decommissioning

AFCL and others objected that the Commission found Freeborn Wind's siting application complete even though the application lacked a decommissioning plan, and argued that the Site Permit's remedial decommissioning terms were insufficient.

The Commission finds no new information or argument in these objections. The Commission acknowledged its error in finding the application substantially complete without a decommissioning plan, but noted that parties had the authority to request the relevant information via discovery. Moreover, the Commission quadrupled the period for reviewing the plan before the pre-operation meeting, and required Freeborn Wind to send copies to the local zoning authorities. Finally, the Commission required that Freeborn Wind identify all surety and financial securities established for decommissioning and site restoration, and demonstrate that it will have the necessary resources to decommission the project.³³

With these remedial measures, the Commission finds no need to reconsider its findings regarding decommissioning.

G. Property Values

A commenter argued that the record contained insufficient evidence regarding the consequences of wind farms on the value of adjacent properties.

³⁰ Freeborn County Ordinance § 26-56.

³¹ See Tr. Vol. 1A at 33 (Litchfield); Ex. FR-1 at 40 (Application) and Ex. AFCL-19 at 2 (Freeborn Wind Response to AFCL IR No. 7).

³² Site Permit Order at 21–22.

³³ *Id.* at 28; Site Permit Section 11.1.

The Commission considered this matter and concurred with the ALJ that the preponderance of the evidence did not demonstrate that wind farms reduced property values.³⁴ The Commission finds no basis to reconsider that decision.

H. Interference with Over-the-Air Signals

A commenter expressed concern that wind turbines would interfere with over-the-air television signals.

The Commission addressed this matter in its Site Permit Order, and adopted specific Site Permit conditions related to this matter.³⁵ The Commission finds no basis to reconsider that decision.

I. Freeborn Wind Complaint Procedures

AFCL objected that the address that Freeborn Wind provided for receiving complaints led to an unoccupied office.

The Commission finds merit in this objection. Accordingly the Commission will, on its own motion, accept Freeborn Wind's proposal to revise and maintain the contact information set forth in the Site Permit, providing a new location for sending complaints to the Company and, significantly, for sending complaints to Xcel once construction is complete. Xcel will then assume responsibility for maintaining this contact information.

J. Enforcement

Various commenters posed questions about how the Permit's terms would be enforced.

In brief, Section 5.2.1 provides for a Field Representative to oversee compliance with permit conditions during construction, and Section 5.2.2 provides for a Site Manager to oversee compliance during operation and decommissioning. Moreover, the Commission retains jurisdiction over the project throughout its life. At Attachment A, the permit provides a process for anyone to file a complaint about the project. Freeborn Wind must file reports monthly—or, in the case of substantial complaints filed under the complaint procedures, by the following business day—regarding the complaints it receives.

Regarding remedies, Section 3.1 states that the final turbine layout may change “to accommodate requests by landowners, local government units, federal and state agency requirements, and unforeseen conditions encountered during the detailed engineering and design process.” Section 12.4 provides for modifying or amending the permit to address any threats to human health or the environment, while Section 4.3 states that “[t]urbine operation shall be modified or turbines shall be removed from service if necessary to comply with ... noise standards.”

More generally, the Commission emphasizes that granting a permit does not give a developer a free hand in erecting and operating its windfarm. To the contrary:

³⁴ ALJ Report, Finding 174.

³⁵ Site Permit Order at 22–26.

- The permit requires Freeborn Wind to comply with the standards of the Minnesota Department of Agriculture; the MDNR; the MPCA; U.S. Army Corps of Engineers; the U.S. Environmental Protection Agency; the U.S. Fish and Wildlife Service; the Federal Aviation Administration; the Federal Communications Commission; the Institute of Electrical and Electronics Engineers, Inc.; the National Electric Safety Code; the North American Electric Reliability Corporation; local and state safety codes; federal, state, county, city, or municipal permits (except where pre-empted); and landowner agreements.
- The permit specifies various circumstances under which Freeborn Wind will not be able to proceed without first securing additional approval from the Commission, the MDNR, the MPCA, the Minnesota State Archeologist, Gopher State One Call, the U.S. Army Corps of Engineers, local units of government, local law enforcement, and affected landowners.
- Finally, the permit requires Freeborn Wind to give various types of notice—not only to the entities and groups listed above, but also to the U.S. Environmental Protection Agency; U.S. Fish and Wildlife Service; Freeborn County Environmental Services Office; emergency responders; Public Safety Answering Points; regional development commission; and county auditor or county environmental office.

In sum, over time the Commission has gained experience in anticipating and addressing a variety of circumstances that may arise, and has incorporated into its draft site permit (and the resulting final permits) the necessary language to address those circumstances.

K. Community Consent

Finally, AFCL objected to the Commission issuing the site permit on the grounds that “[t]he community does not consent to the project.”³⁶

The Commission evaluates applications for a site permit using criteria set forth at Minn. Stat. Ch. 216F; Minn. Stat. § 216E.03, subd. 7; and Minn. R. Ch. 7854.³⁷ Applying these criteria, the Commission finds that the site permit should be granted subject to the conditions discussed herein and in prior orders.³⁸

L. Conclusion

The Commission has reviewed the entire record and the arguments presented in the comments and petitions for reconsideration.

Except as otherwise specified above, the Commission finds that the comments and petitions do not raise new issues, do not point to new and relevant evidence, do not expose errors or ambiguities in the Site Permit Order, and do not otherwise persuade the Commission that it

³⁶ AFCL Motion for Reconsideration, at 18 (January 8, 2019).

³⁷ Site Permit Order at 3–5.

³⁸ *See generally* Site Permit Order.

should rethink the decision set forth in that order. The Commission concludes that its decision is consistent with the facts, the law, and the public interest, and will therefore deny the comments and petitions.

On its own motion, the Commission will modify the Site Permit to incorporate the changes recommended by Freeborn Wind and the Department, as set forth in the attached revised permit.

The Commission will so order.

ORDER

1. The motions of the parties and participants are denied.
2. The Commission, on its own motion, reconsiders its Order Issuing Site Permit and Taking Other Action (December 19, 2018) to make corrections in the permit language.
3. The Commission hereby modifies the Site Permit for a Large Wind Energy Conversion System issued on December 19, 2018, to incorporate all the changes recommended by Freeborn Wind Energy LLC as modified by the Minnesota Department of Commerce, and set forth in the revised Site Permit, attached.
4. This order shall become effective immediately.

BY ORDER OF THE COMMISSION



Daniel P. Wolf
Executive Secretary



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STATE OF MINNESOTA PUBLIC UTILITIES COMMISSION

**SITE PERMIT FOR A
LARGE WIND ENERGY CONVERSION SYSTEM**

**IN
FREEBORN COUNTY**

**ISSUED TO
FREEBORN WIND ENERGY LLC**

PUC DOCKET NO. IP-6946\WS-17-410

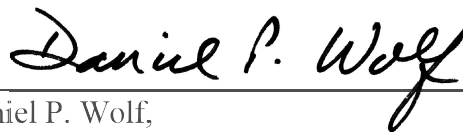
In accordance with the requirements of Minnesota Statutes Chapter 216F and Minnesota Rules Chapter 7854, this site permit is hereby issued to:

FREEBORN WIND ENERGY LLC

The Permittee is authorized by this site permit to construct and operate an up to 84 megawatt nameplate capacity Large Wind Energy Conversion System in Freeborn 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 30 years from the date of initial approval, December 19, 2018.

BY ORDER OF THE COMMISSION



Daniel P. Wolf,
Executive Secretary

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ATTACHMENTS

Official Site Permit Maps

Attachment A - Complaint Procedures for Permitted Energy Facilities

Attachment B - Compliance Filing Procedures for Permitted Energy Facilities

1.0 SITE PERMIT

The Minnesota Public Utilities Commission (Commission) hereby issues this site permit to Freeborn Wind Energy LLC (Permittee) pursuant to Minnesota Statutes Chapter 216F and Minnesota Rules Chapter 7854. This permit authorizes the Permittee to construct and operate the Freeborn Wind Farm (Project), an 84 megawatt (MW) nameplate capacity Large Wind Energy Conversion System (LWECS) and associated facilities in Freeborn County. The LWECS and associated facilities shall be built within the site identified in this permit and as identified in the attached official 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 Freeborn Wind Farm, when fully constructed and operational will have a nameplate capacity up to 200 MW, of which, 84 MW will be located in Freeborn County, Minnesota and the remaining 116 MW will be located in Worth County, Iowa. The Project will consist of 42 2-MW wind turbines, consisting solely of one turbine model or a combination of turbine models, which may include Vestas V110 and Vestas V116 as identified in the Permittee's Site Permit Application.

The project area includes approximately 26,273 acres of land, of which the Project currently holds leases on 17,435 acres. Upon completion, the project site will include no more than 100 acres of land converted to wind turbines and associated facilities approved by this site permit.

2.1 Associated Facilities

Associated facilities for the Project will include access roads, an operations and maintenance (O&M) facility, project substation, permanent meteorological tower and associated weather collection data systems, electrical collection lines, and fiber optic communication lines.

The Project substation will interconnect to the Glenworth Substation with an approximately seven mile long 161 kilovolt (kV) high voltage transmission line (HVTL). The Freeborn Wind Transmission Line Project 161 kV HVTL is under PUC Docket No. IP_6946/TL-17-322, and issuance of the HVTL Route Permit is independent of this site permit process.

2.2 Project Location

The project is located in the following:

| County | Township Name | Township | Range | Section |
|----------|---------------|----------|-------|-------------------------------|
| Freeborn | Hayward | 102 | 20 | 12-15, 22-26, 35, 36 |
| Freeborn | London | 101 | 19 | 13, 14, 19-24, 27-33 |
| Freeborn | Oakland | 102 | 19 | 7-9, 16-21 |
| Freeborn | Shell Rock | 101 | 20 | 1, 2, 8, 11-17, 21-28, 35, 36 |

3.0 DESIGNATED SITE

The site designated by the Commission for the Freeborn Wind Farm is the site depicted on the official 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. Wind rights or easements have been obtained by the Permittee and include approximately 17,435 acres of land under easement and with participation agreements.

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 and the nearest designated public trail.

4.5 Public Lands

Wind turbines and associated facilities including foundations, access roads, underground cable, and transformers, shall not be located in publicly-owned lands that have been designated for recreational or conservation purposes, including, but not limited to, Waterfowl Production Areas, State Wildlife Management Areas, Scientific and Natural Areas or county parks, except in the event that the public entity owning those lands enters into a land lease and easement with the Permittee. Wind turbine 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.

4.7 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 Wind Turbine Towers.

4.9 Wind Turbine Towers

Structures for wind turbines shall be self-supporting tubular towers. The towers may be up to 80 meters (262.5 feet) above grade measured at hub height.

4.9.10 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-

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.

4.104.11 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 deploy/attach acoustic recording devices to monitor wildlife activity.

4.114.12 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 LWECs so as to minimize the amount of land that is impacted by the LWECs. Associated facilities in the vicinity of turbines such as electrical/electronic boxes, transformers, and monitoring systems shall, to the greatest 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, county auditor and 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 comply with the construction practices, operation and maintenance practices, and material specifications described in the Freeborn Wind Farm Site Permit Application for a LWECS filed with the Commission on June 15, 2107, and the record of the proceedings unless this permit establishes a different requirement in which case this permit shall prevail.

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 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 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 Construction Stormwater Program.

If construction of the facility disturbs more than one acre of land, or is sited in an area designated by the Minnesota Pollution Control Agency 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 Minnesota Pollution Control Agency that provides for the development of a Stormwater Pollution Prevention Plan (SWPPP) that describes methods to control erosion and runoff.

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 shall be graded as required so 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.

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, in accordance with all applicable wetland permits. Restoration of the wetlands will be performed by the 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 project 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 employ best management practices to avoid the potential spread of invasive

species on lands disturbed by project construction activities. The Permittee shall develop an Invasive Species Prevention Plan to prevent the introduction and spread of invasive species on lands disturbed by project construction activities and file with the Commission 14 days prior to the pre-construction meeting.

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. To the extent possible, the Permittee shall use native seed mixes.

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 ditches without required permits and approvals. When access roads are constructed across streams, drainage ways, or drainage ditches, 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 or drainage ditches shall be designed and constructed in a manner that maintains existing fish passage. Access roads that are constructed across grassed waterways, which provide drainage for surface waters that are ephemeral in nature, are not required to maintain or provide fish 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 LW ECS. 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 and 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 landowner.

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 LW ECS 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. At least 14 days prior to the preconstruction meeting, the Permittee shall submit a filing demonstrating that it has obtained such permits. The Permittee shall provide a copy of any such permit upon Commission request.

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 preempted by federal or state permits and regulations.

6.0 SPECIAL CONDITIONS

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

6.1 Pre-Construction Noise Modeling

Freeborn Wind Energy LLC shall file a plan, including modeling and/or proposed mitigation, at least 60 days prior to the pre-construction meeting that demonstrates it will not cause or significantly contribute to an exceedance of the MPCA Noise Standards.

To ensure that the turbine-only noise does not cause or significantly contribute to an exceedance of the MPCA Noise Standards, modeled wind turbine-only sound levels (NARUC ISO 9613-2 with 0.5 ground) at receptors shall not exceed 47 dB(A) L50-one hour. Given this, at no time will turbine-only noise levels exceed the MPCA Noise Standards, and when total sound does exceed the limits it will be primarily the result of wind or other non-turbine noise sources. Under these conditions, the contribution of the turbines will be less than 3 dB(A), which is the generally recognized minimum detectible change in environmental noise levels (non-laboratory setting). For example, when nighttime background sound levels are at 50 dB(A) L50-one hour, a maximum turbine-only contribution of 47 dB(A) L50-one hour would result in a non-significant increase in total sound of less than 3 dB(A).

6.2 Post-Construction Noise Monitoring

If the Noise Studies conducted under Section 7.4 document an exceedance of the MPCA Noise Standards where turbine-only noise levels produce more than 47 dB(A) L50-one hour at nearby receptors, then the Permittee shall work with the Department of Commerce to develop a plan to minimize and mitigate turbine-only noise impacts.

6.3 Over-the-Air Television Interference Notice Requirements

Freeborn Wind must provide notice which includes a description of the Project's potential to interfere with OTA TV service, Freeborn Wind's mitigation program, and availability of the Site Permit and Complaint Procedure to households in the following areas:

- All households in "at risk" areas identified for all six local television stations, as identified in Appendix D of the Site Permit Application;
- Each local government office in the communities of Albert Lea, Northwood, Silver Lake, Gordonsville, Glenville, Hayward, and Moscow; and
- Local over-the-air television broadcasters serving the Project area.

7.0 SURVEYS AND REPORTING

7.1 Biological and Natural Resource Inventories

The Permittee, in consultation with the Commission and the 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 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 potentially subject to turbine shadow flicker exposure. 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. A Shadow Flicker Management Plan will be prepared by the Permittee, which will include the results of any shadow flicker modeling, assumptions made, levels of exposure prior to implementation of planned minimization and mitigation efforts, planned minimization and mitigation efforts, and planned communication and follow up with residence. The Shadow Flicker Management Plan shall be filed with the Commission at least 14 days prior to the pre-construction meeting to confirm compliance with conditions of this permit.

Should shadow flicker modeling identify any residence that will experience in 30 hours, or more, of shadow flicker per year, the Permittee must specifically identify these residences in the Shadow Flicker Management Plan. If through minimization and mitigation efforts identified in the Shadow Flicker Management Plan the Permittee is not able to reduce a residence's anticipated shadow flicker exposure to less than 30 hours per year a shadow flicker detection systems will be utilized during project operations to monitor shadow flicker exposure at the residence. The Shadow Flicker Management Plan will detail the placement and use of any shadow flicker detection systems, how the monitoring data will be used to inform turbine operations, and a detailed plan of when and how turbine operations will be adjusted to mitigate shadow flicker exposure exceeding 30 hours per year at any one receptor. The results of any shadow flicker monitoring and mitigation implementation will be reported by the Permittee in the Annual Project Energy Production Report identified in Section 10.8 of this Permit.

Commission staff and EERA staff will be responsible for the review and approval of the Shadow Flicker Management Plan. The Commission may require the Permittee to conduct shadow flicker monitoring at any time during the life 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 Studies

The Permittee shall 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 most current 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 noise study methodology shall be developed by, and the noise monitoring shall be conducted by, an independent consultant approved by the Department of Commerce at Freeborn Wind's expense.

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 the Avian and Bat Protection Plan (ABPP), as submitted in Giampoli Rebuttal Schedule 1, filed on January 22, 2018, and revisions resulting from the annual audit of ABPP implementation. The first annual audit and revision will be filed with the Commission 14 days before the preconstruction meeting and revisions should include any updates associated with final construction plans. 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 day 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 listing; 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 with the Commission within seven days, 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 Operational Curtailment

The Permittee shall operate all facility turbines so that all turbines are locked, or feathered, up to the manufacturer's standard cut-in speed from one-half hour before sunset to one-half hour after sunrise of the following day, from April 1 to October 31 of each year of operation.

All operating turbines at the facility must be equipped with operational software that is capable of allowing for adjustment of turbine cut-in speeds.

7.5.5 Karst Geology Investigations

Should initial geotechnical and soils testing at proposed turbine locations identify areas with karst bedrock within 50 feet or less of the soil surface, which may lead to sinkhole formation, additional geotechnical investigations will be performed to insure the area safe for the construction of a wind turbine.

Additional geotechnical investigations may include the following:

1. A geophysical investigation (electrical resistivity) to explore for voids in the bedrock.
2. Soil/bedrock borings to check and confirm the results of the electrical resistivity survey.
3. A series of electric cone penetrometer (CPT) soundings if the potential for loose zones in the soil overburden are suspected.

The Permittee must file with the Commission, a report for all geotechnical investigations completed. The reports must include methodology, results, and conclusions drawn from the geotechnical investigation.

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 Freeborn Wind Farm Docket No. IP-6946\WS-17-410 complaint procedures attached to this permit (Attachment A).

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 and the Freeborn County Environmental Services 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 affected landowners and city and town clerks that the site plan is on file with the Commission and Freeborn County Environmental Services 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 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, the Freeborn County Environmental Services Office, city and town clerks, and the affected landowners 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 human and 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 turbine site. Under these circumstances, the Permittee shall notify the Commission, the Department, the Minnesota Pollution Control Agency, the Minnesota Department of Natural Resources, the Freeborn County Environmental Services Office, city and town clerks, and the affected landowners of any turbines that are to be relocated, and provide the previously unidentified environmental conditions and how the movement of the turbine mitigates the human and environmental impact at least five days before implementing the changes. No changes shall be made that would be in violation of any terms of this permit.

10.4 Status Reports

The Permittee shall file status reports with the Commission on progress regarding site construction. The Permittee need not report more frequently than monthly. Reports shall begin with the commencement of site construction and continue until completion of site restoration.

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

10.7 GPS Data

Within 90 days after completion of construction, the Permittee shall submit to the Commission, in the format requested by the Commission, geo-spatial information (e.g., ArcGIS compatible map files, GPS coordinates, associated database of characteristics) for all structures associated with the large wind energy conversion system.

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 60 days prior to the pre-operation meeting, and provide updates to the plan every five 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, subp. 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, substations, 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 demonstrate that it will 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 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. If done, this permit may be modified, after notice and opportunity for public hearing, to represent the actual site required by the Permittee to operate the Project authorized by this permit.

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

This permit may be amended at any time by the Commission 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

The Permittee may request at any time that the Commission transfer this permit to another person or entity. The Permittee shall provide the name and description of the person or entity to whom the permit is requested to be transferred, the reasons for the transfer, a description of the facilities affected, and the proposed effective date of the transfer. The person to whom the permit is to be transferred shall provide the Commission with such information as the Commission shall require to determine whether the new Permittee can comply with the conditions of the permit. The Commission may authorize transfer of the permit after affording the Permittee, the new Permittee, and interested persons such process as is required. 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 10.5, 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 immediately 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* 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

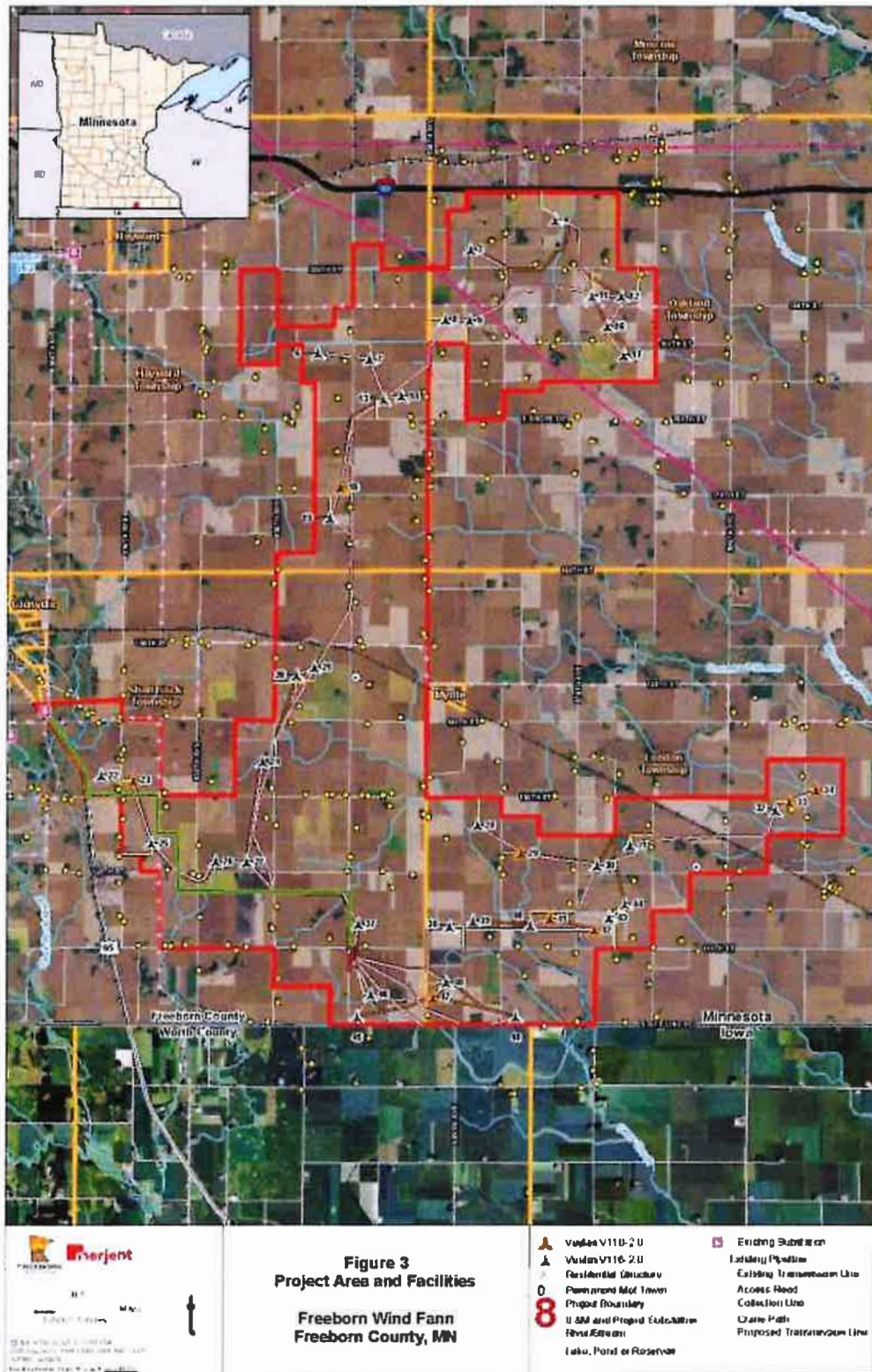
The Commission may take action to suspend or revoke this permit upon the grounds that:

- (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.



**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, television or communication signals, 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.

Person: 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://www.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 be filed by mail or email to:

Prior to construction:

Dan Litchfield
Freeborn Wind Energy LLC
One South Wacker Drive, Suite 1800
Chicago, IL 60606
dlitchfield@invenergyllc.com

Upon commencement of construction, complaints should instead be directed here:

Sean Lawler
Xcel Energy
414 Nicollet Mall
Minneapolis, MN 55401
Sean.w.lawler@xcelenergy.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/home.jsp>

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.

STATE OF MINNESOTA
IN COURT OF APPEALS



In the Matter of Freeborn Wind Energy
LLC's Application for a Large Wind
Energy Conversion System Site Permit
for the 84 MW Freeborn Wind Farm in
Freeborn County.

O R D E R
A19-1195

Considered and decided by Smith, Tracy M., Presiding Judge; Reyes, Judge; and Florey, Judge.

BASED ON THE FILE, RECORD, AND PROCEEDINGS, AND FOR THE FOLLOWING REASONS:

This certiorari appeal was filed on July 30, 2019. Relator Association of Freeborn County Landowners seeks review of a May 10, 2019 amended order issued by respondent Minnesota Public Utilities Commission (the commission) and the commission's July 2, 2019 order denying relator's petition for reconsideration. Respondent Freeborn Wind Energy LLC (Freeborn Wind) moves to dismiss the appeal as untimely. The commission joins in Freeborn Wind's motion. Relator filed a response opposing the motion. Freeborn Wind filed a reply to the response.

I.

Within 20 days after the service by the commission of any decision constituting an order or determination, any party to the proceeding and any other aggrieved person may apply to the commission for a rehearing with respect to any matters determined in the

decision. Minn. Stat. § 216B.27, subd. 1 (2018). Only one rehearing shall be granted by the commission. *Id.*, subd. 3. A second petition for rehearing, amendment, vacation, reconsideration, or reargument of a commission decision or order by the same party and upon the same grounds as the former petition that has been considered and denied will not be entertained. Minn. R. 7829.3000, subp. 7 (2017).

On December 19, 2018, the commission issued its original order granting a site permit to Freeborn Wind. Multiple parties, including relator and Freeborn Wind, filed petitions for reconsideration. On May 10, 2019, the commission issued its amended order. On May 30, 2019, relator submitted a petition for reconsideration. Freeborn Wind argued that relator's May 30, 2019 petition was unauthorized and should be stricken. The commission reviewed the petition on the merits and denied it in a July 2, 2019 order.

The commission's May 10, 2019 order states that the commission declines to act on the parties' motions for reconsideration but instead, on its own motion, the commission reconsiders its site-permit order and makes corrections in the permit language as recommended by the Minnesota Department of Commerce and Freeborn Wind. We agree with relator that Minn. Stat. § 216B.27, subd. 3, and Minn. R. 7829.3000, subp. 7, did not prohibit relator from petitioning for reconsideration of the commission's amendments to the December 19, 2018 order.

Relator acknowledges that this appeal is limited to those specific matters addressed in the May 10, 2019 amended order. The panel to be assigned to consider this appeal on

the merits will be in the best position to determine whether relator's brief raises issues outside our scope of review.

II.

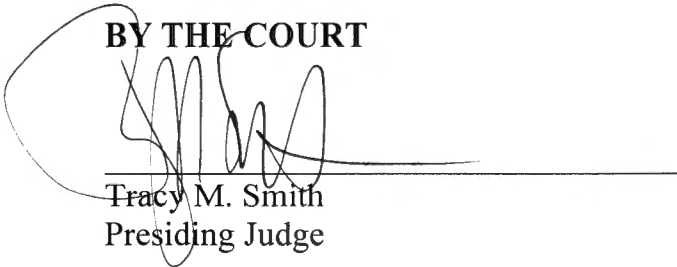
Any party to a proceeding before the commission or any aggrieved person may appeal from the decision and order of the commission in accordance with chapter 14. Minn. Stat. § 216B.52, subd. 1 (2018). "A petition for a writ of certiorari by an aggrieved person for judicial review under sections 14.63 to 14.68 must be filed with the court of appeals and served on all parties to the contested case not more than 30 days after the party receives the final decision an order of the agency." Minn. Stat. § 14.63 (2018).

Freeborn Wind's motion to dismiss contains a footnote suggesting that relator's service of the petition for the writ on counsel for Xcel Energy, Inc., the current owner of Freeborn Wind, was improper. "Service on a party represented by counsel shall be made on the attorney." Minn. R. Civ. App. P. 125.02. Relator's service of the petition for the writ was timely and proper.

IT IS HEREBY ORDERED: Respondent Freeborn Wind Energy LLC's motion to dismiss the appeal is denied.

Dated: August 27, 2019

BY THE COURT



Tracy M. Smith
Presiding Judge