

August 21, 2018

Daniel Wolf  
Executive Secretary  
Minnesota Public Utilities Commission  
121 7<sup>th</sup> Place East, Suite 350  
St. Paul, MN 55101-2147

RE: EERA Comments and Recommendations  
Exceptions to the ALJ Report  
Blazing Star Wind Farm 2, Lincoln County, Minnesota  
Docket No. IP-6985/WS-17-700

Dear Mr. Wolf,

Attached are comments and recommendations of Department of Commerce, Energy Environmental Review and Analysis (EERA) staff in the above matter.

Blazing Star Wind Farm 2, LLC has submitted an application pursuant to Minnesota Rule 7854.0400 for a Site Permit for an up to 200 megawatt wind project in Lincoln County, Minnesota.

The initial filing was made on November 16, 2017 by:

Patrick Smith  
Geronimo Energy  
7650 Edinborough Way, Suite 725  
Edina, MN 55435

These comments are based on EERA staff review of the Administrative Law Judge's Report and the record to date. Staff is available to answer any questions the Commission may have.

Sincerely,

Louise Miltich  
EERA Staff

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**STATE OF MINNESOTA  
BEFORE THE  
MINNESOTA PUBLIC UTILITIES COMMISSION**

Nancy Lange  
Dan Lipschultz  
Matt Schuerger  
John Tuma  
Katie Sieben

Chair  
Commissioner  
Commissioner  
Commissioner  
Commissioner

In the Matter of the Application of  
Blazing Star Wind Farm 2, LLC for a  
Large Wind Energy Conversation  
System Site Permit for the up to 200  
MW Blazing Star Wind Farm 2 in  
Lincoln County, Minnesota

PUC IP-6985/WS-17-700  
OAH 80-2500-35225

**DOC EERA'S EXCEPTIONS TO  
ADMINISTRATIVE LAW  
JUDGE'S REPORT**

**I. INTRODUCTION**

The Department of Commerce, Energy Environmental Review and Analysis (EERA), respectfully submits the following exceptions to the Findings of Fact, Conclusions of Law, and Recommendations (Report) issued by Administrative Law Judge Eric L. Lipman (ALJ) for the proposed Blazing Star Wind Farm 2 Large Wind Energy Conversion System (LWECS) in Lincoln County, Minnesota (Project).

Overall, the 47-page Report provides a comprehensive analysis of the record evidence. EERA supports the ALJ's recommendation to issue a Site Permit to Blazing Star Wind Farm 2, LLC (Applicant). However, EERA recommends that the Minnesota Public Utilities Commission (Commission) adopt the ALJ's Report and approve the LWECS Site Permit for the up to 200 MW Blazing Star Wind Farm 2, incorporating the recommendations provided below.

**II. EERA'S COMMENTS AND RECOMMENDATIONS**

EERA respectfully provides the following comments and recommendations to the Commission with respect to the ALJ's Report. EERA has provided comments and recommendations specifically with respect to the ALJ's findings regarding 1) the degree of flexibility in the Applicant's final selection of turbine model and 2) aircraft detection lighting system.

### ***Flexibility in Turbine Model Selection***

In Comments and Recommendations submitted to the ALJ on July 26, 2018<sup>1</sup>, EERA expressed concern regarding the Applicant's proposed findings<sup>2</sup> related to final selection of a turbine model. The Applicant's proposed findings indicate that Blazing Star 2 has not yet finalized specific turbine choice, but will make a final selection based on factors such as viability, cost effectiveness, optimal design, and commercial availability. EERA's recommendations to the ALJ noted that in addition to viability, cost effectiveness, optimal design, and commercial availability, the Large Wind Energy Conversion System (LWECS) site permitting process requires consideration of human and environmental impacts of the project that is to be permitted and built. EERA therefore argued that to the extent that the Applicant deviates from the models and layouts evaluated in the Application and modifies the proposed project prior to construction, human and environmental impacts must be revisited along with the Applicant's consideration of viability, cost effectiveness, optimal design, and commercial availability. EERA proposed modified findings as well as modified language in Site Permit Condition 3.1 in the DSP to make it absolutely clear that 1) changes to the project require consideration of human and environmental impacts and that 2) "changes to the project" include both changes in turbine layout and changes in turbine model.

The ALJ report indicates that the ALJ agreed with EERA's position.<sup>3</sup> However, the ALJ only adopted the portion of EERA's recommendation modifying Site Permit Condition 3.1. The ALJ did not adopt EERA's recommended changes to findings that EERA believes provide important context for the modifications to Site Permit Condition 3.1.

For consistency, and in order to ensure that the record is clear, EERA recommends that the Commission adopt EERA's proposed modifications to the findings that provide the underpinnings for the change to Site Permit Condition 3.1. Specifically, EERA recommends edits to the following proposed findings of fact:

- **FOF 6.** The turbines Blazing Star 2 is considering for installation can produce between 2.0 MW to 3.5 MW of electricity. Depending on the model that is installed turbine hub heights would range from 80 to 95 meters (from the ground to the top of the nacelle) and the rotor diameter (RD) would range from 110 to 132 meters. The Application evaluated environmental impacts of four representative turbine types and layouts.<sup>6</sup> The Draft Site Permit specifies preliminary layouts associated with these four turbine types.
- **FOF 7.** Blazing Star 2 has not yet finalized the specific turbine choice for the Project. ~~It will select a particular model based upon design and cost factors, after the Project Area and permit conditions have been established by the Commission. In its submissions, Blazing Star 2 evaluated impacts that are typical of the turbines within its stated nameplate range.~~<sup>7</sup> The

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<sup>1</sup> EERA, July 26, 2018, Comments and Recommendations. eDocket no. [20187-145254-01](#).

<sup>2</sup> Blazing Star Wind Farm 2, LLC. July 19, 2018, Proposed Findings of Fact, Conclusions of Law, and Recommendations. eDocket no. [20187-145049-02](#)

<sup>3</sup> ALJ Eric L. Lipman, August 6, 2018, Summary of Public Testimony, Findings of Fact, Conclusions of Law and Recommendation. eDockets no. [20188-145564-01](#). Finding of Fact 52.

decision will be finalized prior to construction in order to create the most viable, cost-effective and optimal design for the Project given the known conditions of the Project Area and the turbines that are commercially available when the Project is constructed, provided that the specific turbine choice results in human and environmental impacts that are comparable to impacts associated with the four turbine types evaluated in the Application.

- **FOF 7B.** The LW ECS site permitting process requires consideration of human and environmental impacts. Therefore, modifications to the project, including changes in turbine model must be accompanied by consideration of human and environmental impacts.

### ***Aircraft Detection Lighting System***

An Aircraft Detection Lighting System (ADLS) has been discussed in the record as an alternative to the standard Federal Aviation Administration (FAA) lighting requirements on wind turbines. ADLS is designed to mitigate the aesthetic impact of nighttime lights by deploying a radar-based system around a wind farm, turning lights on only when low-flying aircraft are detected nearby. In its proposed Findings of Fact, Conclusions of Law, and Recommendation, the Applicant proposed that Site Permit Condition 6.1, instead of requiring the use of ADLS, require that the Applicant conduct a feasibility study to evaluate (1) cost and (2) FAA approval issues associated with use of an ADLS for the Blazing Star 2 Project. The Applicant has proposed that the feasibility study be presented to the Commission for their review and consideration before a decision on whether ADLS should be imposed as a condition of the permit. The Applicant cited the newness of the technology, market disruption, cost uncertainty, and uncertainty about FAA approval to support their recommendation.<sup>4</sup>

In its Comments and Recommendations to the ALJ, EERA noted that given the move toward ADLS as a mitigation measure in other jurisdictions<sup>5</sup> and the commitment of at least one other developer to deploy this mitigation at site near Blazing Star Wind Farm 2<sup>6</sup>, EERA is convinced that this technology is reasonably available. EERA argued that a feasibility study of cost and likelihood of FAA approval is unnecessary, because (1) costs have been adequately defined by the applicant in the record that is already before the ALJ and the Commission<sup>7</sup> and (2) the most efficient way to settle the question of FAA approval is to, in fact, seek FAA approval rather than to study the matter.

EERA, however, recognized the concern that the FAA approves ADLS installations on a case-by-case basis, and acknowledged the possibility that the FAA might not approve ADLS for the project. Therefore EERA recommended to the ALJ a modification to condition 6.1 in the Site Permit to allow for the

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<sup>4</sup> Blazing Star Wind Farm 2, July 19, 2018, Post Hearing Comments, eDocket no. [20187-145048-01](#)

<sup>5</sup> EERA, March 8, 2018, Public Comment p. 1-5, eDocket no. [20183-140871-01](#)

<sup>6</sup> Flying Cow Wind, LLC., March 15, 2018, Comments related to aircraft detection lighting system, eDockets no. [20183-141102-01](#).

<sup>7</sup> The Applicant has indicated in the record that the costs would range from \$500,000 to \$2 million (Smith Direct, p. 5) which is equal to approximately two tenths of a percent to just over one half of a percent of the total project-installed capital cost of \$330 million (Application, p.112). Mitigation costs in that percentage range do not appear to be unreasonable to EERA staff, but are available in the record so that the ALJ and Commission can make their own determination.

possibility that the FAA does not provide approval, or even timely approval, for the installation of the system.

The ALJ appears to have interpreted ADLS as an optional safety measure that can provide added protection to reduce the risk of an aerial collision.<sup>8</sup> The ALJ questions the value of an ADLS system in reducing risk of aerial condition if other projects in the area do not deploy such a system. It is not clear from his report whether the ALJ is aware that FAA approved lighting adequate to protect against collisions is a requirement for all projects and that the difference between standard lighting and ADLS is that ADLS is only activated when aircraft are in proximity.<sup>9</sup> On this basis, the ALJ recommends modification of Site Permit Condition 6.1 to require a feasibility study similar to that recommended by the applicant, but with the addition of several elements including a study of collision risk and presentation of the results of consultation with FAA officials.

Because ADLS is an aesthetic rather than safety mitigation, EERA recommends several modifications to the ALJ's findings to correct the record on this point. In addition, EERA maintains its position that a feasibility study is unnecessary and believes the additional study elements recommended by the ALJ are not relevant. Specifically, EERA believes:

1. ALJ's recommended study of safety risk is better addressed through FAA's assessment of whether an ADLS system is adequate to allow FAA to issue a no hazard determination than through the speculation of the Applicant or a consultant hired to prepare the feasibility study.
2. ALJ's recommendation that the study include a presentation of results of consultation with FAA officials adds an extra step that does not appear, based on EERA's discussions with FAA officials, to fit with FAA's process for handling wind turbine lighting applications. It is EERA's understanding that FAA officials expect project proponents to work with an approved ADLS vendor to make an application to the FAA. Based on workload and responsibilities, EERA understands that FAA staff responsible for review and approval of lighting systems are unlikely to be able to engage in extensive consultation prior to preparation and submittal of an actual application.

Rather than adopting the expanded feasibility study concept in the ALJ's Site Permit Condition 6.1, EERA stands by its earlier recommendation to the ALJ and recommends editing the Draft Site Permit language as follows:

### **6.1 Obstruction Marking and Lighting**

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<sup>8</sup> ALJ Eric L. Lipman, August 6, 2018, Summary of Public Testimony, Findings of Fact, Conclusions of Law and Recommendation. eDockets no. [20188-145564-01](#). See Findings of Fact 214-215.

<sup>9</sup> ALJ Eric L. Lipman, August 6, 2018, Summary of Public Testimony, Findings of Fact, Conclusions of Law and Recommendation. eDockets no. [20188-145564-01](#). Finding of Fact 107 indicates the ALJ believes that ADLS would add to aesthetic impact as a result of activating turbine lights after dark, suggesting that the ALJ is assessing ADLS relative to a no-lighting baseline.

Lighting installed pursuant to Section 5.2.27 of this permit shall comply with Aircraft Detection Lighting System standards specified in FAA Circular AC 70/7460-IL CHG 1 Chapter 14. Permittee may install an FAA approved lighting system without ADLS if the Permittee demonstrates that, despite its reasonable efforts to secure FAA approval for an ADLS, one of the following conditions exists:

- 1) The FAA denies the Permittee's application for an ADLS system, or
- 2) Permittee is unable to secure FAA approval in a timely manner.

If either of these two conditions occur, the permittee's reasonable efforts to secure FAA approval of the ADLS must be described and filed with the Commission 14 days before the pre-construction meeting.

Consistent with this modification to Site Permit Condition 6.1, EERA recommends edits to the following proposed findings of fact:

- **FOF 107.** Both Blazing Star 2 and the Department proposed revisions to the Draft Site Permit relating to the deployment of an Aircraft Detection Lighting System (ADLS) at the Project. While the deployment of such a system may ~~impact aesthetic values~~ reduce aesthetic impacts, as a result of activating wind turbine lights ~~after dark~~ only when aircraft are in proximity, the Findings relating to ADLS are made below, in the Aviation section – Section XI (M)(2).<sup>107</sup>
- **FOF 212.** EERA argues that deployment of aircraft detection technology is appropriate in this instance. As it reasons, because ADLS is an approved mitigation measure in other jurisdictions, there are developers able to deploy such a system, the technology is reasonably available. EERA argues a feasibility study of cost and likelihood of FAA approval is unnecessary, because (1) costs have been adequately defined by the applicant in the record that is already before the ALJ and the Commission<sup>10</sup> and (2) the most efficient way to settle the question of FAA approval is to, in fact, seek FAA approval rather than to study the matter. and the added costs of an ADLS are small in comparison to the total installed capital cost for the entire project, installation should be required. EERA estimates that the additional costs of ADLS is between two tenths of a percent, to just over one-half a percent, of the total installed capital cost. Further, EERA contends that there is sufficient cost information in the record, such that an additional cost study is not needed. EERA urges the Commission to require Blazing Star 2 to promptly submit an application to the FAA for approval of a qualifying system.<sup>242</sup>
- **Strike ALJ findings 213-216**

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<sup>10</sup> The Applicant has indicated in the record that the costs would range from \$500,000 to \$2 million (Smith Direct, p. 5) which is equal to approximately two tenths of a percent to just over one half of a percent of the total project-installed capital cost of \$330 million (Application, p.112). Mitigation costs in that percentage range do not appear to be unreasonable to EERA staff, but are available in the record so that the ALJ and Commission can make their own determination.

- **New FOF 213.** The evidence in the record indicates that ADLS is a viable mitigation that is emerging as a required or voluntary mitigation. The evidence in the record indicates that the cost of applying this technology ranges from approximately two tenths of a percent to just over one-half a percent of the total project- installed capital cost. The record suggests the primary uncertainty is whether the FAA will approve use of the technology. It is, therefore, reasonable and efficient to move forward with efforts to obtain FAA approval, rather than conduct further study on cost and study on the potential for FAA approval. Accordingly, Section 6.1 of the Draft Site Permit should be revised as follows:

### **6.1 Obstruction Marking and Lighting**

Lighting installed pursuant to Section 5.2.27 of this permit shall comply with Aircraft Detection Lighting System standards specified in FAA Circular AC 70/7460-IL CHG 1 Chapter 14. Permittee may install an FAA approved lighting system without ADLS if the Permittee demonstrates that, despite its reasonable efforts to secure FAA approval for an ADLS, one of the following conditions exists:

- 1) The FAA denies the Permittee's application for an ADLS system, or
- 2) Permittee is unable to secure FAA approval in a timely manner.

If either of these two conditions occur, the permittee's reasonable efforts to secure FAA approval of the ADLS must be described and filed with the Commission 14 days before the pre-construction meeting.

EERA staff appreciates the opportunity to submit these exceptions.

Dated: August 21, 2018

Respectfully submitted,

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