

## Staff Briefing Papers

Meeting Date: February 8, 2018

Agenda Item 6\*\*

Company: Big Blue Wind Farm, LLC

Docket No. IP6851/WS-10-1238

In the Matter of the Site Permit Issued to Big Blue Wind Farm, LLC for the 36 MW Big Blue Wind Farm in Faribault County

Issues: What action should the Commission take on the proposed noise protocol and other compliance related matters?

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### Relevant Documents (Complaints and Responses are noted below)

### Date

PUC <u>Order</u> – Issuing Site Permit	August 17, 2011
Big Blue - <u>Compliance Filing</u> – Site Plan (Revised Layout)	October 5, 2011
Big Blue - <u>Compliance Filing</u> Supp. Info (Noise Analysis, Contour Map)	October 12, 2011
Big Blue – <u>Compliance Filing</u> Supp. Info. (Crane path, Noise, Lines)	October 20, 2011
DOC – <u>Compliance Filing</u> (Review and Approval of Revised Site Plan)	November 1, 2011
Big Blue – Other – <u>Info Filing on Change in Ownership</u>	November 7, 2012
Big Blue - <u>Letter</u> (Wenck 2012 Noise Study Protocol)	December 6, 2012
DOC EERA - <u>Annual Compliance Review</u> (Noise Protocol Under Review)	August 6, 2013
Big Blue - <u>Compliance Filing</u> (Confirmation of Operation 12/15/12)	January 31, 2013
DOC EERA – <u>Compliance Review 2-28-14</u>	April 11, 2014
PUC Information Requests	June 29, 2017
Big Blue – Compliance Filing ( <u>Feb 2013 Noise Study</u> )	July 7, 2017
PUC – <u>Letter Initiating Unresolved Complaint Process</u>	August 15, 2017
DOC EERA Compliance Review: <u>Comments and Recommendations</u>	November 1, 2017

<b>Relevant Documents (Complaints and Responses are noted below)</b>	<b>Date</b>
PUC – <u>Letter to Show Cause</u>	January 10, 2018
Big Blue – <u>Response to Alleged Site Permit Violations</u>	January 18, 2018
DOC EERA – <u>Comments and Recommendations</u>	January 25, 2018
PUC – <u>Responses to IR 1-5</u> from Big Blue (inadvertently not eFiled)	February 1, 2018

**Complaints/Allegations and Responses**

Big Blue - Siemens/ <u>Gamesa Letter</u> – Wind Turbine Noise Response on Clicking	June 8, 2017
Big Blue - Compliance Filing (Results of February 2013 <u>Noise Study</u> )	July 7, 2017
( <u>Moore Complaint 1</u> ) Letter – Response to Unresolved Complaint	August 15, 2017
( <u>Big Blue Response 1</u> ) Letter – Response to Unresolved Complaint	August 15, 2017
( <u>Big Blue Response 2</u> ) Letter – Response to Summary of Noise Complaints	August 29, 2017
( <u>Moore Complaint 2</u> ) Letter – Turbine Foundation	September 11, 2017
( <u>Moore Complaint 3</u> ) Public Comment – Turbine Noise Never Studied	September 11, 2017
( <u>Moore Complaint 4</u> ) Public Comment – Pad Mount Transformer Changed	September 12, 2017
( <u>Moore Complaint 5</u> ) Public Comment – 18 Month Noise Study	September 13, 2017
( <u>Moore Complaint 6</u> ) Comments –Big Blue Permit	September 14, 2017
( <u>Big Blue Response 3</u> ) Letter – Response to Five Letters from Moore	September 18, 2017
( <u>Moore Complaint 7</u> ) Letter – Big Blue Complaint Procedure Violation	September 19, 2017
( <u>Moore Complaint 8</u> ) Letter – Big Blue Noise Map and Turbine Base Study	September 21, 2017
( <u>Big Blue Response 4</u> ) Letter – Turbine Maintenance Status Reports	September 26, 2017
( <u>Moore Complaint 9</u> ) Letter – Unresolved Substantial Noise Complaint	September 28, 2017
( <u>Big Blue Response 5</u> ) Letter – October 2017 Status Report	October 5, 2017
( <u>Big Blue Response 6</u> ) Letter – 10/16/17 Maintenance Progress Update	October 18, 2017
( <u>Moore Complaint 10</u> ) Letter – WSB	November 2, 2017
( <u>Moore Complaint 11</u> ) Letter – Jet Noise from Turbines T8 and T9	December 4, 2017
( <u>Big Blue Response 7</u> ) Letter – Compliance Filing	December 12, 2017
( <u>Big Blue Response 8</u> ) Letter – Re: to Alleged Violations and Show Cause	January 18, 2018
( <u>Moore Complaint 12</u> ) Letter – 5 Breaches of Site Permit	January 22, 2018

## I. Statement of the Issues

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What action should the Commission take on the proposed noise protocol and other compliance related matters?

## II. Project and Issue Description

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The Big Blue Wind Farm (Big Blue or Project) is an operating wind farm owned by Big Blue Wind Farm, LLC located in Faribault County, Minnesota. The Project has a nameplate capacity of 36 megawatts (MW). The Big Blue Project was issued a site permit via a Commission Order dated August 17, 2011<sup>1</sup>. The facility became commercially operational in December 2012.<sup>2</sup>

Since the commencement of operation, Big Blue has acknowledged that the project has faced noise-related issues. Big Blue has conducted multiple turbine repairs and maintenance to address noise-related issues through its own company and in conjunction with the turbine manufacturer (Gamesa). In addition to the noise related issues, a local landowner (and a previous project developer), Dan Moore, has alleged numerous violations of the site permit conditions.<sup>3</sup>

Commission staff became aware in the spring of 2017 that several noise-related (and other) complaints were not coming to a resolution. Staff requested additional information from parties in the summer and fall of 2017, and as a result is now bringing the matter to the Commission for review of several matters. Staff believes the main issues for the Commission to consider are:

1. Whether Big Blue violated Site Permit Condition 6.6 Noise, and whether it made false statements relating to its noise protocols and studies;
2. Whether Big Blue has knowingly made false statements regarding pre-construction noise modeling of the Gamesa G97 turbine; and
3. What, if anything, should be modified regarding Big Blue's complaint reporting process.

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<sup>1</sup> eDockets ID: [20118-65487-01](#), Commission Order dated August 17, 2011 Issuing Site Permit.

<sup>2</sup> Big Blue is in active standing as a Minnesota-LLC as of January 30, 2018 as noted on the Minnesota Secretary of State website.

<sup>3</sup> Faribault County Register, April 25, 2011. *Big Blue Wind Farm*. [Article Link](#)

### III. Relevant Statute and Rule

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**Minn. Stat. § 216F.04 (d)** The Commission may place conditions in a permit and may deny, modify, suspend, or revoke a permit.

**Minn. Stat. § 216F.05 (6)** The commission shall adopt rules governing the consideration of an application for a site permit for an LWECS that address the following: (6) revocation or suspension of a site permit when violations of the permit or other requirements occur...

**Minn. Stat. § 216F.02(a) and Minn. Stat. § 216E.14** A site or route permit for an LWECS may be revoked or suspended by the commission after adequate notice of the alleged grounds for revocation or suspension and a full and fair hearing in which the affected utility has an opportunity to confront any witness and respond to any evidence against it and to present rebuttal or mitigating evidence upon a finding by the commission of:

- (1) any false statement knowingly made in the application or in accompanying statements or studies required of the applicant, if a true statement would have warranted a change in the commission's findings;
- (2) failure to comply with material conditions of the site certificate or construction permit, or failure to maintain health and safety standards; or
- (3) any material violation of the provisions of this chapter, any rule promulgated pursuant thereto, or any order of the commission.

#### **7854.1300 Site Permit Amendment or Revocation.**

**Subp. 2.** Permit amendment. The commission may amend a site permit for an LWECS at any time if the commission has good cause to do so.

**Subp. 3.** Permit revocation. The commission may revoke a site permit for an LWECS at any time if the commission determines that any of the following has occurred:

1. the applicant knowingly made a false statement in the application or in accompanying statements or studies required of the applicant, if a true statement would have warranted a change in the commission's findings;
2. the applicant has failed to comply with a material condition or term of the permit;
3. the permitted LWECS endangers human health or the environment and the danger cannot be resolved by modification of the permit or LWECS; or
4. the permittee has violated other laws that reflect an inability of the permittee to comply with the permit.

**Subp. 4.** Procedure. The commission may initiate action to consider amendment or revocation of a site permit for an LWECS on its own initiative or upon the request of any person. No site

permit may be amended or revoked without first providing notice and affording due process to the permit holder.

#### **IV. Overview of Issues**

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In this section staff provides a summary of the three main issues it believes are before the Commission, and in the following section (V. Project Background), staff provides a thorough history of the project and relevant filings, including record citations.

While there were several other allegations of site permit violations made on the record, staff believes the three violations listed below are well-documented and consequential. Other alleged violations were each individually investigated by staff and appear to be either potential misunderstandings of the record or inaccurate claims (staff lists these other claims in the detailed Project Background section following this section). The three violations these briefing papers address are:

1. Whether Big Blue violated Site Permit Condition 6.6 Noise, and made false statements relating to noise protocols and studies;
2. Whether Big Blue has knowingly made false statements regarding pre-construction noise modeling of the Gamesa G97 turbine; and
3. What, if anything, should be modified regarding Big Blue's complaint reporting process.

##### **1. Compliance with Site Permit Condition 6.6**

First, staff believes the Commission should consider whether Big Blue violated Site Permit Condition 6.6 Noise.

**6.6 NOISE** The Permittee shall submit a proposal to the Commission at least ten (10) working days prior to the pre-operation compliance meeting for the conduct of a post-construction noise study. Upon the approval of the Commission, the Permittee shall carry out the study. The study shall be designed 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 shall submit the study within eighteen (18) months after commercial operation.

Due to the lengthy and numerous communications on the record between Big Blue and Dan Moore about noise issues, and Big Blue's questionable responses to those issues, staff issued a letter on January 10, 2018 requesting Big Blue to show cause why a material violation of the site permit had not occurred in relation to Site Permit Condition 6.6 (Request to Show Cause).

Prior to its January 2018 response to staff's Request to Show Cause, Big Blue had maintained in numerous responses to inquiries about compliance with Condition 6.6 that it was in compliance pursuant to a noise study conducted in February 2013. Big Blue acknowledged that due to an

oversight, the February 2013 study results were not submitted to the Commission until July 2017, but asserted that this oversight should not rise to the level of a permit violation.

None of the earlier Big Blue filings acknowledged that a step required in Site Permit Condition 6.6 had not occurred, as there had been no approval by the Commission of a noise study protocol for the Big Blue Project.

During the past year, Big Blue has also submitted results from two additional noise studies (March/April 2016 Noise Study and June/July 2017 Noise Study). The March/April 2016 Noise Study Report indicated on page one that the results “were intended to fulfill Condition 6.6 of the Commission’s Site Permit...” Big Blue later asserted (when questioned by Commission staff) that this characterization of the March/April 2016 Study was a mistake and Condition 6.6 was not the impetus for the study, nor was the study intended to replace the February 2013 Noise Study which was conducted to fulfill Condition 6.6.

However, in Big Blue’s January 2018 response to staff’s Request to Show Cause, Big Blue changed course and admitted that it had *never* conducted a study intended to fulfill Site Permit Condition 6.6. Big Blue also noted it could not have conducted such a study since the December 6, 2012 protocol was never approved by the Commission. Big Blue’s reasoning was that since Commission approval was required as a prerequisite to the execution of any noise study, no study could have been conducted. Big Blue claims it is still (in 2018) waiting for Commission approval of their December 6, 2012 Protocol.

Upon receipt of this explanation, DOC EERA reviewed their internal project files and located meeting minutes from a December 2012 pre-operation meeting for the Big Blue Project.<sup>4</sup> The minutes documented who attended the meeting, which included three Big Blue personnel. The minutes noted that DOC EERA relayed it had issued the 2012 Noise Study Protocol and Guidance Report. The minutes appear to note that Big Blue (verbally) indicated it would revise its noise protocol. Those pre-construction meeting minutes were not filed on the record until January 25, 2018. DOC EERA in recent comments state that a revised protocol was never submitted as a replacement for the December 6, 2012 Protocol.

In 2013 and 2014, DOC EERA conducted two years of Annual Compliance Reviews (as it had personnel in those years available to conduct such reviews, reviews in other years have not occurred). The 2013 Annual Compliance Review of the Big Blue record noted the protocol was outstanding and additional comments on the protocol would be submitted/were pending. Additional comments from the DOC EERA were never filed (staff assumes it was likely due to staff turnover and/or a revised protocol was never submitted triggering a review).

Staff believes the representations made by Big Blue call into question compliance with the Site Permit Condition 6.6. Statements from Big Blue regarding compliance with the Condition

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<sup>4</sup> DOC EERA filed the minutes with their January 25, 2018 Comments.

appear to be conflicting and evolving. Staff does agree that a noise protocol for the Big Blue Project has never been approved by the Commission.

Additionally, from DOC EERA comments, it does not appear Big Blue has, even as of today, has submitted a noise survey protocol to the Commission that it could approve. In light of the recommendations of DOC EERA in its latest comments (January 25, 2018) on Big Blue's January 18, 2018 Protocol, it is not clear whether the contractor currently proposed by Big Blue can fulfill, or is willing to attempt to fulfill, the requirements for on/off monitoring.<sup>5</sup> Therefore, the Commission may want to ask Big Blue to confirm whether it is maintaining that its January 18, 2018 protocol is still valid and ready for review by the Commission.

Last, staff has concerns regarding the general actions of Big Blue with respect to complaints about its operations. Through evaluation of the site permit record, associated compliance filings, and public complaints and comments about Big Blue's operations, staff has learned of issues such as: 1) a tool being left in a wind turbine blade during construction, which caused a clunking noise that Big Blue did not fix for 3 years; 2) on-going, non-standard wind turbine noises relating to turbine manufacturing/assembly issues that it took Big Blue almost two years to rectify,<sup>6</sup> and nor did Big Blue voluntarily shut-down the noisy turbines upon complaints from residents; and 3) complaints Big Blue received about its wind farm operations which were not disclosed to the Commission.

Based on this record, staff believes assessing the options available to the Commission regarding Big Blue's compliance with Condition 6.6 is warranted. Commission options to remedy the situation could be:

1. Revoke the site permit if material violations of the site permit have occurred;
2. Suspend the permit (and thereby operations) until violations of the site permit are cured, such as an on/off noise monitoring protocol being approved by the Commission;  
or
3. Allow Big Blue to continue to operation subject to submission of a revised on/off noise monitoring protocol, developed in consultation with the DOC EERA, requiring selection of a contractor that is approved by DOC EERA. Delegate to the Executive Secretary the ability to approve the protocol. Requiring that noise protocols and studies for Big Blue be developed and conducted independently by a third party contractor and submitted directly to DOC EERA has been done in other cases. Require final noise reports to be e-filed with the Commission directly, with restrictions placed on communications between Big Blue and the contractor (to be outlined by staff) to ensure transparent results.

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<sup>5</sup> On/Off monitoring of wind turbines is new to Minnesota and staff is still learning best practices for conduct of that work. On/Off monitoring has only been required on one other project, the Bent Tree Wind Project and those results are still pending.

<sup>6</sup> Staff is not aware of the magnitude of these wind turbine noises, but all parties agree they existed and were non-standard wind turbine noises that required corrective action.

## 2. Potential False Statements Regarding the Noise Modeling of the Gamesa G97 Turbines

In October 2011, Big Blue provided a revised site layout and supplemental noise information on the Gamesa G97 turbines during the pre-construction compliance filing period for LWECS. The noise information filed in October 2011 indicated the modeling conducted for the revised layout was done using inputs specifically for the Gamesa G97 turbines, and represented that the revised layout of the LWECS complied with the MPCA noise standards.

Upon receipt of allegations in 2017 from Dan Moore that the data inputs used for the October 2011 Gamesa G97 modeling results were not the correct inputs for those turbines, Big Blue's corporate counsel strongly responded in filings dated August 29 and September 18, 2017 that the modeling was correctly conducted using data specific for the Gamesa G97 turbines. Requests from Dan Moore for raw data to support those modeling results have gone unanswered.

However, staff's read of Big Blue's noise study report from the March/April 2016 time period (attached to DOC EERA's November 1 comments) and its January 18, 2018 Noise Protocol (attached to Big Blue's January 18, 2018 filing) is that the preconstruction modeling conducted for the turbines *did not* use data for the Gamesa G97 turbines. The January 18, 2018 protocol states that the results of the noise study could not be compared to the original modeling as no accurate modeling representation of the G97 turbines exists. The filing stated:

"During the preconstruction phase of the Project, predictive noise modeling was completed using noise sources that do not represent the Gamesa G97 noise output. Due to the lack of an accurate predictive noise model, any validation efforts associated with the Post-Construction Noise Analysis would not be accurate and could skew the results of the report."

This is concerning. Staff understands this to mean there is no information in the record that shows the site, as proposed to be built or as-built was projected or verified to be in compliance with the MPCA noise standard. Such information is a prerequisite to construction of a LWECS. If it was known at the time of the permit issuance that the data inputs to the noise analysis and modeling were invalid, and therefore the noise results unknown, would the Commission have issued the permit?

Additionally, the studies conducted by Big Blue and its contractors show there are potential exceedances of the noise standards that may be caused by the Big Blue wind turbines. Big Blue asserts in its filings that these noise monitoring results are likely invalid as they were conducted prior to the corrective maintenance, however, there is no other available monitoring data for the site.

These issues combined with the complaints of local residents about noise, including concerns of exceedances of the MPCA noise standards, and on-going maintenance issues also cause staff to



believe close consideration of next steps in relation to the modeling issue is necessary. Commission options to remedy the modeling situation could be:

1. Revoke the site permit if knowingly false statements have occurred;
2. Suspend permit (and thereby operations) until noise modeling and on/off noise monitoring is submitted that shows the current turbine layout is in compliance with the MPCA noise standards;
3. Suspend the permit (and thereby operations) until modeling is submitted that shows the current turbine layout is projected to be in compliance with the MPCA noise standards. Require Big Blue to contract for a third party consultant (approved by DOC EERA) to conduct a predictive noise modeling report for the site, as-built, using data for the Gamesa G97 turbines (or in lieu of that data if it is not available, more conservative inputs). Require any modeling report to be eFiled with the Commission directly and place restrictions on communications between Big Blue and the contractor (to be outlined by staff) to ensure transparent results; or
4. Allow operations to continue and require Big Blue to contract for a third party noise modeling of the site, as-built, for the Gamesa G97 turbines (or in lieu of that data if it is not available, more conservative inputs) within 30 days. Any modeling report should be filed with the Commission directly and restrictions placed on communications between Big Blue and the contractor (to be outlined by staff) to ensure transparent results.

### **3. Lack of Complaint Reporting**

Staff notes concerns with Big Blue's handling of complaints pursuant to the complaint reporting process contained in the Big Blue Site Permit. The complaint reporting process requires that complaints be directed to the developer. It appears, however, that Big Blue decided that some complaints it received were not 'formal' and therefore did not need to be reported to the Commission. While Staff can see that there may be a legitimate question whether a general criticism of a LWECs operation should be added to a project's complaint report log, the noise issues repeatedly raised by landowners, especially with respect to the complaints related to the tool in the blade, and the on-going, non-standard noise problems that everyone agrees were occurring, should have made it to the complaint report prior to when they did, or even arguably presented to the Commission via a filing pursuant to the extraordinary event permit provision.

Staff believes the complaint reporting process could be improved, however, believes improvement should occur in consultation with DOC EERA staff, who have a longer history with complaint reporting. Staff proposes to file revised complaint procedures after consultation with the DOC EERA on how to best to detect and avoid the failure-to-report-complaints problem has occurred with the Big Blue project.

**Staff recommendation:** Staff requests the Commission authorize staff to consult with DOC EERA to develop revised complaint procedures to replace those attached to the Big Blue Site Permit issued August 17, 2011. Upon the filing of the revised complaint procedures, delegate to

the Executive Secretary to require Big Blue to mail notice of the revised procedures to affected landowners (defined as those within the project boundary and adjacent to it) and to local governmental units. Big Blue also must efile an affidavit confirming that the notice was mailed as required within 30 days of the mailing.

**V. Project Background**

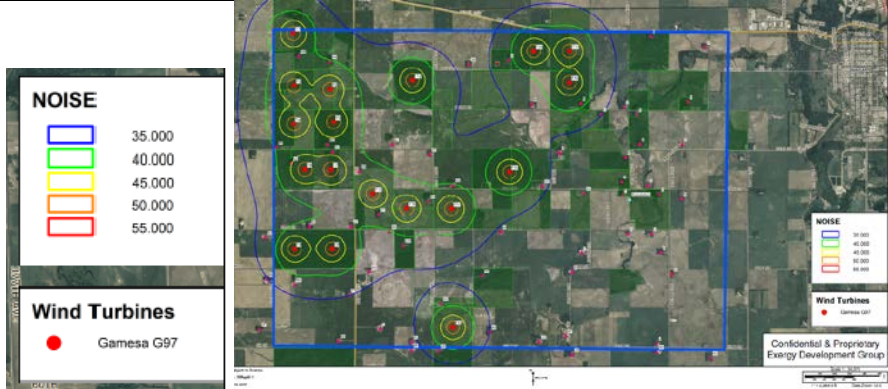
Staff provides a detailed timeline of events for the project, staff notes are interspersed within some of the line items.

Dec. 6, 2010	Exergy Development Group on behalf of Big Blue Wind Farm, LLC files a site permit application with the Commission.
Aug. 17, 2011	Commission issues Big Blue a Wind Site Permit including approval for use of the Gamesa G97 turbines in a specific layout. <sup>7</sup>
Oct. 5-20, 2011	<p>Big Blue filed site layout revisions during the compliance phase (pre-construction) which were approved by the DOC EERA. The information included noise analysis (both in narrative form and a contour map) on the Gamesa G97 turbine’s revised layout.<sup>8,9</sup></p> <p>The noise modeling information provided with the revised site layout indicated that: “Big Blue Wind Farm performed a noise analysis on the proposed wind turbine layout to confirm compliance with the Minnesota Pollution Control Agency requirements at dwellings. The WindPRO Decibel module was used to implement the ISO-9613-2 General model for calculating the attenuation of sound during propagation outdoors. The model requires several input parameters, which are described in detail below.</p> <ul style="list-style-type: none"> <li>• <u>Wind Turbine Noise Data</u> Noise data for the Gamesa G97 2.0MW was supplied by the turbine manufacturer.</li> <li>• <u>Wind Speed</u> The calculation was performed at 10 m/s. At that wind speed the turbine is emitting maximum noise.</li> </ul> <p>As the attached map shows, the results of the calculations indicate the proposed wind turbine layout complies with MPCA sound requirements.”</p> <p>Figure provided with analysis:</p>

<sup>7</sup> Id.

<sup>8</sup> Big Blue – Compliance Filing Supp. Info. (Crane path, Noise, Lines) October 20, 2011

<sup>9</sup> Big Blue - Compliance Filing Supp. Info (Noise Analysis, Contour Map), October 12, 2011

	
<p>Nov. 6, 2012</p>	<p>The Commission received notice from Big Blue that the project Limited Liability Company (LLC) was now owned by a new parent-entity, Fagen, Inc. Fagen was originally the construction contractor and Exergy had defaulted on payments.</p> <p><i>Staff understands that the project area was originally being developed by a company in which Dan Moore (the main complainant) had a monetary interest in (Windfinity). Windfinity sold the project (pre-construction and pre-PUC application) to Exergy Development Corporation.<sup>10</sup></i></p>
<p>Dec. 6, 2012</p>	<p>As required by the Site Permit Condition 6.6 Noise, Big Blue filed a Noise Study Monitoring Protocol (December 2012) on eDockets.<sup>11</sup> The December 2012 Protocol outlines a bulleted list of tasks the noise study will include. However, the document was not consistent with the October 2012 DOC EERA Noise Study Protocol and Report Guidance (DOC Noise Study Protocol and Guidance).</p>
<p>Dec. 14, 2012</p>	<p>DOC held a pre-operational compliance meeting as required by the site permit. DOC EERA kept meeting minutes, but these were not filed on eDockets.<sup>12</sup> The minutes mentioned the group discussed the newly available DOC Noise Study Protocol and Guidance and had notes relating to Big Blue acknowledging the need to modify their study protocol. The meeting notes indicate that three representatives of Fagen were in attendance (as they had taken control of the project at that time) and not personnel from Exergy.</p> <p>DOC EERA, upon review (in 2018) of their files, provided that it did not appear that Big Blue resubmitted a modified noise protocol based on the feedback provided at the pre-operational meeting. Due to lack of a revised report, the DOC EERA did not advance the matter for approval by the Commission.</p>
<p>Dec. 15, 2012</p>	<p>Big Blue Project becomes commercially operational.<sup>13</sup></p>
<p>2012</p>	<p>(Per filings received by the Commission in 2017) Clicking noise begins in 2012 in turbine T9 and continues through Spring of 2016.<sup>14</sup></p>

<sup>10</sup> Faribault County Register, April 25, 2011. *Big Blue Wind Farm*. [Article Link](#)

<sup>11</sup> Big Blue - [Letter](#) (Wenck 2012 Noise Study Protocol)

<sup>12</sup> DOC EERA – [Comments and Recommendations](#), January 25, 2018

<sup>13</sup> Big Blue - [Compliance Filing](#) (Confirmation of Operation 12/15/12)

<sup>14</sup> ([Moore Complaint 1](#)) Letter – Response to Unresolved Complaint, August 15, 2017

March 2016	The Commission received Big Blue’s monthly complaint report which documented that a complaint was received through Faribault County staff. <i>“Turbines 06, 07, 08, 09 and 14 are very noisy and exceed 50 decibels (according to anonymous person) with turbine 08 being the worse. There is also an annoying ticking sound.”</i> The monthly report complaint indicated that corrective actions on turbines T8 and T9 were expected in the next 1-3 months. <sup>15</sup> Therefore the issue was deemed ‘pending’ by Big Blue.
Spring 2016	(Per filings received by the Commission in 2017) Big Blue conducts maintenance on T9 and removes a tool in the blade left during construction. <sup>16</sup> Remediating an issue which began in 2012.
Aug. 2016	(Per filings received by the Commission in 2017) Locals begin to alert Big Blue to: 1) a ‘clickity-clack’ noise coming from turbines, especially T8 and T9; and 2) a jet noise during times of curtailment. <sup>17</sup> Monthly complaint reports filed with the Commission do not address these issues until late winter 2017.
Feb. 21, 2017	Dan Moore met with Big Blue to formally complain about the noise issues. <sup>18</sup>
Mar. 31, 2017	Dan Moore met with Big Blue to discuss remedies to the noise issue. <sup>19</sup>
Apr. 17, 2017	Big Blue met with Gamesa (turbine manufacturer) to discuss noise issues. <sup>20</sup>
Jun. 8, 2017	Big Blue filed a letter on the record, from Gamesa addressed to the Commission, dated May 7, 2017. The letter acknowledged that Gamesa (and therefore Big Blue) was aware there was a noise coming from the turbines and that noise was more noticeable during periods of low wind speed. Gamesa noted the turbines met the IEC standards for turbine noise emissions, but Gamesa was aware that some local residents were unhappy with the noise. Gamesa noted it had a hypothesis (micro-movement of the flanges causing bolts to produce a noise) and a proposed solution (replace bolts with studs). Gamesa noted it intended to perform remediation at a subset of the turbines to validate the solution’s effectiveness in May 2017 before repairing all the turbines. <sup>21</sup>  <i>Staff notes: In Big Blue’s August 29, 2017 filing they noted the issues with the Gamesa turbines was under-going a ‘global and regional investigation of the noise problem’. Staff believes this to mean the issue was not specific to the Big Blue Project.</i>
Jun. 29, 2017	Commission staff issues an information request (as a result of on-going complaints in the Big Blue monthly reports) to Big Blue requesting information on several items by July 11, 2017. See questions and responses below (July 11, 2017).
Jul. 11, 2017	Big Blue provided responses to Commission staff’s June 29 IRs.

<sup>15</sup> See Doc ID: 20166-121957-01 (Unable to hyperlink)

<sup>16</sup> [\(Moore Complaint 1\)](#) Letter – Response to Unresolved Complaint August 15, 2017

<sup>17</sup> [\(Moore Complaint 1\)](#) Letter – Response to Unresolved Complaint August 15, 2017

<sup>18</sup> [\(Moore Complaint 1\)](#) Letter – Response to Unresolved Complaint August 15, 2017

<sup>19</sup> [\(Moore Complaint 1\)](#) Letter – Response to Unresolved Complaint August 15, 2017

<sup>20</sup> [\(Moore Complaint 1\)](#) Letter – Response to Unresolved Complaint August 15, 2017

<sup>21</sup> Big Blue - Siemens/[Gamesa Letter](#) – Wind Turbine Noise Response on Clicking, June 8, 2017

*Staff notes that upon the drafting of this paper it became apparent the responses were inadvertently not eFiled by either Big Blue or the Commission staff person previously assigned to the docket. Staff has now eFiled the responses.<sup>22</sup>*

1. If eFiled, what is the eDocket Document ID of the original noise study done to satisfy the conditions of the site permit?

The original noise study was completed on February 5, 2013 and the summary report was written the same day. Please note that the report contains a typo listing the study date as Tuesday, February 6, 2013.

The report was not uploaded to eDockets until July 7, 2017 (Submission Number: 20177-133620) as the original author was involved in a companywide layoff. The responsibility of uploading to eDockets was overlooked in the transition of projects to remaining staff.

2. Has Big Blue undertaken any additional noise studies since the original study? And if so, what were the dates of those studies? Provide a summary of any results or eFile the resulting reports.

A study was completed between the dates of March 30, 2016 and April 14, 2016. Please find attached a summary of the results.

3. In a letter filed in the docket June 8 (dated May 7), a remedy to the “clicking” noise complaint is identified and a maintenance action was outlined. Has the maintenance action taken place? If so, on what date was the maintenance was conducted, and has the “clicking” been eliminated?

The maintenance work started June 6, 2017 and finished June 7, 2017. The trial was unsuccessful and the “clicking” noise was not eliminated. Gamesa (WTG Manufacturer) is working on gathering materials and tools to complete their back-up plan. The back-up plan is very intense and will require extensive manufacturing and planning before the plan is worked.

4. The Commission understood Big Blue was going to undertake other Noise mitigation measures to counteract a “jet-like” noise resulting from curtailment. Please outline what measures have been identified, when those measures went into or will go into effect, and what changes will be or have been made to rectify the problem.

The “jet-like” noise is not perceived equally to each individual and/or tied to a mechanical error. This was expressed to the Commission in previous phone calls received. The “jet-like” noise could be stemmed from curtailment received, but again, is not a direct noise stemmed from

<sup>22</sup> PUC – Responses to IR 1-5 from Big Blue (inadvertently not eFiled), February 1, 2018

	<p>mechanical error. “Jet-like” noise could be a nuisance noise emitted from the normal operation of any wind turbine.</p> <p>Big Blue tried to potentially reduce the “jet-like” noise by eliminating or reducing the amount of curtailment at particular turbines. However, when this task was completed, it resulted in further issues and we were forced to revert back to prior settings.</p> <p>5. If the above mitigation measures for the “jet-like” noise have already been implemented, has any further noise testing been done? If so, please indicate any results and study protocols.</p> <p>Mitigation measures for the “jet-like” noise have not been implemented. Noise monitoring is currently being conducted at this time. The monitoring began on June 19, 2017 and will be completed on July 10, 2017. The data will then be collected and analyzed.</p> <p>As part of the information request response, a one-page document was submitted entitled: <i>Operational Sound Levels at Selected Wind Turbines, March 30-31 and April 13-14, 2016 Big Blue Wind Farm</i>. This report documented efforts by Fagen Engineering employees to measure noise levels from the wind turbines with an Extech Sound Level Meter.</p> <p><i>Staff has not discussed the results or the findings of either of the Fagen personnel-conducted noise studies (February 2013 or March/April 2016) or the resulting analyses further as the noise studies were not consistent with the DOC Noise Study Protocol or Guidance, nor approved by the Commission, among other staff concerns.</i></p>
<p>Aug. 1, 2017</p>	<p>Commission staff (officially) requests on-record party positions (Dan Moore and Big Blue) of the issue related to the noise complaints in order to bring the matter to the Commission for consideration.</p>
<p><i>Staff notes that at this time (late August 2017) the Commission staff person working on the investigation left the Commission.</i></p>	
<p>Aug. 15, 2017</p>	<p>Big Blue filed an update noting that along with Gamesa/Siemens it had conducted remediation work in May 2017, as planned, by replacing bolts with studs to gain a more precise torque to eliminate the intermittent noise. However, the corrective action was not successful. Big Blue and Gamesa noted they planned to return to the site in September 2017, once the additional remediation design plans were complete and the material to fabricate the shims was completed, to attempt a different resolution for the noise.<sup>23</sup></p>
<p>Aug. 15, 2017</p>	<p>Dan Moore filed a letter summarizing that:</p> <ul style="list-style-type: none"> <li>• the noise issue has persisted for years,</li> <li>• he had complained to Big Blue, but was not recorded on the monthly complaint forms submitted by the Company,</li> <li>• the clicking noise had not resolved following turbine maintenance,</li> <li>• there is a persistent jet-noise during periods of curtailment,</li> </ul>

<sup>23</sup> Big Blue - Siemens/Gamesa Letter – Wind Turbine Noise Response on Clicking, June 8, 2017

	<ul style="list-style-type: none"> <li>• there are likely violations of the MPCA noise standards,</li> <li>• he believes the G97 turbine was never modeled for noise or shadow flicker,</li> <li>• he questioned the parameters and protocol of the recently conducted (June/July 2017) noise monitoring referenced in PUC IR response 5, and,</li> <li>• the methods used in the February 2013 noise study were unusable and were conducted shortly after commercial operation and therefore are not representative of the issues faced after longer-term turbine operation (for 3+ years).<sup>24</sup></li> </ul> <p>Mr. Moore requested the Commission suspend or revoke the Big Blue site permit.</p>
<p>Aug. 29, 2017</p>	<p>Big Blue responded to August 15 issues noted by Dan Moore. Big Blue noted they believed themselves to be in compliance with the MPCA noise standard and have been working diligently to address the clicking and jet-noises. Big Blue referenced their February 2013 noise study to defend their position that they are in compliance with the MPCA noise standards and argued that Dan Moore is incorrectly interpreting what the results of the February 2013 noise study prove (that they are in compliance).</p> <p>Big Blue noted that even prior to the formal complaint and meeting with Dan Moore in February 2017, it was aware of the noise issues and was working the manufacturer on a resolution.</p> <p>Big Blue noted they intended to submit a proposal to the Commission for approval of a post-remediation noise study that Big Blue would conduct to demonstrate compliance with applicable noise standards following the work planned for Fall.</p> <p>Big Blue argued they complied with the Site Permit conditions [specifically Section 6.6 Noise] as they <i>did</i> conduct the noise study within 18-months of the commercial operation date (February 2013). However, they inadvertently did not submit the results until July 2017 and that the error should not result in a permit violation.<sup>25</sup></p>
<p>Sept. 11-14, 2017</p>	<p>Dan Moore filed five letters which included allegations of site permit violations. Staff has reviewed each of the allegations and provides the following responses (if not addressed elsewhere).<sup>26</sup></p>

<sup>24</sup> Staff notes the letter included other concerns that staff has evaluated and at this time does not believe are at issue as they appear to be misunderstandings of the record (including the rotor diameter of the installed turbines (G87 vs. G97), the type of transformer included with a selected turbine, and the complaint reporting contact).

<sup>25</sup> (Big Blue Response 2) Letter – Response to Summary of Noise Complaints, August 28, 2018

<sup>26</sup> (Moore Complaint 2) Letter – Turbine Foundation, September 11, 2017; (Moore Complaint 3) Public Comment – Turbine Noise Never Studied, September 11, 2017; (Moore Complaint 4) Public Comment – Pad Mount Transformer Changed, September 12, 2017; (Moore Complaint 5) Public Comment – 18 Month Noise Study, September 13, 2017; (Moore Complaint 6) Comments –Big Blue Permit, September 14, 2017

	<p>1. A change to the foundation type which was not considered during the permitting process.</p> <p><i>Staff notes the site plans filed in October 2011 were reviewed by the DOC staff and acknowledged changes in the project (including layout, among other changes and those changes had been deemed in compliance). Staff has a few remaining questions relating the foundation type, when the changes occurred, and timing and will bring the matter back to the Commission if it rises to a potential material violation of the site permit.</i></p> <p>2. Lack of noise and shadow flicker modeling, in that the (late revised) turbine type (G97) was not modeled (alleging that Big Blue took the data from the MM92 turbine type and applied it to the G97 modeling results).</p> <p><i>Discussed above.</i></p> <p>3. A change from a pad mount transformer to an up-tower transformer.</p> <p><i>Change in transformer type is a design consideration that is determined by the turbine type. The Commission approved the installation of pad-mount transformers and the Gamesa G97 (which includes an up-tower transformer). Staff does not believe the lack of installation of a pad-mount transformer constitutes a permit violation.</i></p> <p>4. The omission of submittal of the 18-month noise study in the appropriate timeframe.</p> <p><i>Discussed above.</i></p> <p>5. Crane path modifications.</p> <p><i>Staff notes that crane path modifications were acknowledged in October 2011 filings from Big Blue. Any deviations from those paths would need to have been documented/investigated at the time of construction.</i></p>
<p>Sept. 18, 2017</p>	<p>Big Blue responded to each of the violations claimed by Dan Moore.<sup>27</sup> Staff does not repeat those argument here, but notes that Big Blue claimed the following:</p> <p><i>“On October 12, 2011, Big Blue submitted a “Constraint Map and Wind Turbine Noise Analysis for the Gamesa 2.0 MW turbine as a compliance filing. On October 5, 2011, Big Blue submitted a “Shadow Flicker Analysis” based on the Gamesa turbines. The results of these analyses showed that the proposed wind turbine layout complies with the MPCA sound requirements” and accepted shadow flicker standards. The fact is that noise and shadow flicker for the Gamesa turbines were modeled.”</i></p>

<sup>27</sup> (Big Blue Response 3) Letter – Response to Five Letters from Moore



	Big Blue again reiterated their intent to submit a post-remediation noise study protocol (as they noted in their August 15, 2017 filing).
Sept. 19-21, 2017	<p>Dan Moore filed additional allegations of site permit violations alleging that the complaint procedure was not followed and needs to be revised as his complaints for the previous four-years were not recorded.<sup>28</sup></p> <p>Dan Moore reiterated his concern that there is no modeling data available for the October 12, 2011 noise analysis or contour maps submitted to the Commission for the Gamesa G97 turbines.</p> <p><i>Staff notes that all of the issues above are relating to noise and complaint procedures issues, these are discussed further below.</i></p>
Sept. 26, 2017	Big Blue filed a maintenance update on the project, provided day-by-day updates (from September 15 to 25) and indicated that due to weather delays, repair work could not yet be completed. <sup>29</sup>
Sept. 28, 2017	Dan Moore filed a complaint with the Commission noting that the noise from the turbines was so loud his family could not remain outdoors. <sup>30</sup>
Oct. 5, 2017	Big Blue filed a repair update noting that due to weather delays, work had not yet been completed. <sup>31</sup>
Oct. 16, 2017	<p>Big Blue filed a letter indicating the work was complete and the clicking noise had been resolved from turbines 8 and 9.<sup>32</sup></p> <p><i>In this filing, Big Blue did not provide a post-remediation noise protocol or any information on the proposed noise monitoring as indicated in earlier comments.</i></p>
Nov. 1, 2017	<p>DOC EERA provided, in a compliance review, a summary of work conducted to date (including a site visit by DOC EERA staff) and summaries of conference calls with the developer.<sup>33</sup></p> <p>As an attachment, DOC EERA filed a document it had received (via email) from Big Blue for review: <i>Post Construction Noise Analysis and Report</i>. The document provides a summary and analysis of the data collected during the July 2017 noise monitoring. Big Blue noted it was undertaking the noise monitoring in IR response 5 (July 7, 2017).</p> <p>The document states at page 1: <i>“The post-construction noise analysis prepared by WSB &amp; Associates is meant to satisfy Section 6.6 requirements of the Big Blue Wind Farm, LLC Site Permit issued on August 17, 2011. The noise analysis and report follow guidelines set by the</i></p>

<sup>28</sup> (Moore Complaint 7) Letter – Big Blue Complaint Procedure Violation, September 19, 2017  
(Moore Complaint 8) Letter – Big Blue Noise Map and Turbine Base Study, September 21, 2017  
<sup>29</sup> (Big Blue Response 4) Letter – Turbine Maintenance Status Reports, September 26, 2017  
<sup>30</sup> (Moore Complaint 9) Letter – Unresolved Substantial Noise Complaint, September 28, 2017  
<sup>31</sup> (Big Blue Response 5) Letter – October 2017 Status Report, October 5, 2017  
<sup>32</sup> (Big Blue Response 6) Letter – 10/16/17 Maintenance Progress Update, October 18, 2017  
<sup>33</sup> DOC EERA Compliance Review Comments and Recommendations November 1, 2017

	<p><i>MN DOC...</i>” However, as stated in an email to Commission staff in July 2017 (attached to Big Blue’s January 18, 2018 Filing), Big Blue clarified the report was not intended to replace its original February 2013 study.</p> <p>DOC EERA noted they believe the maintenance and operational changes had resolved both the clicking and the jet-engine noise, however, it was not satisfied Big Blue was in compliance with noise conditions listed in the site permit. Specifically, condition 6.6 required submittal of a noise protocol, approval of the protocol by the Commission, and that the study be conducted within 18 months of commercial operation. EERA noted Big Blue’s protocol was never approved by the Commission. Additionally they provided:</p> <p><i>“Nonetheless, the noise monitoring report submittal [based on the data collected in June and July 2017] was reviewed by EERA. The report indicates noise standard exceedances that may be attributable to Big Blue Wind Farm turbines. Specifically, the report identifies several hours during the monitoring period in which both daytime and nighttime L10 and L50 limits were exceeded at monitoring sites within the project area. The report concludes that turbine noise may be a factor in a number of these exceedances.”</i></p> <p>DOC EERA recommended that Big Blue conduct on/off noise monitoring to address potential noise standard exceedances and per the 2012 DOC Noise Study Protocol and Report Guidance <i>“when noise limit exceedances are recorded, it is necessary to determine the increment due to the turbine noise through completion of an on/off monitoring campaign to properly isolate wind turbine sound from total measured sound.”</i></p> <p>DOC EERA recommended the matter: 1) be brought to the Commission for the discussion and resolution of the complaints; and 2) staff issue a letter to Big Blue (in a quick manner) outlining next steps in a noise monitoring effort in order to complete noise monitoring in late Fall of 2017.</p> <p><i>Staff notes that due to the permit requirement that noise protocols must be approved by the Commission, and the short turnaround needed to conduct monitoring in the Fall of 2017 (as comments were received on November 1, 2017), staff was not able to review the matter and get it before the Commission in time to allow for fall monitoring. Staff noted to parties in November 2017 that the matter was still under review and likely wouldn’t be before the Commission until first quarter 2018.</i></p>
<p>Nov. 2, 2017</p>	<p>Dan Moore filed additional comments on the noise protocols.<sup>34</sup></p>
<p>Dec. 4, 2017</p>	<p>Dan Moore filed comments indicating the jet noise had not been resolved and was especially loud on December 2 and 3.<sup>35</sup></p>
<p>Dec. 12, 2017</p>	<p>Big Blue filed comments noting Big Blue personnel had been onsite on Dec. 2 and 3 and did not hear jet-engine noise. Big Blue noted it would confirm compliance with noise</p>

<sup>34</sup> ([Moore Complaint 10](#)) Letter – WSB, November 2, 2017

<sup>35</sup> ([Moore Complaint 11](#)) Letter – Jet Noise from Turbines T8 and T9, December 4, 2017

	standards in 2018, upon Commission approval of the plan to obtain a vendor and suggested protocol – as recommended by the DOC EERA in their Nov. 1 comments. <sup>36</sup>
Jan. 10, 2018	Upon review of the record, staff issued Big Blue a letter requesting the company to show cause why they were not in violation of the site permit condition 6.6 (Noise). <sup>37</sup>
Jan. 18, 2017	<p>Big Blue filed a response indicating it has been taking steps to address the noise concerns and it did not believe it had violated the Site Permit.<sup>38</sup> Big Blue noted it agreed with the DOC EERA recommendation to conduct on/off monitoring. Additionally, Big Blue attached three Exhibits:</p> <ul style="list-style-type: none"> <li>• Exhibit A: an email between Commission staff and Big Blue clarifying that other noise studies conducted by Big Blue were not intended to replace the February 2013 noise study;</li> <li>• Exhibit B: Statement of Qualifications from a noise contractor and proposed protocol for on/off monitoring (January 2018 Noise Study Protocol); and,</li> <li>• Exhibit C: Email correspondence between DOC EERA and Big Blue indicating that the noise study work would need Commission approval before execution.</li> </ul> <p>Big Blue argued it <i>had</i> submitted a noise study protocol (on December 6, 2012), but it simply had not yet been approved by the Commission, and therefore, Big Blue could not conduct the study (as approval was a condition precedent). Big Blue argued it was under no obligation to conduct the study until the Commission approved it (which still has not occurred) and the issue only arose due to a breakdown in the compliance review process, at no fault of anyone (including Big Blue).</p> <p>Big Blue argued that while it <i>did</i> conduct a noise study in February 2013, that study was never intended to satisfy Section 6.6 of the Site Permit. However, this is <i>contrary to letters from Big Blue’s staff in the IR response to the Commission on July 7, 2017 and from Big Blue’s corporate counsel on August 29, 2017 indicating it was intended to satisfy those requirements.</i></p> <p>Big Blue noted that additionally, the monitoring conducted in June/July 2017 was not intended to replace the 2013 Noise Study or meet the requirements of the Permit Condition 6.6 (and any indication in the report of such was done in error) and that study was done to address Dan Moore’s noise complaints. Big Blue provided a supporting email correspondence between Big Blue and Commission staff confirming that the June/July 2017 study was not intended to replace the February 2013 conducted study (Exhibit A).</p> <p>Big Blue noted the results of the June/July 2017 study were not filed with the Commission as Big Blue had determined the results to be flawed due to mechanical breakdowns. Also since Big Blue still needed to conduct the Gamesa turbine noise repairs (in September/October 2017), the results of the report were likely inaccurate.</p> <p>Big Blue reiterated its intent to submit a post-remediation noise study (as promised in two August 2017 filings) and believes a new study is the best path forward (Exhibit B).</p>

<sup>36</sup> (Big Blue Response 7) Letter – Compliance Filing, December 12, 2017

<sup>37</sup> PUC – Letter to Show Cause, January 10, 2018

<sup>38</sup> (Big Blue Response 8) Letter – Re: to Alleged Violations and Show Cause, January 18, 2018)

	<p><i>Staff notes that Big Blue’s own proposed protocol (Exhibit B) states the following in Section IV. Project Specific Considerations:</i></p> <p>“During the preconstruction phase of the Project, predictive noise modeling was completed using noise sources that do not represent the Gamesa G97 noise output. Due to the lack of an accurate predictive noise model, any validation efforts associated with the Post-Construction Noise Analysis would not be accurate and could skew the results of the report.”</p> <p><i>This information regarding the predictive noise modeling is consistent with the concerns of Dan Moore. His concerns have been that the noise modeling conducted for the pre-construction layout and turbine type filed on October 12, 2011 in Big Blue’s supplemental documents for the revised project layout, and now as-built, is inaccurate. Staff is not aware of what information on record documents that the project, as-built, is projected to be in compliance with the MPCA noise standards.</i></p>
<p>Jan. 25, 2018</p>	<p>DOC EERA filed comments on the matter.<sup>39</sup></p> <p>First, and as noted above, DOC EERA provided documentation that a pre-operation meeting was held with Big Blue personnel and notes on file at the DOC EERA indicated that Big Blue was intending on revising their noise protocol. DOC EERA noted that it often works with applicants to develop plans consistent with technical requirements, as was the case here. DOC EERA noted that while its August 2013 Compliance Review noted the missing filing, and that review was still underway – it maintains the December 12, 2012 protocol was not and is not a valid protocol for post-construction monitoring.</p> <p>DOC EERA noted that while Big Blue believes that the June/July 2017 Noise Study results were flawed, it reviewed the document and indicated that there were potential exceedances of the state noise standard and those exceedances could be due to the wind turbines. DOC EERA noted that in situations such as this, as contemplated the DOC’s Noise Study Protocol and Guidance document, the next step is on-off monitoring. DOC EERA noted Big Blue had filed its January 2018 Noise Study Protocol, and that it had reviewed the document.</p> <p>DOC EERA provided a detailed review of the protocol and noted it generally conformed to the DOC’s guidance. DOC EERA recommended that the most efficient path forward is for DOC EERA, Big Blue and Commission staff to implement the proposed on/off noise monitoring, however after review of the January 2018 Noise Study Protocol, it believes that additional detail is needed. DOC EERA provides several examples of additional areas of detail that would be useful (further detail regarding the planning and coordination needed for adequate data collection based on DOC EERA’s recent experience, further understanding of the contractor’s experience with on/off monitoring, among others).</p>

<sup>39</sup> DOC EERA – Comments and Recommendations, January 25, 2018

	<p>Importantly, DOC EERA noted that the lack of adequate pre-construction modeling data is a needed component to compare noise study results and in lieu of that information, predictive modeling should be conducted.</p> <p><i>Staff notes that the Commission may want to verify, following the DOC EERA's analysis, whether Big Blue is aware of whether the contractor is available or willing to perform the work as identified and clarified by DOC EERA.</i></p> <p>DOC EERA recommended that the Commission approve the on/off monitoring as required, but delegate to staff [or the Executive Secretary] the approval of the final protocol for execution.</p>
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## VI. Commission Decision Options

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### Compliance with Site Permit Condition 6.6

1. Revoke the site permit if material violations of the site permit have occurred;
2. Suspend the permit (and thereby operations) until violations of the site permit are cured, such as an on/off noise monitoring protocol being approved by the Commission; or,
3. Suspend the Big Blue Site Permit (and thereby operation) until on/off noise monitoring has been completed and reports are approved by the Commission that prove the Project can be operated in compliance with the MPCA noise standards.
4. Require Big Blue to submit a revised on/off noise monitoring protocol, developed in consultation with the DOC EERA, and require selection of a contractor that is approved by DOC EERA. Delegate to the Executive Secretary the ability to approve the protocol.

Delegate to the Executive Secretary the ability to approve the protocol. Requiring that noise protocols and studies for Big Blue be developed and conducted independently by a third party contractor and submitted directly to DOC EERA has been done in other cases. The Commission could also require final noise reports to be e-filed with the Commission directly, with restrictions placed on communications between Big Blue and the contractor (to be outlined by staff) to ensure transparent results

5. Take some other action.

### Potential False Statements Regarding the Noise Modeling of the Gamesa G97 Turbines

6. Revoke the site permit if knowingly false statements have occurred;
7. Suspend permit (and thereby operations) until noise modeling and on/off noise monitoring is submitted that shows the current turbine layout is in compliance with the MPCA noise standards;
8. Suspend the permit (and thereby operations) until modeling is submitted that shows the current turbine layout is projected to be in compliance with the MPCA noise standards. Require Big Blue to contract for a third party consultant (approved by DOC EERA) to conduct a predictive noise modeling report for the site, as-built, using data for the Gamesa G97 turbines (or in lieu of that data if it is not available, more conservative inputs). Require any modeling report to be eFiled with the Commission directly and place restrictions on communications between Big Blue and the contractor (to be outlined by staff) to ensure transparent results; or
9. Allow operations to continue and require Big Blue to contract for a third party noise modeling of the site, as-built, for the Gamesa G97 turbines (or in lieu of that data if it is

not available, more conservative inputs) within 30 days. Any modeling report should be filed with the Commission directly and restrictions placed on communications between Big Blue and the contractor (to be outlined by staff) to ensure transparent results.

10. Take some other action.

### **Complaint Reporting**

11. Staff requests the Commission authorize staff to consult with DOC EERA to develop revised complaint procedures to replace those attached to the Big Blue Site Permit issued August 17, 2011. Upon the filing of the revised complaint procedures, delegate to the Executive Secretary to require Big Blue to mail notice of the revised procedures to affected landowners (defined as those within the project boundary and adjacent to it) and to local governmental units. Big Blue also must efile an affidavit confirming that the notice was mailed as required within 30 days of the mailing.

12. Take some other action.

Staff recommendations: Option (2, 3, or 4), Option (6, 7, or 8) and Option 11.