

RESPONSES TO OPSB STAFF DATA REQUESTS/REQUESTS FOR INFORMATION

Hog Creek Wind Farm LLC,

Case Nos. 16-1422-EL-BGA and 16-1423-EL-BGA

September 15, 2016

Below are Hog Creek Wind Farm's responses for the following data requests/requests for information, which were previously submitted to Staff (responses to items 1 through 3 will be forthcoming):

4. Please provide a list of the wind turbines requiring a setback waiver, and also a map or maps (GIS layer is adequate) indicating which parcels required a waiver for setbacks, and if there is any road or railroad right-of-way within the turbine setback.

Response: *The proposed turbines needing a setback waiver are: 1, 3, 5, 6, 7, 14, 15, 18, 19, 20, 25, 26, 27, 30, and 33. Shapefiles of the parcels for which a setback waiver is required are provided as requested.*

5. Please provide a complete copy of the manufacturer's safety manual or similar document for the Vestas V110 – 2.2MW turbine model. Or please confirm that the Technical Specifications provided in Joint Exhibit 1 applies to the Vestas V110 - 2.2MW model as well.

Response: *The technical specifications in Joint Exhibit 1 apply to the Vestas V110 – 2.2 MW model as well.*

6. Are there any natural gas or hazardous liquid pipelines within the project area? A prior answer from Joseph Almady in 2011 indicated that there was natural gas distribution line that ran from Dunkirk to Dola along SR 81.

Response: *The Applicant is not aware of any natural gas or hazardous liquid pipelines, either from Ventyx data, information provided from the previous owner, or from on the ground reconnaissance.*

7. If there any natural gas or hazardous liquid pipelines within the project area, then please provide the distances to the closest wind turbines from either type or any line. A prior answer from Joseph Almady in 2011 indicated that turbine 7b was approximately 2500 feet north of this line.

Response: *See above; if there is a natural gas distribution line from Dunkirk to Dola along SR 81, the nearest turbine would be Turbine 11 approximately 3,500 feet (0.67 mile) south of SR 81 and 1.5 miles southwest of Dola. The Applicant will notify the Ohio Utilities Protection Service (8-1-1) prior to initiating construction.*

8. The analysis for “Microwave Study” (May 2016) seems to be based on incorrect wind turbine dimensions. Please provide an update or addendum to this study that accounts for the dimensions of the Vestas V110 – 2.2MW wind turbine model (where the blade rotor diameter is 110 meters and the hub height is 95 meters).

Response: *Comsearch provided the Fresnel zone for microwave paths crossing the Project Area, assuming the largest possible turbine specifications under consideration at the time, and the turbine design engineer avoided the Fresnel zone when designing the current turbine layout to avoid any impact to the microwave beam path.*

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9. Page 3 of the “Microwave Study” dated May 2016 indicates shape files are part of the report; please submit those for OPSB review.

Response: *Shapefiles were provided to Staff on September 12, 2016.*

10. Please explain how Hog Creek Wind Farm would implement the recommendations on page 5 of the “Off-Air TV Analysis” study dated May 2016.

Response: *The Off-Air TV Analysis study states that some stations may experience disruption, but that cable and satellite (which would not be disrupted) are likely dominant in this area. In the unlikely event that a resident in the Project area experiences demonstrated disruption of television service, the Applicant will provide an antenna or cable or satellite service to that resident.*

11. Please explain how Hog Creek Wind Farm would implement the recommendations of the “Land Mobile & Emergency Services Report” dated May 2016 and/or Hog Creek Wind Farm’s work with local public safety entities.

- a. The report recommends a land mobile station setback distance of 77.5 m (page 6).

Response: *The turbine design engineer has incorporated this setback into the layout and all turbines are located well beyond 77.5 meters from land mobile stations.*

- b. The report also recommends that signal coverage be improved at nearby base stations or adding repeater sites if a public safety entity believes its coverage has been compromised.

Response: *If a public safety entity believes its coverage has been compromised by the Project, the Applicant will work with the entity to improve signal coverage at a nearby base station or add repeater sites.*

12. Please update the status of Cultural Resources efforts (field work, studies, coordination, etc.) regarding the Amended projects.

Response: *The Applicant’s consultant, Tetra Tech, has contacted the Ohio Historic Preservation Office to provide an update on the Amended projects, confirm survey methods, and confirm the Applicant’s intent to honor the existing Memorandum of Agreement (MOU). On September 8, 2016, the Applicant contacted Linda Iams, director of the Hardin County Historical Museum to confirm the intent to honor the MOU.*

Tetra Tech has completed a pedestrian survey for archaeological resources and shovel testing is currently underway on approximately 25 acres where surface visibility was below 50 percent. The results of the shovel testing will be provided in approximately two weeks, and a report will be provided as soon as it is complete.

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13. On page 16 of Hog Creek I it states that the construction laydown yard (size of area required) has increased from 5 acres to 8 acres. Was this just reflecting the parcel size, or is more laydown/storage area needed? Why?

Response: *Based on previous construction projects, the Applicant's engineering and construction team conservatively estimates that 8 acres (rather than 5 acres) are required for temporary laydown/storage during construction for the full 66-MW project.*

14. Also looks like the substation size has increased from 1 to 3 acres (permanent). Can you explain?

Response: *Based on previous construction projects, the Applicant's engineering and construction team conservatively estimates that 3 acres (rather than 1 acre) are required for the permanent substation for the full 66-MW project.*

15. Please provide any coordination letters received from ODNR and USFWS regarding updates and redesign of the project.

Response: *The Applicant held a meeting with the U.S. Fish and Wildlife Service (Ohio Ecological Services Field Office) and the Ohio Department of Natural Resources on April 26, 2016. The purpose of the meeting was to update the agencies on the project and to discuss wildlife issues and surveys conducted to date. Meeting notes were provided to the agencies on May 5, 2016; see Attachment A.*

Based on past surveys, general lack of habitat at the site, and updated information on eagle nests at the site, it is the Applicant's understanding that the ODNR and USFWS do not recommend additional surveys at this time. The Applicant intends to coordinate with the ODNR and USFWS to address potential impacts to listed bats during migration.

September 12, 2015 Follow Up Question

16. In regards to the collector line system and access roads, do you have an estimate of how many miles of access road was going to be utilized in Hog Creek I and II and how many miles are proposed now? Please supply the same breakdown for collector lines, and a comparison in miles of approved vs proposed.

Response: *In the amended applications, Applicant included 57,095 linear feet of new access roads and 68,992 linear feet of underground collection lines (from Table 03-1, combining those collection lines co-located with crane paths and those that are not). This equates to 10.8 miles of new access roads and 13.1 miles of underground collection lines.*

For comparison, the Second Amendment Application for Hog Creek 1 assumed 38,810 linear feet of new access roads and the First Amendment Application for Hog Creek 2 assumed 13,709 linear feet of new access roads. This totals 52,519 linear feet, or 9.9 miles. This was the estimate for the REpower MM100 layout.

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For collection lines, the Second Amendment Application for Hog Creek 1 assumed 74,337 linear feet of collection lines and the First Amendment Application for Hog Creek 2 assumed 16,614 linear feet of collection lines. This totals 90,951 linear feet, or 17.2 miles (also REpower MM100 layout).

The table below provides the quick summary of the explanation above.

Proposed Project Infrastructure	Approved (Hog Creek 1 +2)	Proposed
Access Roads	9.9 miles	10.8 miles
Collection Lines	17.2 miles	13.1 miles

Anne-Marie Griger

From: Anne-Marie Griger
Sent: Wednesday, September 07, 2016 2:56 PM
To: Anne-Marie Griger
Subject: FW: April 26, 2016 Hog Creek Meeting Notes and Follow-up

From: Rhett Good [<mailto:rgood@west-inc.com>]
Sent: Thursday, May 05, 2016 1:58 PM
To: Jennifer Norris; Keith Lott
Cc: Mason Sorenson; Sean Flannery
Subject: April 26, 2016 Hog Creek Meeting Notes and Follow-up

Hello Jennifer and Keith,

We wanted to thank you again for taking the time last week to review the Hog Creek project with us. I wanted to follow-up on Jennifer's request and provide you with a google earth file representing the project boundary (See attached). I have also attached a copy of our notes from the meeting.

Based on past surveys, general lack of habitat at the site, and updated information on eagle nests at the site, it is our understanding that the ODNR and USFWS are not recommending additional surveys at this time. We understand that potential impacts to listed bats during migration will need to be considered, and we look forward to coordinating with you further to address that issue. Please let us know if you have any questions.

--

Rhett E. Good

Research Biologist / Senior Manager



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MEETING NOTES

SUBJECT: Wildlife Coordination		
PROJECT: Hog Creek	MEETING LOCATION:	USFWS Ohio Ecological Services Field Office Columbus, Ohio
MEETING DATE: April 26, 2016		

ATTENDEES

Rhett Good, WEST
Sean Flannery, RES
Mason Sorenson, RES

Keith Lott, U.S. Fish and Wildlife Service
(USFWS)
Jennifer Norris, Ohio DNR

TOPICS DISCUSSED

RES and WEST held a meeting with the USFWS and ODNR to discuss wildlife issues associated with the Hog Creek Wind Energy Project. A summary of the discussion is included below:

- Introductions
 - RES gave background on the company
- Hog Creek Wind Farm
 - Project Overview
 - Hardin County, OH
 - 66.7 MW
 - Project originally developed by JW Great Lakes, a subsidiary of Juwi. Project purchased by RES from Juwi in February of 2016
 - Previously received OPSB permit in 2010; will be submitting amendment to OPSB in May due to use of new turbine technology. Project facilities will be located within the previously studied project boundary
 - This was the first project in Ohio to sign the voluntary cooperative agreement with the ODNR
 - Project is 5,254 acres in size; 98% cultivated agriculture and developed areas per the National Landcover Data set. NLCD shows 84 forested acres in the project.
 - RES plans to construct and then sell the project to an operator
- Previous Wildlife Surveys (2008 – 2010)
 - Review of Christmas Bird Count Data, Breeding Bird Survey Data, and Natural Heritage Database Search completed in 2008 – Analogous to a Tier 2 Investigation
 - Diurnal Bird/Raptor Migration Survey (2x per week) completed from October 9 – 31, 2008
 - Avian survey completed on May 6, 7 and 18, 2010
 - Northern harrier nesting surveys completed March 26 and 27, and April 28 and 29, 2009, and May 6, 7 and 18, 2010
 - NOHA, LEFL, DEJU observed during migration
 - NOHA nests absent

- Raptor migration rates were low
- No acoustic bat surveys were completed; JW Great Lakes agreed to feather up to 4.0 m/s in lieu of acoustic bat surveys
- Raptor Nest Surveys – completed March 2016.
 - No Eagle Nests observed. 9 Active RTHA; 5 inactive buteo nests; 1 GHOW nest observed
 - Survey completed within 1 – 2 miles of project boundary, and exceeded ODNR recommendations for nest surveys.
 - Project falls within the low survey; Surveys completed to date exceed ODNR and USFWS recommendations for wildlife surveys
- ODNR Coordination History
 - May 4, 2009 - Signed Ohio DNR Cooperative Agreement
 - June 24, 2009 - Requested updated Natural Heritage information from the ODNR for Phase I.
 - July 15 – 2009 - ODNR provides updated Natural Heritage information for Phase I
 - February 1, 2010 – ODNR provides letter stating the project is located in a minimum survey effort area and “DOW feels as though this site poses a minimum threat to Ohio’s wildlife resources”
 - May 14, 2010 – Requested updated Natural Heritage information from the ODNR for Phase II.
 - June 15, 2010 – ODNR provides updated Natural Heritage information for Phase II.
- USFWS Consultation History
 - July 14, 2009 – Requested coordination letter and updated rare/sensitive habitat information from the USFWS.
 - September 18, 2009 – USFWS issues letter to OPSB stating project has “worked collaboratively with the Service to address potential wildlife, habitat, and natural resources issues ...”, that no suitable habitat for Indiana bat habitat is present, and “we do not believe the site poses a substantial threat to migratory birds or their habitat, though a limited amount of mortality to migratory birds should be expected to occur.”
 - April 20, 2010 – USFWS provides e-mail stating that no additional surveys needed for the Hog Creek Phase II expansion area, and USFWS is currently evaluating appropriate methods to address take of migratory Indiana bats.
- USFWS Feedback
 - No known eagle nests occur near the project
 - No Indiana bat records and associated buffers intersect the project
 - No records of eastern massasauga or habitat in the project
 - Project lacks suitable habitat for bats and a mist-net survey is not recommended
 - Indiana bats are likely to migrate through the project. Developers have the following options to address potential impacts during migration:
 - Develop a project specific HCP
 - Develop a HCP based on the MSHCP
 - Avoid take by following TAL guidelines (feathering up to 6.9 m/s during the spring and fall)
 - USFWS will issue a revised comment letter to RES and OPSB due to the length of time since the previous consultation
 - USFWS agreed that additional surveys were not needed for Hog Creek.

- ODNR Feedback
 - The Cooperative agreement provides a means for developers to comply with state laws protecting wildlife. If developers do not sign an agreement they may face restitution penalties for bird and bat mortality
 - Existing cooperative agreement can be revised based on more current information regarding impacts to birds and bats
 - ODNR will allow Hog Creek to utilize the Option B protocol for post-construction monitoring
 - A permit is needed if roadkill or other carcasses are removed from the site for eagle mitigation
 - ODNR requests that RES send a project shapefile for their use in evaluating the project
 - ODNR agreed that no further surveys are needed for Hog Creek
- Next Steps
 - RES commits to on-going coordination as the project moves forward through the OPSB amendment process.

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Summary: Response of Hog Creek Wind Farm LLC to OPSB Staff Data Requests/Requests for Information electronically filed by Teresa Orahoud on behalf of Sally W. Bloomfield