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September 15, 2016

VIA HAND DELIVERY

Jon Whitis
Public Utilities Commission of Ohio
180 East Broad Street, 11th Floor
Columbus, OH 43215-3793

Re: Condition / Commitment Compliance
Case No. 13-1177-EL-BGN
Case No. 13-1768-EL-BTX

Dear Jon:

Please find attached copies of various documents submitted by Hardin Wind LLC related to the Certificate of Environmental Compatibility and Public Need for the Scioto Ridge Wind Farm (Case No. 13-1177-EL-BGN) and the Scioto Ridge Transmission Line (Case No. 13-1768-EL-BTX). The Commitments and Conditions for which this notice is being provided and the public documents submitted to Staff, as applicable, are listed below.

- Condition 7 (Case No. 13-1177-EL-BGN) and Commitment 8 (Case No. 13-1768-EL-BTX) – Vegetation Management Plan (Vegetation Management Plan attached)
- Commitments 21 and 22 (Case No. 13-1177-EL-BGN) – Microwave Study and documentation of no impacts to microwave paths (Wind Power GeoPlanner™ Microwave Study attached)

Thank you for your attention to this matter.

Sincerely,

Michael J. Settineri
Attorney for Hardin Wind LLC

MJS/naw
cc: Barcy McNeal, PUCO

VORYS

Legal Counsel

Jon Whitis

September 15, 2016

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Enclosures

Scioto Ridge Wind Farm Vegetation Management Plan

Developed by:

Hardin Wind LLC

September 2016

Introduction

Hardin Wind LLC (Hardin Wind) has obtained a Certificate from the Ohio Power Siting Board (OPSB) for the construct a wind-powered electric generation facility, a substation, and 345 kV transmission line (collectively the “Project”). Within the Staff report and the list of commitments, there are requirements regarding development of a Vegetation Management Plan (VMP). The VMP will be in place starting at commencement of construction and will continue for the life of the Project.

Hardin Wind’s overarching objective of the VMP is to ensure compliance with all related conditions in its Certificates and to efficiently and safely construct and operate the Project in a manner that minimizes impacts to vegetation and manages maintained vegetated areas so that they provide maximum wildlife benefit.

Goals of the Vegetation Management Plan

The goals of the VMP are:

- Identify all areas of proposed vegetation clearing during construction
- Ensure vegetation clearing is minimized to the extent practical
- Protect vegetation during construction, operation and maintenance
- Identify disposal methods of cleared vegetation
- Control and management invasive species
- Identify planned use of herbicides
- Ensure danger trees and vegetation are managed to provide for safe and reliable electric generation

Vegetation clearing locations and minimization

Through careful siting and design of the Project, vegetation clearing anticipated due to construction of the Project has been minimized to the extent practical. It is expected that many small areas of clearing can be further minimized and/or avoided because they are on the edges of the vegetation clearing widths. No additional clearing is expected during construction and maintenance activities except when a danger tree exists that poses a safety concern to the transmission line.

Appendix A will provide an overview map of the areas to be cleared of trees and woody shrub vegetation based on the final limits of disturbance approved in the NPDES permit. It is not practical to capture every single shrub that might be cleared due to construction of the Project (i.e. very narrow fence-rows), but this map shows almost all of the areas of vegetation clearing may be conducted. During final design and engineering, the contractor will be instructed to minimize vegetation clearing to the extent practical. This VMP will be appended to the Balance of Plant (BOP) construction contract to ensure it is implemented and clearing work minimized. The BOP will be required to mark the limits of disturbance and vegetation clearing using orange

flagging or similar to ensure that these areas are marked prior to construction work commencing at a specific location in order to avoid and minimize unintended vegetation clearing. This is the standard best management practice for field marking the extent of clearing and ensure woody vegetation clearing is minimized.

As shown in Appendix A, extensive removal of woody vegetation is not planned as vegetation removal is limited to very narrow sections of vegetation that landowners may desire to plant following Project construction, therefore targeted replanting of low-growing woody vegetation is not planned.

Protection of vegetation

As discussed previously, the overall amount of vegetation is very low and no additional vegetation clearing is anticipated during Project operations and maintenance. Absent a danger tree or felled vegetation, there is not an expected need for ongoing vegetation clearing during Project operation and maintenance. This is due to the Project being located primarily in agricultural lands, so the site will be reclaimed almost exclusively back to active farmland, which will preclude the growth of woody vegetation growing back. At locations such as fencerows and stream crossings where woody vegetation will be allowed to grow back where the impact is only underground collection.

During construction the limits of areas of vegetation clearing and disturbance will be marked with orange flagging or similar to ensure vegetation clearing is clear to all workers operating heavy machinery, which will serve to protect trees and other woody vegetation from unintended damage. Through careful Project siting and design all impacts to wetlands have been avoided. Wetlands impacts have been avoided through the use of boring, which serves to avoid any clearing of trees and woody vegetation within wetlands. Of the 7 Project stream crossings, only one has trees that will need to be cleared.

During Project construction, operation and maintenance activities, Project equipment and vehicles shall avoid moving within the ROW such that additional tree clearing to the minimum necessary is required. For instance, Project equipment and vehicles should access a transmission line pole from a previously cleared entrance route, rather than access through a route that has trees and vegetation that have not been previously cleared.

Lastly, the environmental specialist will be made aware of this VMP and will be on-site during construction to ensure vegetation is protected to the extent practical and will be instructed to take photographs of cleared areas and to document vegetation clearing limits and flagging. The environmental specialist will have the authority to make recommendations to the BOP on minor changes that could avoid or minimize vegetation clearing.

Cleared vegetation disposal

The BOP will be required to specify the methods to be used to dispose of cleared vegetation. Because of the minor amount of vegetation clearing at the Project, cleared vegetation will not be hauled offsite. The various options for disposal of cleared vegetation include:

- Stacking of cleared trees for landowner use based on landowner requests
- Burning
- Stacking into wind rows for wildlife habitat and hedgerows
- Chipping and using for stabilization

Invasive species control

Subject to any Ohio Environmental Protection Agency NPDES permit requirements and conditions, ground disturbance shall be restored using native seed mixes. It should be noted that most disturbed areas will return to their original active agricultural condition. During the growing season, after the Project's commercial operation date, the Project will be assessed for presence of invasive species within areas cleared of trees and woody vegetation and, if invasive species are present, mechanical and/or chemical best management practices will be recommended to control and minimize the spread of invasive species.

If areas containing invasive species are encountered, then appropriate treatment and removal methods may be recommended by the environmental specialist. Specific disposal and treatment methods for removed plant material will be determined based on the density and quantity of invasive species encountered, and may include herbicide treatment, provided the infestation is not located adjacent to a stream or wetlands. Herbicides will be chosen based on their ability to control the specific invasive species identified and are registered for their respective ecosystems. Any herbicide spot treatments would be applied by a Certified Commercial Pesticide Applicator, Commercial Pesticide Technician, or a Private Pesticide Applicator in accordance with Ohio Environmental Protection Agency and federal Environmental Protection Agency registered and approved herbicides.

If invasive species management is recommended and performed, a follow-up inspection of the treated areas will occur two years after the treatment to evaluate the success of the treatment and make recommendations on further invasive species control actions.

Tree and vegetation safety

Trees growing along the cleared transmission line boundaries and woody vegetation growing within the transmission line ROW and collection line ROW will need to be occasionally pruned and/or mowed. Pruning of trees will take precedence over cutting of entire trees. Pruning will be conducted according to *ANSI A300 (Part 1)-2001 Pruning American National Standard for Tree Care Operations – Tree, Shrub, and Other Woody Plant Maintenance – Standard Practices (Pruning)*.

This ANSI Standard describes the proper pruning techniques recommended for line clearance work to provide for safe and reliable electric service while retaining the integrity of the trees. The pruning standard is described as 'lateral', 'directional', or 'natural pruning' and corresponds to the practice of cutting an interfering branch back to the "branch bark ridge" of the main branch or tree trunk. The "branch bark ridge" is a slightly elevated bulge denoting where branch growth

separates from the rest of the tree, and is the point where a tree would naturally shed a branch and produce chemicals to ward-off insects and fungi. The arborist is instructed to prune a tree branch at this point to direct future branch growth away from the energized conductors, and allow the branch to remain healthy. This is in contrast to arbitrary cuts at any point along a branch, which is termed "topping", "tipping", or "stubbing".

Because the transmission line will be a 345 kV line, it is subject to the North American Electric Reliability Corporation's Reliability Standard for vegetation management on tree trimming in ROWs. The Project will be required to follow the Reliability Standard FAC-003-2 or as updated.

To avoid the need for expensive and loud mowing activities, targeted herbicide applications for tall-growing woody species with the transmission line ROW may be conducted. Herbicides will not be used for widespread control of vegetation growth and will not be used in proximity to waters and wetlands and must be used with approval from the Ohio EPA, as necessary. No herbicide use is planned near surface waters during initial Project construction or future ROW maintenance. In these areas, mechanical vegetation controls will be utilized.

The transmission line ROW will be inspected annually, at a minimum, to check for any danger trees or other vegetation problems. The collection line ROW will be inspected as needed and focused on areas not replanted with agricultural crops to check for any woody vegetation issues.

Summary

The Project will be managed according to the most professionally recognized methods of vegetation management. This vegetation management will allow for the safe and reliable transmission of electricity while providing for the maximum protection of trees and other vegetation. The selective use of registered herbicide products will allow for natural regeneration of desirable low growing plants in the transmission line ROW without the need for landscaping or introduction of exotic plants.

Appendix A: Clearing Maps (to be added)

Appendix B: Typical Clearing Pictures



Trees to be cleared at collection substation location



Typical fence row trees to be cleared for an access road

Wind Power GeoPlanner™

Microwave Study

Scioto Ridge Wind Farm



Prepared on Behalf of
Hardin Wind, LLC

April 12, 2016



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1. Introduction

Microwave bands that may be affected by the installation of wind turbine facilities operate over a wide frequency range (900 MHz – 23 GHz). Comsearch has developed and maintains comprehensive technical databases containing information on licensed microwave networks throughout the United States. These systems are the telecommunication backbone of the country, providing long-distance and local telephone service, backhaul for cellular and personal communication service, data interconnects for mainframe computers and the Internet, network controls for utilities and railroads, and various video services. This report focuses on the potential impact of wind turbines on licensed, proposed and applied non-federal government microwave systems

2. Project Overview

Project Information

Name: Scioto Ridge Wind Farm

County: Hardin and Logan

State: Ohio

Number of Turbines: 105

Blade Diameter: 117 meters

Hub Height: 91 meters



Figure 1: Area of Interest

3. Fresnel Zone Analysis

Methodology

Our obstruction analysis was performed using Comsearch's proprietary microwave database, which contains all non-government licensed, proposed and applied paths from 0.9 - 23 GHz¹. First, we determined all known microwave paths that intersect the area of interest² and listed them in Table 1. These paths and the area of interest that encompasses the planned turbine locations are shown in Figure 2.

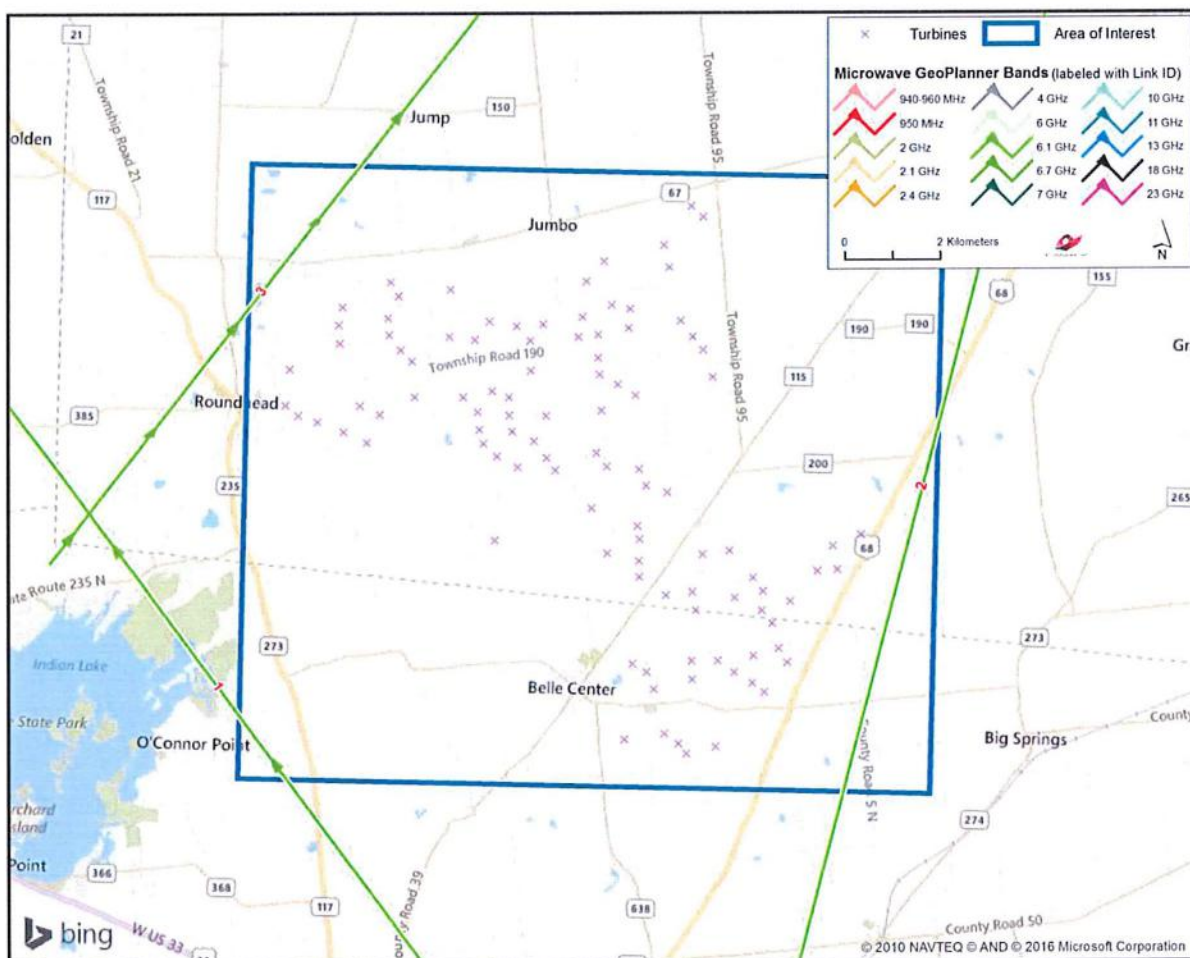


Figure 2: Microwave Paths that Intersect the Area of Interest

¹ Please note that this analysis does not include unlicensed microwave paths or federal government paths that are not registered with the FCC.

² We use FCC-licensed coordinates to determine which paths intersect the area of interest. It is possible that as-built coordinates may differ slightly from those on the FCC license.

| ID | Status | Callsign 1 | Callsign 2 | Band | Path Length (km) | Licensee |
|----|----------|------------|------------|-------------|------------------|------------------------------------|
| 1 | Licensed | KQJ89 | WNTS208 | Lower 6 GHz | 52.78 | American Electric Power Service Co |
| 2 | Licensed | WPUG341 | WQNK793 | Lower 6 GHz | 39.08 | W.A.T.C.H. TV Company Inc. |
| 3 | Licensed | WQVZ662 | WQVZ800 | Lower 6 GHz | 24.19 | Agile Network Builders LLC |

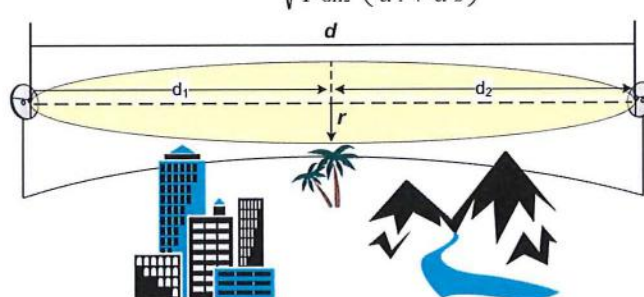
Table 1: Summary of Microwave Paths that Intersect the Area of Interest

(See enclosed *mw_geopl.xlsx* for more information and
GP_dict_matrix_description.xls for detailed field descriptions)

Discussion of Coordinate Accuracy

The microwave path coordinates are based on the FCC licensed parameters for each path. In accordance with FCC regulation, these coordinates are required to be within (+/-) 1 second of the measured coordinates. This is the standard acceptable accuracy limit. For Scioto Ridge Wind Farm, all the turbines were found to be at least 985 meters away from the microwave paths. Therefore, the variation on the coordinate accuracy within the standard limit will not affect the result.

Next, we calculated a Fresnel Zone for each path based on the following formula:

$$r \cong 17.3 \sqrt{\frac{n}{F_{GHz}} \left(\frac{d_1 d_2}{d_1 + d_2} \right)}$$


Where,

- r = Fresnel Zone radius at a specific point in the microwave path, meters
- n = Fresnel Zone number, 1
- F_{GHz} = Frequency of microwave system, GHz
- d_1 = Distance from antenna 1 to a specific point in the microwave path, kilometers
- d_2 = Distance from antenna 2 to a specific point in the microwave path, kilometers

In general, this is the area where the planned wind turbines should be avoided, if possible. A depiction of the Fresnel Zones for each microwave path listed can be found in Figure 3, and is also included in the enclosed shapefiles^{3,4}.

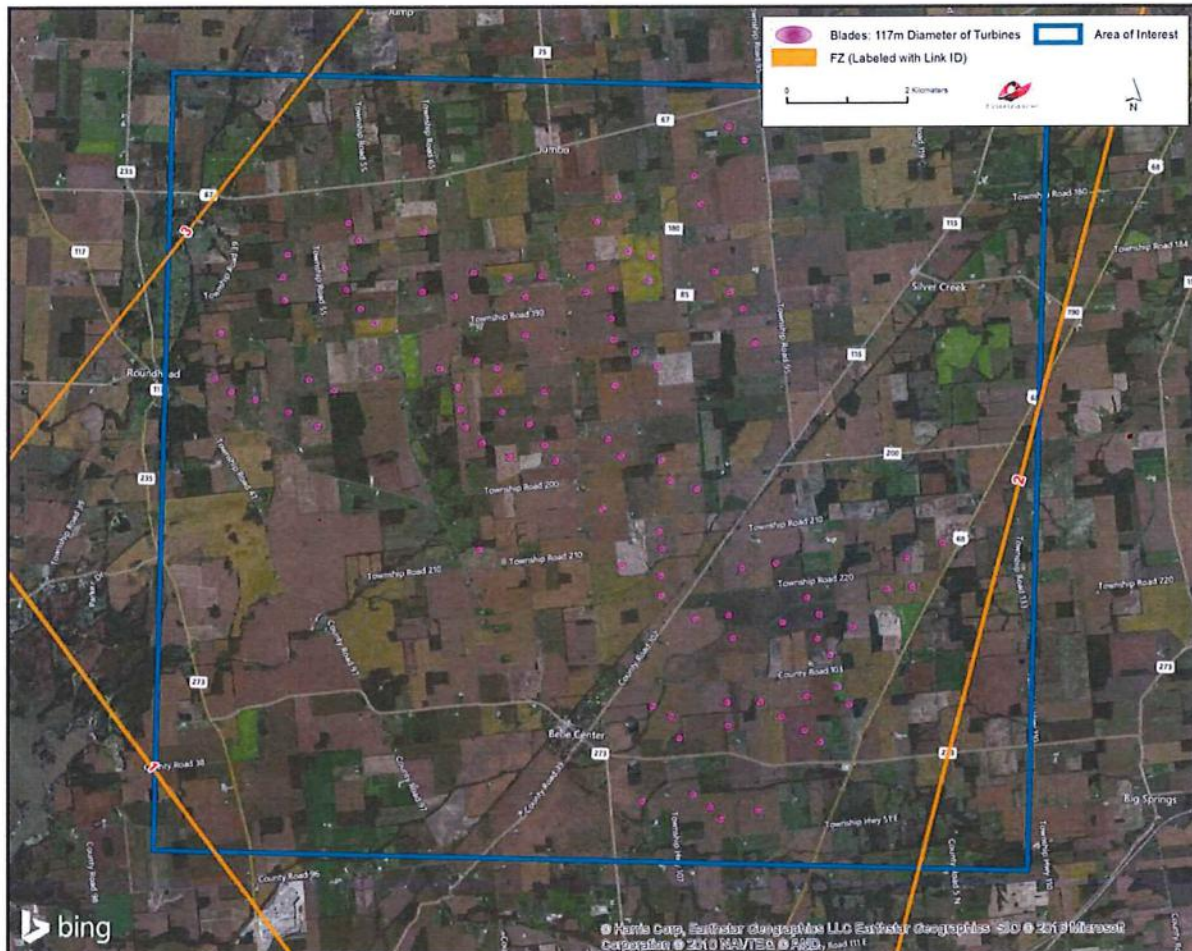


Figure 3: Microwave Paths with Fresnel Zones

³ The ESRI® shapefiles enclosed are in NAD 83 UTM Zone 17 projected coordinate system.

⁴ Comsearch makes no warranty as to the accuracy of the data included in this report beyond the date of the report. The data provided in this report is governed by Comsearch's data license notification and agreement located at http://www.comsearch.com/files/data_license.pdf.

4. Conclusion

| Total Microwave Paths | Paths with Affected Fresnel Zones | Total Turbines | Turbines intersecting the Fresnel Zones |
|-----------------------|-----------------------------------|----------------|---|
| 3 | 0 | 105 | 0 |

Table 2: Fresnel Zone Analysis Result

Our study identified three microwave paths intersecting the Scioto Ridge Wind Farm area of interest. The Fresnel Zones for these microwave paths were calculated and mapped in order to assess the potential impact from the turbines. A total of 105 turbines were considered in the analysis, each with a blade diameter of 117 meters and turbine hub height of 91 meters. Of those turbines, none were found to be within 1,000 feet of the worst-case Fresnel Zone of the microwave system and they will have no potential obstruction with the microwave system in the area.

5. Contact

For questions or information regarding the Microwave Study, please contact:

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Summary: Correspondence - Condition / Commitment Compliance electronically filed by Mr. Michael J. Settineri on behalf of Hardin Wind LLC