Application of Trishe Wind Ohio, LLC

For an Amendment of its

Certificate of Environmental Compatibility and Public Need

Ohio Power Siting Board
Case No. 16-343-EL-BGA

Submitted by
Trishe Wind Ohio, LLC

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February 18, 2016

Via Hand Delivery

Ms. Barcy McNeal
Administration/Docketing
Ohio Power Siting Board
180 East Broad Street, 11th Floor
Columbus, Ohio 43215-3793

Re: Trishe Wind Ohio, LLC
Case No. 16-343-EL-BGA

Dear Ms. McNeal:

Enclosed for filing in the above-referenced case is a copy of the Application Trishe Wind Ohio, LLC for an Amendment to its Certificate of Environmental Compatibility granted December 16, 2013 in Case No. 13-197-EL-BGN. In addition, we have provided Staff of the Ohio Power Siting Board ("Board") ten disks and five hard copies of the Application. Pursuant to Ohio Administrative Code Rule 4906-3-11(B), the Applicant makes the following declarations:

Name of Applicant:
Trishe Wind Ohio, LLC, whose sole owner is
Starwood Energy Group Global, Inc.
706 Second Avenue South, Suite 1200
Minneapolis, MN 55402

Name/Location of Proposed Facility:
Northwest Ohio Wind Energy Wind Farm
Townships of Blue Creek and Latty
Paulding County, Ohio

Authorized Representative Technical:
Matthias Weigel
Trishe Wind Ohio, LLC
706 Second Avenue South, Suite 1200
Minneapolis, MN 55402
Telephone: (612) 226-7936
E-Mail: matthias.weigle@gmail.com

Authorized Representative

Legal: Sally W. Bloomfield
Dylan F. Borchers
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Columbus, OH 43215
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Facsimile: (614) 227-2390
E-Mail: sbloomfield@bricker.com
dborchers@bricker.com

Notarized Statement: See Attached Affidavit of Himanshu Saxena, on behalf of Trishe Wind Ohio LLC

Sincerely on behalf of
TRISH WIND OHIO, LLC

Sally W. Bloomfield

Enclosure

BEFORE
THE OHIO POWER SITING BOARD

In the Matter of the Application of **TRISH WIND OHIO, LLC** for an Amendment to its Certificate to Install and Operate a Wind-Powered Electric Generation Facilities in Paulding County, Ohio	)))))	Case No. 16-343-EL-BGA

AFFIDAVIT OF HIMANSHU SAXENA, TRISH WIND OHIO, LLC

STATE OF CONNECTICUT :
: ss
COUNTY OF FAIRFIELD :

I, Himanshu Saxena, being duly sworn and cautioned, state that I am over 18 years of age and competent to testify to the matters stated in this affidavit and further state the following based upon my personal knowledge:

1. I am executing this affidavit on behalf of Trishe Wind Ohio, LLC, as I am so authorized.

2. I have reviewed the Trishe Wind Ohio, LLC Application for an Amendment to its Certificate to Install and Operate a Wind-Powered Electric Generation Facility in the above referenced case.

3. To the best of my knowledge, information and belief, the information and materials contained in the above-referenced Application are true and accurate.

4. To the best of my knowledge, information and belief, the above-referenced Application is complete.

Himanshu Saxena

Sworn to before and signed in my presence this 16th day of February 2016.

Notary Public

[SEAL] OLGA L. BRUCE NOTARY PUBLIC OF CONNECTICUT My Commission Expires November 30, 2019 Date: 2/16/16

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BEFORE THE OHIO POWER SITING BOARD
Amended Application of Trishe Wind Ohio, LLC
Table of Contents

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LIST OF FIGURES

List Project Schedule, maps, photographs, renderings, isopleths or other figures referenced in the application.

No change

LIST OF TABLES

List all Tables referenced, such as sound levels, wildlife observations, recreational areas, etc.

Other than:

No change.

LIST OF ATTACHMENTS or APPENDICIES

Other than:

Supplemental Appendix E	Wind Energy Turbine Manufacturer Information
Supplemental Appendix F	Wind Energy Turbine Manufacturer Safety Manuals
Supplemental Appendix I	Acoustic Assessment
Supplemental Appendix J	Shadow Flicker Assessment
Supplemental Appendix K	Shadow Flicker Maps
Supplemental Appendix S	Visual Impact Assessment

No change.

GLOSSARY

AEP – AEP Energy

AEPS – Alternative Energy Portfolio Standard

BAT – Best Available Technology

BMP – Best Management Practice

CECPN – Certificate of Environmental Compatibility and Public Need

CFR – Code of Federal Regulations

dB – decibels

DOE – United States Department of Energy

FAA –Federal Aviation Administration

FEMA – Federal Emergency Management Agency

FERC – Federal Energy Regulatory Commission

GIS – Geographic Information System

HDD – Horizontal Directional Drilling

MW – megawatt

NAAQS – National Ambient Air Quality Standard

NWI – National Wetlands Inventory

NCDC – National Climatic Data Center

NLCD – National Land Covered Data

NPDES – National Pollutant Discharge Elimination System

NRHP – National Register of Historic Places

NSPS – New Source Performance Standards

NSA – Noise Sensitive Areas

NWOWE – Northwest Ohio Wind Energy, LLC

O&M – Operations and Maintenance

OAC – Ohio Administrative Code

ODNR – Ohio Department of Natural Resources

ODNR DOW – Ohio Department of Natural Resources Division of Wildlife

ODOT – Ohio Department of Transportation

Ohio EPA – Ohio Environmental Protection Agency

OHPO – Ohio Historic Preservation Office

OPSB – Ohio Power Siting Board

OWI – Ohio Wetlands Inventory

PPA – Power Purchase Agreement

PTC – Production Tax Credit

PTI – Permit to Install

PUCO – Public Utilities Commission of Ohio

ROW – Right-of-Way

SPCC – Spill Prevention, Control & Countermeasures Plan

SWPPP – Storm Water Pollution Prevention Plan

USACE – United States Army Corps of Engineers

USDA – United States Department of Agriculture

USEPA - United States Environmental Protection Agency

USFWS – United States Fish and Wildlife Service

USGS - United States Geological Survey

WWH - Warm Water Habitat

4906-17-02 Project Summary and Facility Overview

The Applicant is aware that the new rules are in effect, but inasmuch as the Application to which this Amendment refers was filed under the rules in existence before December 11, 2015, this Amendment application tracks the designations of the older rules. Applicant believes that it has addressed anything that is substantively necessary in the new rules.

(A) PROJECT SUMMARY AND OVERVIEW OF THE PROPOSED PROJECT

Trishe Wind Ohio, LLC (the "Applicant") is proposing to construct up to 100 megawatts (MW) in nameplate capacity of wind-powered energy generation in northwestern Ohio, specifically in portions of Blue Creek and Latty Townships and the Village of Haviland in Paulding County (the "Facility"). Trishe Wind Ohio, LLC is controlled by affiliates of Starwood Energy Group Global, LLC ("Starwood"). Starwood employs the services of top-tier industry consultants in the development of the project, notably, AWS Truepower, DNV GL Inc., Bricker and Eckler, Burns & McDonald, CH2MHILL, EAPC Engineers, Resource Systems Group, Inc. ("RSG"), Sidley Austin LLP, Barr Engineering, MN Wind Consultants ("MN Wind") and Westwood Professional Services, Inc. ("Westwood").

(1) General Purpose of the Facility

No change.

(2) Facility Description

The Facility will be located within an approximately 21,000-acre Project area in portions of Blue Creek and Latty Townships and the Village of Haviland in Paulding County. Land use within in the Project area is almost exclusively agricultural. Land lease and wind easements have been signed with approximately 274 landowners/signatures representing approximately 12,750 acres of land. Sufficient land is under lease to build the project. A further breakdown of the land use types within the Project area is provided in Section 4906-17-08(C)(1).

Applicant is proposing to install up to 50 wind turbines which will be placed in 50 of the currently permitted 60 locations, along with all associated infrastructure, including underground collection lines, access roads, voltage step-up facility, a temporary staging and construction laydown area, possibly a temporary concrete batch plant and an operation and maintenance facility. The operation and maintenance facility may include either a new structure or an existing structure converted to that use. Turbine locations were provisionally sited to generate maximum efficiency within the leased area. This was accomplished by: (1) establishing developable area envelopes based on the boundaries of leased land overlaid by the applicable setbacks; (2) using computer software, generating an optimized layout for up to 60 turbines based on wind resource data collected on site; and (3) refining the optimized layout to ensure it complies with Ohio standards for sound and shadow flicker.

The Facility will interconnect to an existing 138kV American Electric Power (AEP) transmission line which runs through the southern part of the Project area. The point of interconnection (POI) is at the existing AEP Haviland substation, just south of Haviland, Ohio. Interconnection is secured through an interconnection agreement with PJM. Voltage from the 34.5 kV underground electrical collection system will be stepped up to 138 kV at a step-up transformer facility immediately adjacent to the Haviland substation, obviating the need for an overhead interconnection transmission line.

(3) Site Selection Process

No change.

(4) Principal Environmental and Socioeconomic Considerations

No change.

(a) Ecological

No change.

(b) Land Use and Community Development

No change.

(c) Socioeconomics

No change.

(d) Cultural resources

No change.

(e) Noise and Visual Impacts

Applicant commissioned noise and flicker studies and conducted visual impact studies, the results of which are presented in more detail in section 4906-17-08. Sound and visual impact concerns will be addressed through turbine placement setbacks including 750 ft. plus ½ rotor diameter from occupied residences and hub height plus ½ rotor diameter multiplied by 1.1 from property boundaries and major roadways.

(5) Project Schedule

Other than:

o PTC equity investment	Dec 2014
o Turbine down payment	Jun 2016
o Construction crew mobilization	Jul 2016
o Electric backfeed	Apr 2017
o Commercial operation date	Jul 2017

No change.

4906-17-03 Project Description and Schedule

(A) PROPOSED FACILITY DESCRIPTION

Except for nameplate capacity of turbines ranging from 2.1 MW to 3.45 MW, no change.

(1) Project Description

(a) Types of Turbines

The Facility has been designed to accommodate the following turbine models:

- Up to 50 Gamesa 2.1MW[1] turbines with 114-meter rotor diameter, 93-meter rotor hub height and 150-meter total height or
- Up to 50 General Electric (GE) 2.3MW turbines with 116-meter rotor diameter, and either an 80-meter or 94-meter rotor hub height and 138-meter or 152-meter total height.
- Up to 50 Vestas 2.1MW turbines with a 110-meter rotor diameter, and either an 80-meter or 95-meter rotor hub height and 135-meter or 150-meter total height.
- Up to 29 Vestas 3.45MW turbines with a 126-meter rotor diameter, 87-meter rotor hub height and 150-meter total height.

These turbines utilize tubular towers and are the most likely to be used due to proven track records and reliable energy output curves. Applicant's decision on turbine selection will consider multiple factors that affect project economics. These will include, but are not limited to, equipment availability from the manufacturers, electric production, equipment

[1] This turbine model was originally permitted as the Gamesa G114-2.0 but has since undergone a nameplate capacity upgrade to 2.1 MW per discussions with staff.

reliability and warranties, turbine pricing, commercial terms and installation costs.

At least 60 days before the preconstruction conference, Applicant will file a letter with the Ohio Power Siting Board (OPSB) that identifies which of the turbine models listed in the application has been selected. Applicant expects to select the turbine by the middle of 2016.

(b) Area Requirements

Except for potentially fewer access roads and less collection system, no change.

(i) Turbine Requirements

No change

(ii) Turbine Assembly Area

No change

(iii) Access Roads

Except for potentially fewer access roads, no change.

(iv) Cable Disturbance Routes

Except for potentially less collection system, no change.

(v) Temporary Staging and Construction Laydown Areas

No change

(vi) Operation and Maintenance Facility

No change

(vii) Temporary Concrete Batch Plant

No change

(2) Description of Equipment

The Facility consists of up to 50 turbines. In addition to the turbines, the Facility will include up to approximately 16.5 miles of access roads, up to approximately

31.4 miles of buried 34.5 kV electrical collection cable, voltage step-up facility, one temporary laydown yard for construction staging, an O&M facility, and up to three permanent meteorological towers. Additional information about each of these components is presented below.

(a) Wind Energy Turbines

Applicant is evaluating four turbines: General Electric (GE) 2.3-116 on either 80 or 94-meter towers, the Gamesa G114 2.1MW on 93-meter towers, and the Vestas V110 on either an 80 or 95-meter tower and the V126 on 87-meter towers.

The GE 2.3-116 2.3MW turbine is a three-blade, upwind, horizontal axis turbine with a 116-meter rotor diameter (10,568m2 swept area) for a total height of either 453 feet for the 80m hub height option or 499 feet for the 94m hub height option.

The GE 2.3-116 2.3 MW turbine has a cut in speed of 3.0m/s (rate at which electricity starts being produced) and a cut-out wind speed of 27m/s (rate at which the wind turbine automatically shuts down). The turbine reaches its rated capacity at wind speeds of 11.0 m/s.

The Gamesa G114 2.1MW turbine has a proven reliability with thousands of MWs installed worldwide and millions of operating hours. The turbine is a three-blade, upwind, horizontal axis turbine with a 114-meter rotor diameter (10,207m2 swept area) for a total height on a 93-meter tower of 150 meters or 492 feet.

The Gamesa G114-2.1MW has a cut-in wind speed of 2.5m/s. The turbine reaches its rated capacity at wind speeds of 10m/s.

The Vestas V110 2.1MW turbine is a three-blade, upwind, horizontal-axis turbine with a 110-meter rotor diameter (9,499 m^2 swept area) for a total height of either 443 feet for the 80m hub height option or 492 feet for the 95m hub height option.

The Vestas V110 2.1MW turbine has a cut in wind speed of 3.0m/s and a cut-out wind speed of 22m/s.

The Vestas V126 3.45MW turbine is a three-blade, upwind, horizontal-axis turbine with a 126-meter rotor diameter (12,463 m^2 swept area) for a total height of 492 feet with the 87m hub height option.

The Vestas V126 3.45MW turbine has a cut in wind speed of 3.0m/s and a cut-out wind speed of 22m/s.

A more detailed description of the wind turbines is provided in Section 4906-17-05 (C), Equipment.

(b) Electrical Collection System and Step-Up Facilities

No change

(c) Transmission Lines

No change

(d) Substations

No change

(e) Met Mast

No change

(f) SODAR

No change

(3) Description of New Transmission Lines

No change

(B) DETAILED PROJECT SCHEDULE

(1) Project Schedule

See Section 4906-1702 (A) (5)

(a) Land Acquisitions and Land Rights

No change

(b) Wildlife Studies/Surveys

No change

(c) OPSB Application Preparation

The amended OSPB application preparation was completed in August of 2013.

(d) OPSB Application for Certificate Submittal

Applicant submitted the amended application for Certificate to the OPSB in August 2013.

(e) Issuance of the OPSB Certificate

Applicant received the OPSB Certificate in December 2013.

(f) Preparation of Final Design

The final design is expected to be completed in the third quarter of 2016. (Note: The alternative turbines under consideration are sufficiently similar that the final design can be completed prior to the final turbine selection.)

(g) Facility Construction

Wind farm construction crew mobilization is expected in September 2016.

(h) Placement of Facility in Service

Construction is expected to be completed by July 2017.

(2) Delays

The Facility's economic viability is contingent on the federal production tax credit (PTC) which has now been extended through 2019. Applicant does not have sufficient tax liability to optimize the PTC, and will therefore seek a PTC equity investor to complement the financial obligations of the development of the Facility.

4906-17-04 Project Area Analyses

(A) SITE SELECTION STUDY

(1) General

No change

(a) Description of Study Area

No change

(b) Maps of Evaluated Sites

No change

(c) Siting Criteria

(i) High Quality Wind Resource

No change

(ii) Suitable Transmission

A large scale wind farm must be located within a reasonable distance to an interconnection point on a transmission line with sufficient capacity to allow for the economical delivery of power to customers on the transmission grid. The AEP 138kV line and 138kV Haviland substation are already located in the Project area. AEP is a member of the PJM system operator. AEP and PJM performed several interconnection and transmission studies for the Facility, and refer to it as number V1-011. This desired transmission system supports the Facility after some system upgrades. AEP and PJM made available their studies and projected upgrade costs in June 2013. Applicant, AEP and PJM executed the Facilities Construction Agreement and the Interconnection Service Agreement in September 2014, and AEP expects to be able to install all upgrades and provide backfeed power in April 2017.

(iii) Available Land and Land Use

No change

(iv) Environmental or Ecological Considerations

No change

(v) Site Accessibility

No change

(vi) Community Support

Local landowners joined together and started the project by determining the local wind resource through the purchase and installation of two 60-meter meteorological masts in May 2008. Throughout 2008, they worked with National Wind to perform feasibility studies and in October 2008, the landowners and National Wind formed Northwest Ohio Wind Energy, LLC, an Ohio limited liability corporation. Until January, 2012, Northwest Ohio Wind Energy, LLC was owned in the majority by local land-owners and investors, with important participation from the LLC's advisory board. National Wind served as the managing member and a minority owner of the project. The project and its assets were subsequently transferred to Trishe Wind Ohio, LLC and the entity was sold to affiliates of Starwood on October 20, 2014.

Throughout the development of the Facility, the advisory board had been comprised of six well-respected landowners and community leaders from each of the townships in the Project area. The board acted as a conduit for communication with the surrounding community. As the development process is now complete and the project has moved to its construction phase, the advisory board is no longer directly involved in the project although some members remain landowner participants.

(d) Relevant Factors in the Site Selection Process

No change

(e) Process for Determining Sites

No change

(2) Constraint Map

No change

(B) SUMMARY TABLE OF EVALUATED SITES

No change

(C) OPTION TO PROVIDE THE SELECTION STUDY

No change

(A) PROJECT AREA SITE

No change

(1) Geography and Topography

No change

(a) Proposed Facility – no change

(b) Major Population Centers and Geographic Boundaries – no change

(c) Major Transportation Routes and Utility Corridors – no change

(d) Bodies of Water – no change

(e) Topographic Contours – no change

(f) Major Institutions/Parks/Recreational Areas – no change

(g) Residential, Commercial Buildings and Installations – no change

(h) Air Transportation Facilities, Existing and Proposed – no change

(2) Aerial Photograph

No change

(3) Site Mapping

No change

(a) Topographic Contours – no change

(b) Existing Vegetative Cover – no change

(c) Land Use and Classifications – no change

(d) Individual Structures and Installations – no change

(e) Surface Waters – no change

(f) Water and Gas Wells – no change

(g) Vegetative Cover Removed – no change

(4) Geology and Seismology

No change

(a) Site Geology

Except for the Nationwide Permit 404 having been obtained, no change.

(b) Soil Suitability

Except for the Nationwide Permit 404 having been obtained, no change.

(c) Geologic Hazards

No change

(5) Hydrology and Wind

No change

(a) Water Budgets

i. Surface Water Resources

No change

ii. Groundwater Resources

No change

iii. Construction Water Usage

Except for the NPDES having been approved and the SWPPP developed and filed with OPSB on November 13, 2015, no change.

iv. Operation Water Usage

No change

(b) Floods and High Winds

No change

i. Floods

No change

ii. Winds

No change

(c) Maps

No change

(B) LAYOUT AND CONSTRUCTION

(1) Project Area Site Activities

(a) Test Borings

No change

(b) Removal of Vegetation

No change

(c) Grading and Drainage

Except for the SWPPP having been developed, no change.

(d) Access Roads

No change

(e) Removal and Disposal of Debris

No change

(f) Post-Construction Reclamation

No change

(2) Layout

Except for only utilizing up to 50 of the 60 permitted locations, no change.

(a) Wind-Powered Electric Generation Turbine Locations

Except for only utilizing up to 50 of the 60 permitted locations, no change.

(b) Transformers and Collection Lines – Except for reductions in both collection lines and transformers due to siting only up to 50 turbines, no change.

(c) Construction Laydown Areas – no change

(d) Transmission Lines – no change

(e) Substations – no change

(f) Transportation Facilities and Access Roads – no change

(g) Security Facilities – no change

(h) Grade Elevations – no change

(i) Other Pertinent Installations – no change

(3) Structures

(a) Estimated Overall Dimensions

Except for the tallest hub height under consideration now being 95 meters (312 feet) on the Vestas V110-2.1 and the largest rotor diameter under consideration being 126 meters (413 feet) on the Vestas V126-3.45, no change.

(b) Construction Materials

No change

(c) Color and Texture of Facing Surfaces

No change

(d) Photographic Interpretation or Artist's Pictorial Sketches

No change

(e) Unusual Features

No change

(4) Plans for Construction

No change

(5) Future Plans

No change

(C) EQUIPMENT

(1) Wind-Powered Generation Equipment

(a) Wind Energy Turbines

Applicant has not made a final determination of the turbine model. Included in Supplemental Appendix E are details of the GE 2.3 and the Vestas V110 and V126, which represent the range of additional turbine types anticipated for the Facility. Because construction crew mobilization is scheduled to begin in 2016, market factors such as availability and cost will affect this determination and could dictate use of an alternate turbine. However, the turbine ultimately selected will be essentially equivalent to those referenced above in terms of dimensions, appearance, and electrical output. Each turbine results in an operational footprint of approximately 0.065 acre, and consists of three major components: the tower sections, the nacelle, and the rotor with blades, as depicted in Supplemental Appendix E. The hub height of the additional turbine types will be a maximum of 312 feet (95 meters). The nacelle sits atop the tower, and the rotor hub is mounted to the front of the nacelle. The rotor diameter of the additional turbine types will be a maximum of 413 feet (126 meters). The total turbine height (i.e., the height at the highest blade tip position) will be a maximum of 499 feet (152 meters). Descriptions of each of the turbine

components are provided below and illustrated in Supplemental Appendix E.

No commercial signage or advertisements will be located on any turbine, tower, or related infrastructure. If vandalism should occur, Applicant will remove or abate the damage within 30 days of discovery or as extended by OPSB Staff for good cause shown, to preserve the aesthetics of the project. Any abatement other than the restoration to pre-vandalism condition is subject to review by OPSB Staff to ensure compliance with the applicable CECPN condition.

(b) Nacelle

No change

(c) Rotors

A rotor assembly is mounted to the nacelle to operate upwind of the turbine. Each rotor consists of three composite blades up to 201 feet (62 meters) in length, with a maximum rotor diameter of up to 413 feet (126 meters). The rotor attaches to the drive train at the front of the nacelle. Hydraulic motors within the rotor hub feather each blade according to wind conditions, which enables the turbine to operate efficiently at varying wind speeds. The rotor can spin at varying speeds to operate more efficiently. Depending on the turbine selected, the turbines will begin generating energy at wind speeds as low as 2.5 m/s [7-8 mph], and cut out when wind speeds reach approximately 20-25 m/s (45-56 mph). Rotor speed will be in the range of 9-17 rpm.

(d) Tower

No change

(e) Foundation

No change

(f) Electrical Components

(i) 34.5kV Electric Collection System

No change

(ii) Step-Up Facility

No change

(2) Safety Equipment

(a) Description of All Proposed Public Safety Equipment

No change

(b) Description of the Reliability of the Equipment

Except for suitable for this Facility include the GE 2.3-116, the Gamesa G114-2.1, and the Vestas **V110-2.1 and V126-3.45 no change.**

(c) Description of Turbine Manufacturer's Safety Standards.

No change

(3) Any Other Major Equipment

No change

(D) REGIONAL ELECTRIC POWER SYSTEMS

(1) Interconnection Queue

(a) Name of the Queue

No change

(b) Web Link of the Queue

No change

(c) Queue Number

No change

(d) Queue Date

No change

(2) System Studies

(a) Feasibility Study

No change

(b) System Impact Study

No change

(c) Facilities Study

Except for the fact that the facilities study was issued in 2014, no change.

4906-17-06 Financial Data

(A) OWNERSHIP

Trishe Wind Ohio, LLC is owned 100% by NWO HoldCo, LLC, an affiliate of Starwood Energy Group Global, LLC ("Starwood"). Starwood is a private investment fund with more than $2 billion under management that focuses exclusively on energy and infrastructure projects in North America. Since its founding in 2005, Starwood has developed or acquired interests in more than 4,000MW of conventional and renewable capacity. The firm has recently focused on wind development and has completed development and construction of three windfarms in the past 18 months totaling 580MW, with another 230MW currently in construction. A summary of past and present Starwood projects is below:

- Stephens Ranch I: a 211 MW wind farm which achieved COD in 2014;
- Stephens Ranch II: a 165 MW wind farm which achieved COD in 2015;
- Shannon Wind: a 204 MW wind farm which achieved COD in 2015;
- Horse Creek Wind: a 230 MW wind farm under construction with COD expected in 3Q 2016.
- Quail Run Energy Center: a 550 MW natural-gas fired combined cycle power plant in Odessa, Texas;
- Northeast Portfolio: 369 MW portfolio of three natural-gas fired facilities, one in Pennsylvania and two in New York;
- Thermo Cogeneration Partnership LP: a 272 MW combined cycle plant and greenhouse steam-host located near Denver;
- Richland and Stryker: two natural gas and oil-fired peaking facilities located near Defiance, Ohio with a total nameplate capacity of 465 MW;
- CalPeak Power, LLC: a 260 MW portfolio of five natural gas-fired peaking power plants in California;
- Starwood Midway, LLC: a 120 MW simple cycle peaking facility near Fresno, which was developed by Starwood Energy and came on-line in May 2009;

- Neptune Regional Transmission System: a 660 MW undersea power cable connecting Long Island to New Jersey;
- Hudson Transmission Partners: a 660 MW undersea power cable connecting New Jersey to New York City;
- Startrans: a regulated transmission utility holding interests in the Mead Adelanto and Mead Phoenix transmission lines in California, Nevada and Arizona;
- Starwood SSM: a ~70MW DC solar photovoltaic project located in Ontario, CA. The first 23MW phase came on line in October 2010 and the remaining capacity was brought online in Q3 and Q4 2011;
- Gainesville Renewable Energy Center: a 100MW wood biomass project in Gainesville, FL; and
- Berlin Station: a 75MW wood biomass project in Berlin, NH.

(B) CAPITAL AND INTANGIBLE COSTS

(1) Capital and Intangible Cost Estimates

No change

(2) Cost Comparison

Applicant is a special-purpose vehicle with the sole purpose to develop the Facility. Because Applicant does not have other projects in its portfolio and because its parent company, Starwood Energy Group Global, LLC, only owns and operates wind farms in Texas, the cost data presented below is the best available for this project.

In August 2012, the DOE's Office of Energy Efficiency and Renewable Energy issued the "2011 Wind Technologies Market Report".

(http://www1.eere.energy.gov/wind/pdfs/2011_wind_technologies_market_report.pdf)

In section 4 of the report, starting on page 32, the authors indicate the capacity-weighted average installed cost for wind projects from 50 to 100 MWs is approximately $2.1 million/MW (39 projects aggregating 1,404 MWs) and for

projects from 100 to 200 MWs is approximately $2.2 million/MW (56 projects aggregating 4,372 MWs). Further the authors indicate the capacity-weighted average installed cost for wind projects with turbines between 1.75 and 2.5 MWs is approximately $2.1 million/MW (142 projects aggregating 9,448 MWs). And finally, the authors indicate the capacity-weighted average installed cost for wind projects in the Great Lakes region is approximately $2.1 million/MW (34 projects aggregating 3,328 MWs).

Applicant expects the Facility to cost approximately $200,200,000.00 or approximately $2.0 million/MW. The 5 to 10% variance between the DOE's report and the Facility's expected cost may be attributable to further stagnated to depressed cost of electricity in the PJM system since the report's data from 2011, and/or other numerous macro-economic variables outside Applicant's and Applicant's parent control

(3) Tabulation of Present Worth and Annualized Capital Costs

No change

(C) OPERATION AND MAINTENANCE EXPENSES

(1) Estimate of Annual Operation and Maintenance Costs

No change

(2) Cost Comparison

Applicant is a special-purpose vehicle with the sole purpose to develop the Facility. Because Applicant does not have other projects in its portfolio and because its parent company, Starwood Energy Group Global, LLC, only owns and operates wind farms in Texas, the cost data presented below is the best available for this project.

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(http://www1.eere.energy.gov/wind/pdfs/2011_wind_technologies_market_report.pdf)

In section 4 of the report, starting on page 32, the authors indicate the capacity-weighted average installed cost for wind projects from 50 to 100 MWs is approximately $2.1 million/MW (39 projects aggregating 1,404 MWs) and for projects from 100 to 200 MWs is approximately $2.2 million/MW (56 projects aggregating 4,372 MWs). Further the authors indicate the capacity-weighted average installed cost for wind projects with turbines between 1.75 and 2.5 MWs is approximately $2.1 million/MW (142 projects aggregating 9,448 MWs). And finally, the authors indicate the capacity-weighted average installed cost for wind projects in the Great Lakes region is approximately $2.1 million/MW (34 projects aggregating 3,328 MWs).

Applicant expects the Facility to cost approximately $200,200,000.00 or approximately $2.0 million/MW. The 5 to 10% variance between the DOE's report and the Facility's expected cost may be attributable to further stagnated to depressed cost of electricity in the PJM system since the report's data from 2011, and/or other numerous macro-economic variables outside Applicant's and Applicant's parent control.

(3) Present Worth and Annualized Capital Costs

Applicant is a special-purpose vehicle with the sole purpose to develop the Facility. Because Applicant does not have other projects in its portfolio and because its parent company, Starwood Energy Group Global, LLC, only owns and operates wind farms in Texas, the cost data presented below is the best available for this project.

In August 2012, the DOE's Office of Energy Efficiency and Renewable Energy issued the "2011 Wind Technologies Market Report".

(http://www1.eere.energy.gov/wind/pdfs/2011_wind_technologies_market_report.pdf)

In section 4 of the report, starting on page 37, the authors used Berkeley Lab's compiled O&M cost data for 133 installed wind farms in the U.S., totaling 7,965 MWs of capacity, with in-service dates of 1982 through 2010. The authors then calculate an O&M cost trend for 47 wind farms with 2011 O&M

data and conclude the average O&M cost per MW-hour is approximately $10.00, with recent 2008, 2009 and 2010 data varying from the mid-$20's to approximately $4-$5 per MW-hour.

Applicant expects the Facility to be within this recent national range.

(D) DELAYS

No change

4906-17-07 Environmental Data

(A) GENERAL

No change

(B) AIR

(1) Preconstruction

(a) Ambient Air Quality

No change

(b) State/Federal New Source Performance Standards

No change

(c) List of Required Permits

No change

(d) Compliance Plans

No change

(2) Construction

No change

(C) WATER

(1) Pre-construction

No change

(2) Construction

No change

(a) Permits

Except for the fact that the Section 404 Permit was obtained, no change.

(b) Aquatic Discharges

Except for the fact that the NPDES has been obtained and the SWPPP has been prepared – no change.

(c) Mitigation Plans

A Section 404 permit is required and has been received from the U.S. Army Corps of Engineers as the Facility impacts any wetland or waters of the U.S. Permitting would be authorized under the 2012 Nationwide Permit, Activity 51: Land-Based Renewable Energy Projects. Any permanent impact over 1/10th acre requires wetland mitigation at a one-to-one ratio Permanent wetland impacts are below ½ acre.

(d) Changes in Flow Patterns and Erosion

Except for the NPDES has been obtained and the SWPPP has been prepared, no change.

(3) Operation

(a) Quantitative Flow Diagram

No change

(b) Conservation Practices

No change

(D) SOLID WASTE

(1) Preconstruction

No change

(2) Construction

(a) Debris and Solid Waste Generated

No change

(b) Storage and Disposal Methods

No change

(3) Operations

(a) Solid Wastes Generated

No change

(b) Treatment, Transport, and Disposal

No change

(4) Licenses and Permits

No change

4906-17-08 Social and Ecological Data

(A) HEALTH AND SAFETY

(1) Demographic Characteristics

No change

(2) Noise

No change

(a) Construction Noise Levels

No change

(i) Dynamiting activities

No change

(ii) Operation of earthmoving equipment

No change

(iii) Driving of piles

No change

(iv) Erection of structures

No change

(v) Truck traffic

No change

(vi) Equipment installation

No change

(b) Operational Noise Levels

Applicant's consultant RSG performed sound impact analysis for all preliminary turbine layouts using sound data supplied by the turbine manufacturers, collected wind data, site topography and ad-

jacent operational wind farms and is included as Supplemental Appendix I. It should be mentioned that regardless of turbine nameplate capacity, a total of 50 turbine locations were included in this study for each model, so actual noise levels for the various turbine options will be in some cases far lower once the final lay-out for the appropriate turbine is selected. Local obstacles such as trees and buildings may further attenuate sound and lessen impact, but were not included in the model. Sound modeling was done using the ISO-9613-2 general method for calculating the attenuation of sound outdoors. Modeling used the sound power for each turbine that corresponds to the maximum sound power for that turbine (10 m/s for the GE 2.3-116/80, 10 m/s for the GE 2.3-116/94, 11.2 m/s for the Vestas V110-2.1/80, 11.5 m/s for the Vestas V110-2.1/95 and 11 m/s for the Vestas V126-3.45/87), along with downwind sound propagation conditions from each source. A ground absorption factor of G = 0.5 was used. The ground absorption factor indicates the acoustical reflectiveness of the ground. Soft, porous ground (G = 1), such as foliage, absorbs sound while hard non-porous ground (G = 0), such as pavement or water, reflects sound. G = 0.5 indicates mixed ground.

Operational locations and turbine information from the adjacent Blue Creek and Timber Road wind farms were specifically included in the model. It is of note that four turbines initially planned for Blue Creek were not in fact installed in locations close to Ohio State Route 114, and these have been omitted for purposes of the restudy. The modeled maximum L50 sound level at any receptor within the Project area for a single turbine using the above assumptions is shown in Table 8-5:

Table 8.5: Cumulative Modeled Maximum Sound Levels: Turbine Sound [dB(a)]		
Turbine Model	**Participant dB(A)**	**Non-Participant dB(A)**
GE 2.3-116/80	47	47
GE 2.3-116/94	48	47
Vestas V110-2.1/80	47	47
Vestas V110-2.1/95	47	47
Vestas V126-3.45/87	47	47

The results of the cumulative sound impact analysis indicate the sound impact for the turbine layouts is lower than 50 dB(A). A 50 dB(A) sound level is less than is typically encountered in conversational speech or in a library setting. Information in Supplemental Appendix I show 40, 45, and 50 dB(A) cumulative sound lines for the turbine layout.

During operation of the Facility, the primary source of sound from the step-up facility will be the transformer, which can emit a low frequency humming sound. An Option Agreement for purchase of up to 25 acres for the step-up facility has been executed between Applicant and the parcel landowner. The final location of the step-up facility within that parcel has not been finalized and is contingent upon further civil design work, collector line routing, and coordination with the transmission owner in locating the interconnection facilities.

The nearest occupied home to locations being considered for the step-up facility within the parcel is located more than 750 feet away and sound associated with normal operation of the step-up facility is not expected to be audible at this farmstead/home.

(c) Location of Noise Sensitive Areas

No change

(d) Mitigation of Noise Emissions

No change

(3) Water

No change

(a) Impact on Public and Private Water Supplies

No change

(b) Construction Water Impacts

No change

(c) Operation Water Impacts

No change

(4) Ice Throw

No change

(5) Blade Shear

Except for changes in the automatic shutdown wind speeds which range from 37.5m/s for the Vestas and 38m/s for the GE, no change.

(6) Shadow Flicker

Shadow flicker from turbines can occur when moving blades pass in front of the sun, creating alternating changes in light intensity or shadows. These flickering shadows can cause an annoyance when cast on nearby residences ("receptors"). The spatial relationship between a turbine and a receptor, along with weather characteristics such as wind direction and sunshine probability, are key factors related to shadow flicker impacts. At distances beyond 10-rotor diameters (maximum of 1,260 meters [4,133 feet] for the Facility), shadow flicker effects are essentially undetectable (BLM, 2005; BERR, 2009). This is because shadow

flicker intensity diminishes as the distance between receptors and turbines increases.

There is some public concern that flickering light can have negative health effects, such as triggering seizures in people with epilepsy. According to the British Epilepsy Foundation (2007), approximately 5% of individuals with epilepsy have sensitivity to light. Most people with photo-sensitive epilepsy are sensitive to flickering around 16-25 Hz (flashes per second), although some people may be sensitive to rates as low as 3 Hz and as high as 60Hz. Because the maximum turbine rotor speed of 17 rpm translates to a blade pass frequency of 0.28 Hz (less than one flash per second), health effects to individuals with photosensitive epilepsy are not anticipated.

Although setback distances for turbines will significantly reduce shadow flicker impacts to homes within the Project area, some impact will occur. No existing national, state, county, or local standards exist for frequency or duration of shadow flicker from wind turbines. However, international regulations, studies, and guidelines from Europe and Australia have suggested 30 hours of shadow flicker per year as the threshold of significant impact, or the point at which shadow flicker is commonly perceived as an annoyance (Dobesch & Kury, 2001; Sustainable Energy Authority Victoria, 2003). Accordingly, a threshold of 30 hours of shadow flicker per year was used for this analysis.

EAPC conducted a shadow flicker analysis for the additional turbine types, attached hereto as Supplemental Exhibit J. The study evaluated each of the additional turbine types proposed for the Facility, including GE 2.3-116, Vestas V110-2.1 and V126-3.45. To calculate potential shadow flicker impacts, EDR (2010b) used WindPRO, a computer model based on the following data:

- Turbine coordinates
- Shadow receptor coordinates

- USGS 1:25,000 topographic mapping and USGS digital elev. model (DEM)
- Turbine specifications (height, rotor diameter, etc.)
- Joint wind speed and direction frequency distribution
- Monthly sunshine probabilities

The model calculation for the turbines includes the cumulative sum of shadow hours for 50 of the permitted 60 turbine locations. This omnidirectional approach reports total shadow flicker results at a receptor, regardless of the presence or orientation of windows at the receptor residence (i.e., it assumes shadows from all directions can be perceived at a residence, which may or may not be true). A receptor in the model is defined as a one square meter area, one meter above ground level; the actual dimensions of the house are not taken into consideration. All residences within 1,500 meters of the nearest turbine were analyzed. As shown in Table 8-6, depending on the turbine, the vast majority of residences within 1,500 meters are modeled to experience shadow flicker less than 30 hours/year.

Modeling only the existing turbines within the vicinity of the town of Haviland resulted in five receptors (SR089, SR091, SR099, SR109, and SR114) to be above 30 hours per year (real case). Three turbines installed at the Haviland Plastic Products are the contributors to these five receptors. Taking into consideration the new proposed turbines result in meniscal increase at these five receptors for all five arrays evaluated.

Throughout the study area, the shadow flicker is anticipated to be less than 30 hours per year (real case) for all other dwellings (excluding the five dwellings already modeled above 30 hours per year) for the GE 2.3-116 80 m hub height, V110-2.0 80 m hub height, and V110-2.0 95 m hub height turbine layouts. One additional receptor (SR001) increases over 30 hours per year (real case) for the GE 2.3- 116 94 m hub height layout. For the V126-3.45 87 m hub height layout,

five additional receptors (SR001, SR034, SR037, SR174, and SR233) are anticipated to have realistic shadow flicker above 30 hours per year.

The conservative results of this study indicate that, of the five wind turbine model scenarios and 266 receptors modeled for each scenario, no additional dwellings measure 30 hours or more per year of realistic shadow flicker for the GE 2.3-116 80 m hub height, V110-2.0 80 m hub height, and V110-2.0 95 m hub height layouts. For the two additional layouts that resulted in additional dwellings to potentially be above 30 hours per year, selective turbine locations could reduce the flicker impact below the arbitrary 30-hour level.

Table 8-6:

Realistic Shadow Flicker (hrs/year)	Only Existing WTGs		GE 2.3-116-80m		GE 2.3-116-94m		V110-2.1-80m		V110-2.1-95m		V126-3.43-87m	
	# of struct.	# non-part.	# of struct.	# non-part.	# of struct.	# non-part.	# of struct.	# non-part.	# of struct.	# non-part.	# of struct.	# non-part.
0	177	161	65	61	64	60	65	61	64	60	64	60
0 to 5	5	5	43	39	37	33	44	40	41	37	36	32
5 to 10	14	14	38	37	38	38	40	39	36	36	30	30
10 to 15	35	35	54	51	53	50	58	55	57	53	58	56
15 to 20	13	13	27	25	29	27	26	24	25	24	32	30
20 to 25	11	11	24	23	26	25	20	19	27	26	22	20
25 to 30	6	6	10	9	13	12	8	7	11	9	14	13
30+	5	5	5	5	6	5	5	5	5	5	10	9

Note that Table 8-6 includes multiple entries for some receptors, as the amount of shadow flicker will vary depending on the turbine model constructed. The complete WindPRO output for the shadow flicker analysis is included in Supplemental Appendix K, including both tabular and graphical calendars for each receptor with shadow flicker predicted to exceed 30 hours/year. These calendars provide the exact times of day and year when residences could be affected by shadow flicker.

It is important to note the shadow flicker model assumptions are conservative, and as such, the analysis is expected to over-predict the impacts. For example, model inputs do not reflect local conditions at the receptor site that could block shadow flicker, such as trees and neighboring structures. The model also assumes the receptor always has a window facing the direction of the sun, and the receptor is occupied at all hours when shadow flicker may occur (i.e., from sunrise and sunset). In reality, site-specific factors such as trees, buildings, and window locations could significantly reduce the actual shadow flicker experienced at a given receptor. In addition, many of the modeled shadow flicker hours are expected to be of very low intensity, due to the distance of the proposed turbines from the affected receptors. Therefore, the analysis presented herein is expected to be an inclusive and conservative prediction of the shadow flicker effects from the Facility.

With respect to primary roads, the shadow flicker maps in Supplemental Appendix K depict the expected shadow flicker at all areas (including roads) in the vicinity of the Facility. However, the model results generated by WindPRO assume a stationary object, which remains fixed 24 hours/day, 365 days/year. Therefore, because primary road users are mobile (typically in a motorized vehicle traveling at a relatively high speed), any Facility-related shadow flicker experienced by such users would be a fraction of that experienced by a stationary object. Furthermore, most vehicle operators are already accustomed to shadow flicker while driving, since shadows cast from near-by objects (e.g., trees, roadside/overhead signage, etc.) will "flicker" across the windows of a moving vehicle.

(B) ECOLOGICAL IMPACT

(1) Project Site Information

No change

(a) Mapping

No change

(b) Vegetative Survey

No change

(i) Upland Habitat

No change

(ii) Wetland Habitat

Depending on ultimate turbine selection and nameplate capacity resulting in overall reduced impact, no change.

(c) Animal Life Survey

No change

(i) Birds

No change

(ii) Raptor Study

No change

(iii) Mammals

No change

(d) Summary of Ecological Studies

No change.

(e) Major Species List

No change

(i) Commercial Species

No change

(ii) Recreational Species

No change

(iii) Federally-Listed Species

No change

(iv) State-Listed Species

No change

(2) Construction

(a) Impact of Construction

No change

(i) Upland Habitats

No change

(ii) Wetlands and Water Bodies

No change

(b) Impact of Construction on Major Species

No change

(c) Mitigation of Short- and Long-term Construction Impacts

No change

(i) Impact Minimization

No change

(ii) Site Restoration

No change

(iii) Mitigation Measures

No change

(3) Operation

(a) Estimate the Impact of Operation on Areas

No change

(b) Estimate the Impact of Operation on Major Species

No change

(c) Mitigation of Impacts

Except that the Applicant and USFWS have agreed to a set of operational mitigation measures that should ensure there are no incidental takes of Indiana bats and other listed species, no change.

(d) Post-Construction Monitoring of Wildlife Impacts

No change

(C) ECONOMICS, LAND USE AND COMMUNITY DEVELOPMENT

(1) Land Uses

(a) Land Use Map

No change

(b) Habitable Residential Structures

No change

(c) Wind Turbine Structure Locations

Except for potentially fewer total turbine locations, no change

(i) Distance from base to property line

Section 4906-17-08(C)(1)(c)(i) requires that "the distance from a wind turbine base to the property line of the wind farm property shall be at least one and one-tenth times the total height of the turbine structure as measured from its tower's base (excluding the subsurface foundation) to the tip of its highest blade." The maximum height of turbines under consideration for the Facility is 499 feet (152 meters), which yields a

property line setback of 549 feet (167 meters). All turbine base locations will comply with these setbacks.

(ii) Distance from blade to habitable residential structures

Section 4906-17-08(C)(1)(c)(ii) requires that "the wind turbine shall be at least seven hundred fifty feet in horizontal distance from the tip of the turbine's nearest blade at ninety degrees to the exterior of the nearest habitable residential structure, if any, located on adjacent property at the time of certification application." The maximum rotor diameter of turbine under consideration for the Facility is 413 feet (126 meters). If the turbine blade were at ninety degrees, the tip would extend from the base of the tower one-half the length of the rotor diameter, or 206.5 feet (63 meters), which added to 750 feet, yields a total setback from the tower of 956.5 feet. As currently sited, the distance between turbine towers and the nearest habitable residential structure ranges from 846 (a participating landowner) to 3,014 feet.

(iii) Waiver of minimum setback

No change

(iv) Distances from Pipelines

No change

(v) Distance to Floodplain and Watercourse

No change

(d) Impact of Proposed Facility

No change

(e) Identification of Structures to be Removed or Relocated

No change

(f) Plans for Future Use

No change

(g) Concurrent or Secondary Uses

No change

(2) Economics

No change

(a) Estimated Payroll

No change

(b) Estimated Employment

No change

(c) Estimated Tax Revenue

No change

(d) Estimated Economic Impact

No change

(3) Public Services and Facilities

No change

(4) Impact on Regional Development

(a) Description

No change

(i) Housing

No change

(ii) Commercial and Industrial Development

No change

(iii) Transportation System Development

No change

(b) Compatibility

No change

(D) CULTURAL IMPACT

No change

(1) Map of Landmarks of Cultural Significance and Recreational Areas

No change

(2) Estimated Impact on Landmarks

No change

(3) Consideration of Landmarks

No change

(4) Mapping Landmarks

No change

(5) Recreational Areas

No change

(6) Visual Impacts

Mitigation options for potential visual impacts are limited, given the nature of the Facility and siting criteria (tall structures located in open fields).

As described in 4906-17-08(B)(1)(a), land use in the Project area is predominantly agricultural and has overall low-density development and has

active large wind farms to both the south and west. There are few water features and woodlots in the Project area and no managed lands within the Project area or one-half mile of its boundaries.

Applicant will minimize visual impacts by applying turbine uniformity (same model, height and rotor diameter), least number of turbines to reach the desired nameplate, same white turbine coloration (which blends well with the sky at the horizon and eliminates the need for daytime FAA warning lights), turbine alignment (so when viewed from certain angles, only the most forward turbine can be seen), placing much of the electrical collection system underground, not constructing new above ground transmission lines, siting the step-up facility behind and adjacent to the already-existing AEP 138kV substation, minimizing the number of gates and fences, blending the O&M facility, if new, with already-existing farming facilities, minimizing the number of and synchronizing the FAA nighttime warning lights, and prohibiting signage on the turbines.

Applicant is filing a detailed visual impact assessment as Supplemental Appendix S. The independent consulting firm CH2MHILL has performed the assessment. The assessment's scope of study includes the following:

- GIS viewshed analysis to determine areas within a 5-mile radius of the Project area within the viewshed of proposed wind turbines. Areas obscured by topography or vegetation will not be within the viewshed.
- Review and comment of viewshed maps by Applicant and OPSB staff. This review resulted in developing the best Key Observation Points (KOPs) for fieldwork and photo-simulations.
- Fieldwork to collect photographs and sub-meter accurate GPS points.
- Review of photographs by Applicant to select final KOPs for use in preparing photo-simulations.
- Preparation of photo-simulations from final KOPs, preparation of visual assessment report text, and finalization of report mapping.

The visual impact assessment filed here uses the Vestas V126-3.45 turbine as the example model as it would represent the most visually impactful scenario. Overall 50 permitted locations were modeled even though for the Vestas 126-3.45 selection only 29 turbines would be erected to achieve the total of 100 MW project nameplate capacity. Therefor the model represents a worst case scenario for the additional turbine types covered in this permit amendment.

No adverse visual impacts to archaeological or historical landmarks are anticipated from construction and operation of the Facility.

(E) PUBLIC RESPONSIBILITY

(1) Public Information Program

(a) Local Office and Staff

Applicant no longer maintains a local office as leasing and other landowner contact is mostly complete, however, Brad Norden, the local project representative continues to be available and is working in the project footprint. He can be reached at:
Telephone: 419-270-2692
Email: **norde14195@gmail.com**

(b) Local Advisory Board

The Local Advisory Board consisted of six local farmers and participating landowners who assisted Applicant in project decision-making and facilitating communication with other project participants and the community as a whole. The Local Advisory Board had convened meetings on an as-needed basis throughout the life of the Facility's development, but no less than four times a year. Now that the project has moved to its construction phase, the advisory board is no longer actively involved in the development of the project.

(c) Landowner and Community Meetings

No change

(d) Project Newsletters and Mailings

No change

(e) Project Website

Applicant is maintaining a Facility-specific website at the following URL to keep the public informed about developments, contact information, meeting notices, Advisory Board, photos, etc.

www.northwestohiowindproject.com

(f) Landowner Participation in Micrositing

No change

(g) Future Public Information Programs

Once the Facility is operational, Applicant will maintain a staffed O&M facility within the Project area. Such facility and staff will remain available during regular business hours and accommodate, to the extent possible, unscheduled and schedule visits from landowners, neighbors, governmental employees, visitors, etc. The Facility and staff will be accessible via office telephones, mobile telephones, email and facsimile. It is customary for wind farms to host annual open houses so the public can ask questions and express opinions about wind farms. Wind farms often also participate in community activities such as ground fairs and charitable and sporting events. It is likely the Facility's staff will continue with such a tradition to the extent possible within their work schedule.

(h) Local Media, Local Government and Elected Officials

No change

(2) Liability Insurance

No change

(3) Evaluation of Interference with Radio and Television

No change

(i) Microwave

Microwave telecommunication systems are wireless point-to-point links that communicate between two antennae and require clear line-of-sight conditions between each antenna. The Comsearch analysis performed in October 2014 identified 31 microwave paths within the Project area. Applicant will avoid impacts to the microwave paths by locating turbines outside of the microwave paths and their associated Fresnel Zones.

(ii) Radio

The analysis by Comsearch in March 2013 identified two AM station records (one station with both a day and night licensure) within 30 kilometers (or 19 miles) of the Facility. All of the identified stations are currently operational. Conflicts with AM coverage generally only occur when stations with directive antennae are within 3.2 kilometers (or 2 miles) of a turbine or stations with non-directive antennae are within 0.8 kilometers (or ½ mile) of a turbine. The one AM station identified within the vicinity has a non-directive antenna and is located in excess of 11 kilometers (or 7 miles) of the Project area. No impact on AM coverage is expected.

The analysis also identified six FM station records within 30 kilometers (or 19 miles) of the Facility. All of the identified stations are currently operational. Conflicts with FM coverage generally only occur when stations are within 4 kilometers (or 2.5 miles) of a turbine. One FM station, WKSD, is near the center of the Project area. An

additional study performed by Munn-Reese, Inc. in February of 2015 resulted in no interference being anticipated to WKSD through the construction of the Facility. This opinion was submitted to the docket on August 18, 2015.

(iii) Television

No change

(iv) Cellular and Personal Communication Systems

Applicant notified the National Telecommunications and Information Administration (NTIA) of the U.S. Department of Commerce (USDOC) of the proposed Facility on April 16, 2013. Following the receipt of this notification, the NTIA distributed preliminary plans for of the Facility to the federal agencies included in the Interdepartment Radio Advisor Committee. On June 17, 2013 the NTIA notified the Applicant that no federal agencies identified any concern regarding blockage of their radio frequency transmissions.

(4) Evaluation of Interference with Military Radar

Applicant notified the NTIA of the proposed Facility on April 16, 2013. Following the receipt of this notification, the NTIA distributed preliminary plans for the Facility to the federal agencies included in the Interdepartment Radio Advisor Committee. On June 17, 2013 the NTIA notified the Applicant that no federal agencies identified any concern regarding blockage of their radio frequency transmissions.

(5) Evaluation of Impact to Roads and Bridges

Applicant has been engaged in discussions and exchange of drafts and discussions of a road use agreement with the Paulding County Engineer, and expects to have the agreement concluded in the near future.

(6) Plan for Decommissioning

No change

(F) AGRICULTURAL DISTRICT IMPACT

(1) Agricultural District Mapping

No change

(2) Impact Assessment on Agricultural Land

(a) Acreage Impacted

No change

(i) Field operations

No change

(ii) Irrigation.

No change

(iii) Field drainage systems.

No change

(b) Mitigation

No change

(3) Viability Assessment

No change

(G) Additional Information

No change

Summary: Application of Trishe Wind Ohio, LLC for an Amendment to its Certificate of Environmental Compatibility and Public Need - Part 1 electronically filed by Teresa Orahood on behalf of Sally Bloomfield