

COLUMBUS I CLEVELAND CINCINNATI-DAYTON MARIETTA

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Via Electronic Filing

Ms. Barcy McNeal Public Utilities Commission of Ohio Administration/Docketing 180 East Broad Street, 11<sup>th</sup> Floor Columbus, OH 43215-3793

Re: Hog Creek Wind Farm LLC, Case Nos. 09-277-EL-BGN and 10-654-EL-BGN

Dear Ms. McNeal:

On March 22, 2010, the Ohio Power Siting Board ("OPBS") issued Hog Creek Wind Farm LLC ("Hog Creek") a Certificate of Environmental Compatibility and Public Need in Case No. 09-277-EL-BGN for Hog Creek I ("Hog Creek I"). On August 29, 2011, the OPSB issued a Certificate of Environmental Compatibility and Public Need in Case No. 10-654-EL-BGN for Hog Creek II ("Hog Creek II"). The orders in each of the cases established a set of conditions as part of the certificates.

Within these sets of conditions, Hog Creek I Condition No. 37(a) and Hog Creek II Condition No. 52(a) require that:

Hog Creek shall comply with the following conditions regarding decommissioning: (a) At least 30 days prior to the preconstruction conference, pursuant to Rule 4906-17-08(E)(6), O.A.C., Hog Creek shall provide a final draft of a decommissioning plan to staff and the Hardin County Engineer for review and for staff approval. In this plan, Hog Creek shall: identify lands in the project area that a reconnaissance inspection suggests may be prime farmlands (A soil survey shall be made or obtained according to standards established by the U.S. Department of Agriculture and/or the Ohio Department of Agriculture in order to confirm the exact location of the prime farmlands and confirmed prime farmlands should be reclaimed to such standards after site decommissioning.); indicate the future use that is proposed to be made of the land following reclamation; the engineering techniques proposed to be used decommissioning and reclamation and a description of the major equipment, a plan for the control of surface water drainage and of water accumulation, and a plan, where appropriate, for backfilling, soil stabilization, compacting and grading; describe how Hog Creek will implement BMPs to control impacts to surface or ground water resources. (If necessary, Hog Creek will obtain permits from the Ohio EPA and/or the U.S. Army Corps of Engineers.); and provide a detailed timetable for the accomplishment of each major step in the decommissioning plan, the steps

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to be taken to comply with applicable air and water quality laws and regulations and any applicable health and safety standards, and a description of the degree to which the decommissioning plan is consistent with the local physical, environmental, and climatological conditions.

Attached is a copy of the Decommissioning Plan for the Hog Creek Wind Farm. If you have any questions please call at the number listed above.

Sincerely,

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Sally W. Bloomfield

Attachment

cc: Andrew Conway (w/Attachment)

Jonathan Pawley (w/Attachment)

## **Decommissioning Plan for Hog Creek Wind Farm**

### INTRODUCTION

Hog Creek Wind Farm, LLC proposed to construct the Hog Creek Wind Farm (Project) in Hardin County, Ohio, approximately 60 miles northwest of Columbus, Ohio. The purpose of this decommissioning plan is to determine the total estimated cost to retire the Project at the end of its useful life.

## **PROJECT DESCRIPTION**

The Project includes 30 Vestas 110 2.2 MW wind turbines that would have a total nameplate capacity of 66 MW. Each wind turbine will consist of a single pole steel tower, with the turbine nacelle mounted at the top and three blades each approximately 361 feet in length and mounted to the nacelle rotor.

Each wind turbine will be supported by a concrete foundation. Preliminary foundation design drawings serve as the basis for foundation removal cost in this study. Each foundation design includes an 18-foot diameter circular concrete pedestal, approximately 3.5 feet tall, which will be situated on top of a spread footing and will be the connection point for the wind turbine tower. The spread footings are all octagonal or circular, typical of other similar projects, with a diameter of approximately 63 feet.

Associated facilities will include service roads, underground collection lines, a substation, and operations facility. The Project is planned to be interconnected to American Electric Power Ohio's (AEP Ohio) 69-kilovolt (kV) system at via a tap to the existing Ada-Dunkirk 69-kV transmission line at the Project's substation. The Project substation will be adjacent to an AEP Ohio-owned switchyard where the existing 69-kV line will be rerouted into the switchyard to connect the Combined Project. This arrangement will not require any new transmission lines to be built.

#### **DECOMMISSIONING**

## **Decommissioning Plan**

Hog Creek Wind Farm estimates the Project should have an expected useful life of 25 years or more. The above-grade steel and copper equipment, turbine nacelles, towers, and associated equipment is assumed to have sufficient value as scrap to completely offset the removal costs of these items. However, Hog Creek Wind will incur costs for removal and disposal of the blades and foundations and other Project facilities and for the restoration of the site following the removal of salvageable equipment.

The wind turbine blades will be removed from the wind turbine nacelle rotors using a crane, cut into manageable sized sections, loaded onto a trailer, and hauled to a local landfill for disposal. The wind turbine blades are constructed from a composite material that is assumed to have no salvage value at the time of decommissioning. The turbine nacelles will be removed from the towers with a crane and

loaded onto a trailer. The towers will be disassembled and loaded into a trailer as well. The demolition contractor will take ownership of the turbine nacelles and towers and all salvage value will be retained by the demolition contractor. The nacelles and towers will have a significant value for salvage or scrap due to a high content of steel and copper. The salvage value of the nacelles and towers will be utilized to offset the costs for removal.

All underground improvements, including concrete foundations but not including electrical collection lines, will be removed to a depth of at least 4 feet below grade. This will include the removal of the wind turbine foundations and substation foundations. The concrete will be demolished, loaded into a dump truck, and hauled to a local landfill for disposal. The portions of the concrete foundations that are greater than 4 feet below grade will be abandoned in place.

The equipment in the Project substation and surrounding fencing will be removed and the demolition contractor will take ownership of the equipment and retain the salvage value. The Project substation is anticipated to retain significant value for salvage or scrap due to high content of steel and copper. It is assumed that the salvage value of this electrical equipment will be used to offset the demolition costs. All substation fencing will be removed, loaded into a dump truck or trailer, and hauled to a local landfill for disposal. The underground cabling for the power collection system within the Project is assumed to be buried at a depth greater than 4 feet, and therefore will be abandoned in place, so no disturbance to the land use or drain tiles at the time will be required. The turbine access roads will remain in place. Demolition crew will remove the below grade equipment such as the turbine foundations.

The disturbed soil will be graded, seeded, and returned to its prior state (primarily cropland), in accordance with landowner preferences. There are a few discrete locations where Project infrastructure overlays prime farmland soils. The majority of the Project Area is underlain by soils considered prime farmland if drained (see attached map).

## **Decommissioning Costs**

The decommissioning cost estimate includes the cost to return the site to a condition compatible with the surrounding land, similar to the conditions that existed before development of the Project. Included are the costs to retire the wind turbines as well as the cost to retire the balance of plant facilities.

**Table 1 Estimated Cost for Decommissioning** 

Item	<b>Estimated Cost</b>
Wind turbine decommissioning	\$3,200,000
Balance of plant decommissioning	\$2,500,000
10% contingency	\$570,000
Scrap value	(\$1,635,000)
Total cost	\$4,635,000

## **Decommissioning Schedule and Permits**

The schedule for completing the demolition activities is estimated to take four months, which consists of one month of permitting activities, followed by three months of demolition activities. The actual schedule for the Project will depend on how many crews the demolition contractor chooses to mobilize.

The demolition activities will consist of the following crews and activities:

- Crane and crew will remove turbines to ground level
- Dismantling crew will cut up blades and remove salvageable scrap from the towers and nacelles
- Demolition crew will remove the below grade equipment such as the turbine foundations
- Grading and seeding crew will restore the disturbed soil to its prior state, in accordance with landowner preferences

At a minimum, the following permits, plans, and approvals will likely be required prior to initiating demolition activities:

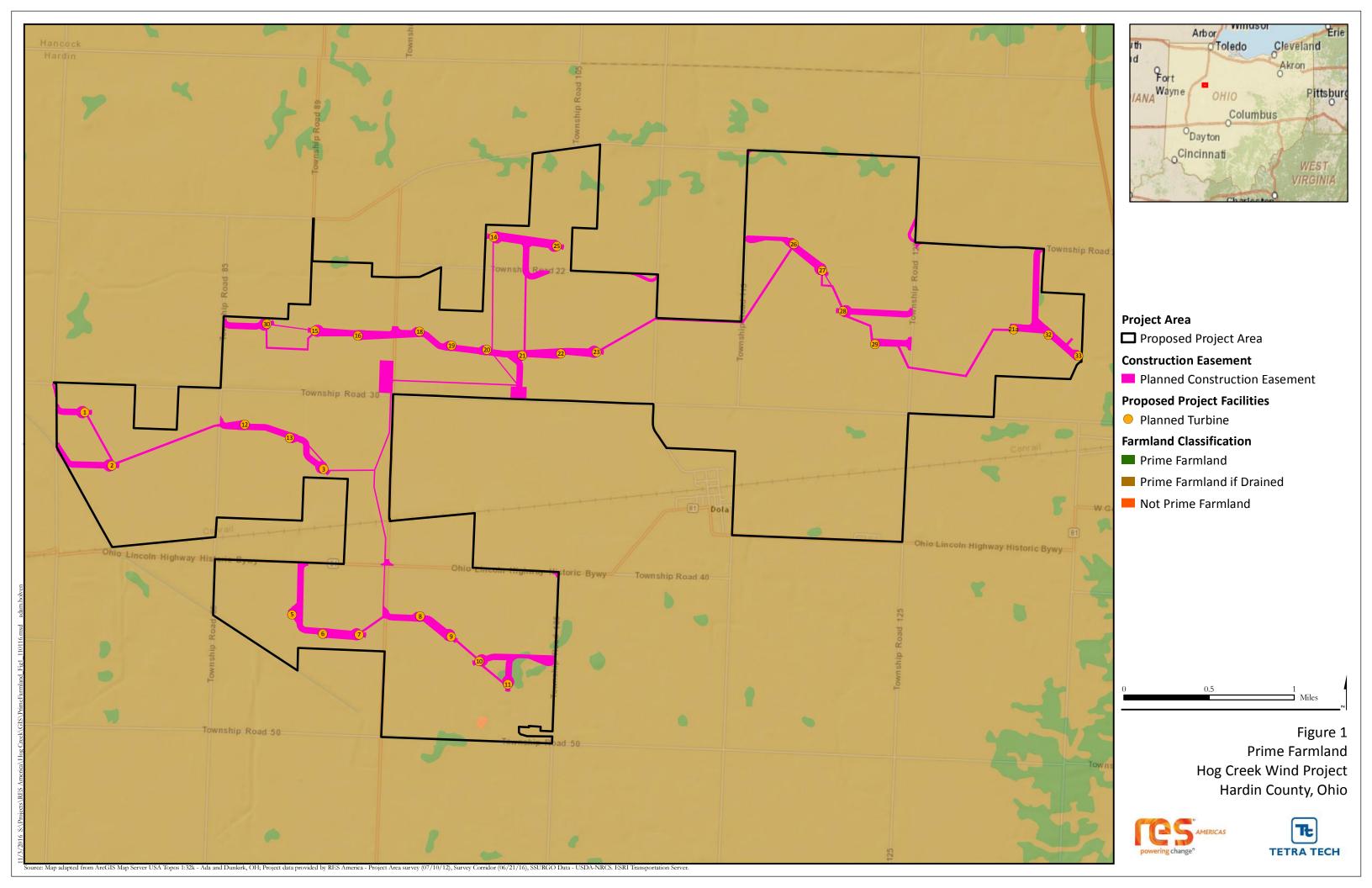
- Safety Plan Development
- Demolition Permit
- Waste Disposal Permit
- Stormwater Pollution Prevention Plan (SWPPP) and Notice of Intent (NOI)
- Air Permits

## **Decommissioning Assumptions**

The following assumptions were made as the basis for the cost estimates:

- 1. An offsite landfill will be used for disposal of demolition waste, within approximately 30 miles from the Project location and at the cost of \$48/ton.
- 2. No hazardous construction material abatement will be required.
- No environmental costs have been included to address site clean-up of contaminated soils, hazardous materials, or other conditions that could be present onsite that would have a negative environmental impact.
- 4. Wind turbine nacelles, wind turbine towers, transformers, switches, breakers, cabling, and other electrical equipment (excluding underground collection lines) will be removed from the Project by the demolition contractor and ownership transferred to the contractor with all salvage and scrap value to be retained by the contractor.
- 5. Demolition costs for the meteorological towers have been accounted for and included in the wind turbine demolition costs.
- 6. The Project substation, O&M building, and all fencing will be removed as part of demolition activities, and the removal cost is included with the balance of plant decommissioning.
- 7. Underground electrical collection lines will be abandoned in place as they will be placed at least 4 feet below finished grade.
- 8. Any foundations will be removed to 4 feet below finished grade.

- 9. All crushed rock surfacing around equipment (excluding service roads, which will remain in place) will be removed.
- 10. The topsoil or subsoil will be stripped and stockpiled proximal to the work site to keep the soil separate and secure from contamination. The existing topsoil and subsoil will be re-graded in areas where crushed rock surfacing and foundations have been removed to achieve suitable site drainage to natural drainage patterns.
- 11. Disturbed site areas will be graded. In all areas where the ground has been disturbed as part of decommissioning activities, the ground will be seeded to prevent erosion.
- 12. Market conditions may result in cost variations at the time of contract execution.



This foregoing document was electronically filed with the Public Utilities

**Commission of Ohio Docketing Information System on** 

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in

Case No(s). 09-0277-EL-BGN, 10-0654-EL-BGN

Summary: Correspondence of Hog Creek Wind Farm LLC in Compliance with Condition Nos. 37(a) and 52(a) - Decommissioning Plan electronically filed by Teresa Orahood on behalf of Sally W. Bloomfield