

**BEFORE
THE OHIO POWER SITING BOARD**

In the Matter of the Application of)	
Champaign Wind LLC, for a Certificate)	
to Construct a Wind-Powered Electric)	Case No. 12-0160-EL-BGN
Generating Facility in Champaign)	
County, Ohio)	

DIRECT TESTIMONY OF HUGH F. CROWELL

Q.1. Please state your name, business address, and title.

A.1. My name is Hugh Franklin Crowell. I work for Hull & Associates, Inc., at 6397 Emerald Parkway, Suite 200, Dublin, OH, 43016. I am leader of the Ecology and Wetlands practice area. I am also a senior project manager and principal.

Q.2. What are your duties as Ecology and Wetlands practice leader?

A.2. I am responsible for procuring, managing, and performing consulting work involving terrestrial and aquatic ecological resources, wetland and stream delineation and assessment, surface water quality standards, and permitting. I directly manage six field biologists. My duties also include overall quality assurance for the practice, keeping current with relevant regulatory law, rules, policies and guidelines, adapting our science practices to trends and changes in the ecological and wetlands consulting field, and supervision and health and safety planning for a group of six biologists.

Q.3. What is your educational and professional background?

A.3. I earned a Bachelor's degree in biology from the College of Wooster in 1983 and a research Master's degree in Botany and Plant Ecology from the Ohio State University in 1986. I received national certification from the Society of Wetland Scientists as a Professional Wetland Scientist in 1995. I worked for the Ohio Environmental Protection Agency (Columbus) in what is now the Division of Surface Water for 5.5 years, where I served as wetlands ecologist and review coordinator for Clean Water Act Section 401 permits. I worked in the US Environmental Protection Agency's Office of Wetlands in Washington DC for two years as an on-site contractor, where I helped develop national guidelines for development of water quality standards for wetlands by the states.

I have worked as a private ecological consultant at Hull & Associates, Inc. (Hull) for thirteen years. I have primarily performed or managed delineation, evaluation and permitting of wetlands and streams. I have designed or managed the design of numerous wetland and stream mitigation projects. I have also performed or managed numerous surveys for endangered species including plants, mammals, mussels and reptiles. I have performed or managed numerous chemical and biological water quality surveys of streams and wetlands as well as watershed surveys. I have also developed or managed the development of permits under various regulatory programs, including the Clean Water Act Section 401 (Water Quality Certification), Section 402 (National Pollutant Discharge Elimination System) and Section 404 (discharge of dredged and fill material to surface waters) and the Ohio Isolated Wetland Program.

Q.4. On whose behalf are you offering testimony?

A.4. I am testifying on behalf of the Applicant, Champaign Wind LLC (“Champaign Wind”).

Q.5. What is the purpose of your testimony?

A.5. The purpose of my testimony is to describe studies my firm undertook on behalf of the Applicant, to summarize the results of those studies, and to summarize the permits that the Applicant must obtain prior to initiating construction in or near surface waters.

Q.6. Please describe the studies that you and your firm undertook on behalf of the Applicant.

A.6. The studies undertaken by Hull are summarized below.

Surface Water Delineation Study

Hull conducted a surface water delineation in October and December 2011. The purpose of the delineation was to determine the extent and quality of wetlands, streams and other surface waters located within or near the Facility that may be subject to regulation under Sections 404 and 401 of the Clean Water Act (1987, as amended) or the Ohio Isolated Wetland Permit Program. This surface water delineation concentrated on areas near the Facility that could potentially be impacted by construction of Facility features.

Threatened and Endangered Species Survey Study

In conjunction with surface water delineation activities, Hull performed a desktop and field screening for the potential presence of endangered or threatened species (T&E species) within the Project Area. Hull began the screening process by contacting the Ohio Department of Natural Resources and the US Fish & Wildlife Service for information about known occurrences of T&E species occurring within the Project Area. Hull then listed all state- and federally-listed T&E species that could occur in the five counties that occur within five miles of the Facility. Using land use/land cover data within a GIS database supplemented and verified by field investigations, Hull also classified and mapped the extent of seven general plant community types within the vicinity of the Project Area. The initial list of T&E species was then screened against the types of plant communities present, producing a list of 24 plant species and five animal species with the highest potential to occur within the Project Area. During subsequent field investigations, these species were specifically searched for wherever proposed Facility features (e.g., roads and electrical interconnect lines) occurred within mapped plant communities.

Hull's survey of T&E species was limited to those species that had the potential to be affected by construction of the Facility. Potential impacts on T&E species due to operation of the Facility were addressed by other contractors.

Transportation Route Study

The purpose of this study was to identify probable equipment delivery routes, investigate current roadway infrastructure limits, and identify preliminary constraints that would require roadway improvements. The types of road impacts typical for the development of a wind turbine facility were also evaluated and described. The study included on-site visual assessment of the probable routes and documentation of roadway limitations for load, pavement width, pavement condition, height, grades, intersection radii, and sharp curve radii. The evaluation identified locations where improvements to the road are likely needed to accommodate the size of the delivery and construction vehicles, and figures are included that graphically show these conceptual improvements. Research for state permits that are necessary for hauling the materials and equipment was also included in the evaluation.

Desktop Geotechnical Study

Information for this study was gathered by completing a literature search of existing and readily available documents related to the surface and subsurface soils, agricultural resources, and geologic/bedrock conditions of the Project Area. This information was then reviewed to develop a generalized understanding of the suitability of the soils within the Project Area for grading, compaction, and drainage for the Project Area. The information summarized below was obtained from available on-line databases and/or documents maintained or produced by federal, state and local agencies.

Desktop Hydrogeological Study

This study was completed to gather the hydrogeological information specified in the Ohio Power Siting Board rules, including information on groundwater resources. Hydrogeological information was obtained from available on-line databases and/or documents maintained or produced by the federal, state and local agencies.

In addition, Hull mailed a single-page well survey to each of the landowners within the Project Area that were under contract with the Applicant at the time of mailing in December 2011. Hull received completed well surveys from 12 of the 29 property owners to whom the surveys were mailed.

Q.7. What was your role in the studies conducted for the Application?

A.7. My role was to provide senior-level management of the studies including planning, scheduling, organization, and management of the field and desktop investigations, to perform senior-level review and quality assurance on the study products (e.g., reports, figures, tables, and written analysis), and to provide communications with the Applicant regarding the studies' progress, results and project implications. I also performed field data collection in support of the surface water and threatened and endangered species survey studies.

Q.8. Did you identify any specific endangered species in the Project Area?

A.8. Hull did not identify any endangered or threatened species (T&E species) during our survey. In addition, Hull's screening demonstrated that there is negligible potential

for the construction of the proposed Facility to adversely affect state or federally-listed T&E species.

Q.9. Did you make any findings or observations relating to any waterways?

A.9. The delineation identified 23 wetlands; seventeen Ohio Category 1 wetlands, three Ohio Modified Category 2 wetlands, one Ohio Category 1 or 2 gray zone wetland assumed to be Category 2, and two Ohio Category 2 wetlands. The wetlands were evaluated and placed in the appropriate Ohio Antidegradation Category using the Ohio Rapid Assessment Method for Wetlands Final Version 5.0 (ORAM).

The delineation identified 30 streams, all or a portion of which were within 100 feet of the Facility; several streams were delineated at more than one Facility location, resulting in a total of 38 stream segments delineated within 100 feet of the Facility. Twelve Modified Class I Primary Headwater Habitat (PHWH) streams, one Class II PHWH stream, ten Modified Class II PHWH streams, five Exceptional Warm Water Habitat (EWH) streams, six Cold Water Habitat (CWH) streams, one Modified Warm Water Habitat (MWH) and three Warmwater habitat (WWH) stream segments were identified within the Facility. The streams were evaluated using Ohio evaluation techniques appropriate to stream type and assigned to an existing use, or assigned an Aquatic Life Use designation based on their listing in Ohio water quality standards (OAC 3745-1).

Based on US Army Corps of Engineers (USACE) guidance in effect at the time of this report, Hull has determined that of the 23 wetlands delineated, fourteen are non-isolated

and under the Clean Water Act jurisdiction of federal and state government. Nine wetlands were found to be isolated and under the sole jurisdiction of the Ohio Isolated Wetland Permitting Program. Isolation status was determined based on the December 2008 post-Rapanos guidance issued by the USACE and US Environmental Protection Agency. Hull has determined that all of the streams evaluated within the Facility are under federal jurisdictional and therefore subject to Clean Water Act regulations through the USACE and the Ohio Environmental Protection Agency (Ohio EPA).

Q.10. What permits related to construction disturbance in or near surface waters need to be obtained?

A.10. At this time, the Applicant does not plan to impact any wetland areas, although several streams will probably be impacted, for example to construct culverted road crossings or to install buried electrical interconnections. Several permits need to be obtained prior to construction of the project in or near surface waters, all of which are related to surface water impacts:

1. A Clean Water Act Section 404 permit is required to discharge dredged and fill material into federally jurisdictional surface waters including streams or wetlands. For example, a Section 404 permit would be needed to construct culverted road crossings of streams and to bury electrical interconnect cables in streams or wetlands. This permitting program is administered by the US Army Corps of Engineers (USACE).

Section 404 permits may be issued in the form of a general permit or an individual permit. General permits are reissued by the USACE every five years under the Nationwide Permit program and cover a variety of specific activities performed in federally jurisdictional surface waters. General permits are a streamlined form of USACE authorization for those activities considered to result in minimal adverse effects on the aquatic environment. Project impacts to surface waters that are below specific impact thresholds may qualify for a general permit. An individual Section 404 permit is required for those impacts to the aquatic environment that exceed the thresholds for the general permit program. Review of an individual permit is more extensive than that required for a general permit, and includes a public interest review. Coordination with other federal programs under the National Environmental Policy Act may be initiated by the USACE under either a general permit review or individual permit review.

Applications for Section 404 permits require submittal of a justification for the proposed impact to surface waters, and demonstration that steps have been taken to avoid impacts to surface waters and minimize unavoidable impacts. All proposals for unavoidable impacts to surface waters must include a mitigation plan to offset the loss of aquatic resources.

2. A Clean Water Act Section 401 water quality certification permit is required in order that a federal Section 404 permit can be valid. The Section 401 permit constitutes a certification by the State that proposed impacts to federally jurisdictional surface waters under a Section 404 permit are in compliance with State water quality standards. The

Ohio Environmental Protection Agency (OEPA) administers this permitting program. In the case of Section 404 general permits, the Section 401 permit is typically issued and attached to the general permit every five years. In the case of individual Section 404 permits, an individual Section 401 permit is required to validate the Section 404 permit.

As with the Section 404 permit application, the applicant must demonstrate that steps have been taken to avoid impacts to surface waters and minimize unavoidable impacts. All proposals for unavoidable impacts to surface waters must include a mitigation plan to offset the loss of aquatic resources.

3. A Clean Water Act Section 402 permit under storm water provisions of the National Pollutant Discharge Elimination System (NPDES) program is required for construction activities that disturb more than one acre of ground surface. The NPDES construction storm water program is administered in Ohio by the OEPA.

Construction projects of all sizes in Ohio are typically permitted under construction storm water general permits issued by the OEPA. The OEPA has issued two construction storm water general permits of relevance for this project; one general permit applicable anywhere in Ohio, and one general permit applicable to the Big Darby watershed, a portion of which occurs within the Project Area.

Under both general permits, the applicant must notify the OEPA of its intent to perform ground-disturbing activities in a timely manner, and develop, implement and maintain a

Storm Water Pollution Prevention Plan (SWPPP). The SWPPP contains plans and specific measures designed to control storm water-related transport of sediment into waterways. Under both permits, the provisions of the SWPPP must be regularly inspected by construction staff and the site is also subject to periodic inspection by the OEPA.

4. If impacts to isolated wetlands were contemplated, it would be necessary to obtain an Ohio Isolated Wetland Permit from the OEPA prior to construction. However, the Applicant believes at this time that no wetlands either isolated or nonisolated will be impacted by construction of the Facility.

Q.11. What is the typical process for obtaining these permits, and what is the current status of these permits?

A.11. For typical Section 404 and Section 401 permitting, a surface water delineation and preliminary isolation status determination is first submitted to the USACE. The delineation report and surface water evaluation data may be submitted to the OEPA at the same time. The USACE then schedules a field review of the delineation, and makes a field determination of the accuracy of the wetland and stream boundary delineations and collects data for use in determining whether the delineated surface waters are isolated and therefore under State jurisdiction or nonisolated and therefore under federal jurisdiction.

A Section 404 permit application may be submitted to the USACE simultaneously with the delineation report or at a later date. Upon receipt of the application, the USACE

makes a determination whether the proposed impacts may be covered under a general permit or individual Section 404 permit based on the type and extent of the proposed project, and the surface area of impacts to wetlands and the linear feet of impacts to streams that are proposed in the application. The USACE then begins its review period which is typically 45 days for general permits and 120 days for individual permits. The USACE coordinates with the OEPA on surface water evaluation issues and to determine whether an individual Section 401 certification may be required. If NEPA involvement is indicated, the USACE will solicit comments from other federal agencies whose programs may be affected by the proposed project. If individual permit review is necessary, the USACE and the OEPA each issue a 30-day Public Notice describing the proposed project and soliciting public comment. During the review period, the agencies will provide the applicant with comments on the application and responses to these comments are then incorporated into the final permit.

For NPDES construction stormwater permitting, the formats of the two general permits applicable within the Project Area are broadly similar, both requiring a Notice of Intent (NOI) letter to be filed with the OEPA prior to commencement of the construction activity, and preparation of a Storm Water Pollution Prevention Plan (SWPPP). However, the terms and conditions of the Big Darby Construction Storm Water Permit are more restrictive than those of the statewide Construction Storm Water Permit, requiring the submittal of the SWPPP along with the NOI 45 days before construction begins. The OEPA then completes a review of the SWPPP prior to commencement of construction. The Big Darby Construction Storm Water Permit also requires riparian

setbacks and maintenance of pre-development groundwater recharge. Finally, the Big Darby General Permit requires larger sediment settling ponds than those required by the Ohio NPDES general permit.

Currently, a surface water delineation report is in preparation for submittal to the USACE, and initial contact with USACE Huntington, WV District, Energy Regulatory Section has been made regarding the project. It is expected that field confirmation of the delineation by the USACE will take place no later than spring 2012. The type and extent of proposed impacts to surface waters will be determined in the near future, followed by preparation and submittal of a Section 404 permit application and an individual Section 401 permit application if required.

The Applicant has met with the OEPA regarding NPDES construction storm water permits for their projects, and will prepare and submit suitable NOIs and SWPPPs at the appropriate time in advance of commencement of construction.

Q.12. Have you reviewed the October 10, 2012 Staff Report of Investigation issued in this proceeding?

A.12. Yes.

Q.13. The Staff made various recommended conditions relating to environmental matters in recommended conditions 6-7 and 19-27 the Staff Report. Do you have any observations or responses to any of those recommended conditions?

A.13. I have made the following observations about these recommended conditions that are in addition to any comments or recommendations by the Applicant:

1. The items required under Condition 19 pertaining to avoidance and minimization of impacts to wetlands and streams will be developed as part of the Section 404/Section 401 permit applications.
2. Condition 22 contains a requirement that the Applicant should seek prior approval from Ohio EPA for general widespread use of herbicides. There is a requirement in Ohio EPA rules that Ohio EPA must be notified before chemicals are applied for control of aquatic plants or animals (OAC 3745-1-01(E)(1)), but I am not aware of any Ohio EPA authority over the general application of herbicides or application of herbicides in upland areas. Imposing Condition 22 in the certificate could result in the Applicant being subject to the Ohio EPA water quality standards program for upland areas where there is no defined mechanism for issuing a permit or approval for herbicide application. Generally, herbicides and herbicide application are regulated by the Ohio Department of Agriculture. The Ohio EPA's rules are sufficient to address the primary concern of herbicide use, which is the impact on aquatic plants or animals. Therefore, I recommend that Condition 22 not be adopted by the Board.

Q.14. Does this conclude your direct testimony?

A.14. Yes

CERTIFICATE OF SERVICE

I hereby certify that a copy of the foregoing document was served upon the following parties of record via e-mail on this 29th day of October, 2012.

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Summary: Testimony Direct Testimony of Hugh F. Crowell electronically filed by Mr. Michael J. Settineri on behalf of Champaign Wind LLC