

**STATE OF CONNECTICUT  
CONNECTICUT SITING COUNCIL**

**Petition of BNE Energy Inc. for a  
Declaratory Ruling for the Location,  
Construction and Operation of a 4.8 MW  
Wind Renewable Generating Facility on  
Winsted- Norfolk Road and Rock Hall Road,  
Colebrook, Connecticut**

**Petition No. 984**

**March 24, 2011**

**PRE-FILED TESTIMONY OF CURTIS JONES**

Q1. Mr. Jones, please state your name and position.

A. Curtis C. Jones. I am President of CIVIL 1. I am a licensed Professional Engineer and LEED Accredited Professional (LEED AP). CIVIL 1 is located at 43 Sherman Hill Road, Suite D-101, Woodbury, CT, 06798

Q2. Please state your qualifications.

A. I have a Bachelor of Science in Civil Engineering from the University of New Haven where I graduated cum laude in January of 1981. Since that time I have more than 30 years of professional engineering and construction experience. Currently I am a licensed professional engineer in Connecticut, New York, New Jersey, Massachusetts, Rhode Island and Vermont. My engineering experience includes project management, program management, construction management, civil design, and business development. I founded CIVIL 1 in 1993 and my current responsibilities include overall responsibility for the corporation as well as oversight of daily operations including civil design. I provide technical direction and oversight for projects, staffing for projects, developing and meeting project schedules and budgets, preparing cost estimates, and providing construction management for multiple projects.

Q3. Please describe your involvement in this matter.

A. CIVIL 1 was asked to assist Zapata Engineering in the preparation and revision of the preliminary civil engineering drawings, Storm Water Management Plan with Storm Water Pollution Prevention Plan (“SWMP”), and the Erosion and Sediment Control (“E&SC”) Plan, at the proposed site at Winsted- Norfolk Road in Colebrook (the “Property”). The original drawings and plans were prepared by Mr. Richard Shane Smith of Zapata Engineering. Mr. Smith is currently serving our country in Afghanistan; having been called to active duty as a member of the Air National Guard and consequently can not be here. I am responsible for the civil engineering drawings and calculations associated with this project.

Q4. Please describe the data used to prepare the preliminary civil engineering drawings.

A. At the request of BNE, CIVIL 1 has reviewed the specifications and guidelines required for the project. The review included information on the equipment used to transport the components to the erection location and their specific requirements for the road surface and the clearances required. Additional information was obtained on the cranes used for the erection and installation process. The majority of this information was available from the turbine manufacturer GE and specific to the 1.6MW units.

Multiple site visits were conducted by CIVIL 1 personnel between August 2010 and March 2011. CIVIL 1 representatives walked the site to determine the optimal access points and road location to the proposed turbine locations as well as to observe overall site conditions. Throughout this process, CIVIL 1 has worked closely with Zapata, BNE and VHB.

Topographical data on the site was obtained from the State of Connecticut Department of Environmental Protection (DEP). A survey map was prepared by Riordan Land Surveying. VHB performed a wetland determination and all data was transferred to the plans using generally accepted survey adjustment methods. Construction companies with experience in the erection and installation of wind turbines were consulted, as well as transportation engineering firms providing modeling assistance for blade transport vehicles.

Q5. Please describe the preparation of the SWMP and E&SC plans.

A. The SWMP and the E&SC plans were prepared in accordance with the 2002 Connecticut Guidelines for Soil Erosion and Sediment Control and the 2004 Connecticut Stormwater Quality Manual. The Stormwater Management Plan and the Erosion and Sediment Control Plan are consistent with these guidance documents.

The E&SC plan highlights existing conditions, proposed construction activities, temporary and permanent best management practices (BMP), and backup data. The plan mirrors what is on the engineering drawings by providing written descriptions of the installation of, inspection of, and maintenance of the Connecticut approved BMPs in accordance with the 2002 Connecticut Guidelines for Soil Erosion and Sediment Control. The plan provides information on erosion control BMPs such as: silt fencing, hay bale barriers, stone check dams, pipe slope drain, diversions, fill berm, sediment trap, construction entrance, tree protection, and erosion control blankets and other erosion control features. The plan also provides information on soil stabilization BMPs such as: topsoiling, fertilizer, seeding and mulching.

During the estimated six months of construction, the plan requires erosion control features that will be inspected once per week and after each rainfall event greater than 0.1

inch to ensure they continue to function as designed and installed. These inspections will be documented on an Erosion and Sedimentation (E&S) Control Site Inspection Form (Appendix B of the plan). This E&SC inspection procedure will help avoid erosion and sedimentation problems by ensuring that the erosion control devices are installed, maintained and functioning properly, thereby protecting nearby wetland and watershed resources. Mitigation of failed erosion control measures will be repaired within 24 hours.

Post-construction, an upland meadow seed mix containing native grasses will be used to stabilize exposed areas of the site. Erosion control blankets have been incorporated into the plans to prevent erosion and sedimentation and aid in the establishment of vegetation and permanent stabilization. Construction and Post-construction inspections will take place in accordance with the DEP General Stormwater Discharge Permit until vegetation is established.

The SWMP highlights the stormwater management practices to be incorporated in this project. The plan includes post construction stormwater treatment by bioretention ponds located strategically on the site. The bioretention ponds are primary stormwater treatment practices according to the 2004 Connecticut Stormwater Quality Manual. The bioretention ponds are designed to capture and treat the design water quality volume; capture and treat 80% of the average annual total suspended solid load; and remove 80% of floatable debris. Stormwater discharge from the bioretention ponds will be properly dissipated (i.e., level spreaders and riprap aprons) to prevent erosion and sedimentation of adjacent resources.

The SWMP also addresses hazardous substance and oil spill reporting. For example, the SWMP requires adherence to a US EPA Spill Prevention Controls and Countermeasures (SPCC) Plan that will include precautions to contain and properly

mitigate a fuel or petroleum spill. The plan requires good housekeeping practices, material safety data sheets (MSDS) to be kept onsite, and a spill containment kit.

Q6. Are there any special site features that require extra precautions during design and construction?

A. Yes. The Mill Brook runs through the property and must be crossed to access turbines 2 and 3.

Q7. Can you please describe the precautions that have been and will take place?

A. The exact location of the crossing of Mill Brook was carefully selected in the field by representatives from CIVIL 1 and VHB to minimize impacts to the brook. In the area of the crossing, water is conveyed in two separate channels. Two bottomless box culverts each measuring 3' high by 12' wide will convey the flow under the access driveway. The bottomless culverts will allow for an uninterrupted stream bottom to continue to exist and therefore will protect the wildlife that depend on the stream bottom. During construction, the installation of the box culverts will be closely monitored by third party inspectors to ensure that unnecessary impacts do not occur. Additionally, the SWMP and E&SC Plan has been designed to mitigate impacts to this resource.

Q8. Have there been any site plan revisions since filing of this petition?

A. Yes. A revised set of site plans are attached hereto as Exhibit 2. The associated revised Stormwater Management Plan and Storm Water Pollution Prevention Plan is attached hereto as Exhibit 3 and revised soil and erosion control plan is attached hereto as Exhibit 4.

Q9. Please describe the revised plans.

A. The location of Turbine 1 has been relocated to be near the beginning of the access road for Turbines 2 and 3. This location will mitigate visual impacts from the Winsted- Norfolk Road (U.S. Rte 44) as well as reduce land clearing requirements and increase the separating distance to wetlands on the site.

In an effort to minimize the project footprint and minimize the impact to the environment, we elected to use a narrow track crane for construction of the turbines. The required road width for the narrow track crane is 20', allowing the width of the crane access road to be revised down from 35' to 20'. This reduces the impact to the environment.

With the narrower access road cross section, the location of the temporary laydown areas, crane pad, and turnarounds were revised. With these proposed changes, the SWMP and E&SC Plan were revised to manage and treat stormwater. SWM Plan and E&SC Plan calculations were revised to support the revised site plans. The drawings are submitted as Exhibit 2, the Stormwater Management Plan as Exhibit 3, and the Erosion and Sedimentation Control Plan as Exhibit 4.

Q10. Do the revised plans comply with the Connecticut Public Health Code, the Connecticut General Permit for the Discharge of Stormwater and Dewatering Wastewaters Associated with Construction Activities, the 2004 Connecticut Stormwater Quality Manual, the 2002 Connecticut Guidelines for Soil Erosion and Sediment Control, the 2004 Connecticut Department of Transportation's ("CT DOT") Standard Specifications for Roads, Bridges and Incidental Construction (Form 816) and the CT DOT 2000 Drainage Manual?

A. Yes. The revised plans comply with the Connecticut Public Health Code, the Connecticut General Permit for the Discharge of Stormwater and Dewatering Wastewaters Associated with Construction Activities, the 2004 Connecticut Stormwater Quality Manual, the 2002 Connecticut Guidelines for Soil Erosion and Sediment Control,

the 2004 Connecticut Department of Transportation's ("CT DOT") Standard Specifications for Roads, Bridges and Incidental Construction (Form 816) and the CT DOT 2000 Drainage Manual. The revised plans meet or exceed the required Connecticut standards and specifications. Additional information and revised calculations have been submitted along with the Storm Water Pollution Prevention Plan and the Erosion and Sediment Control Plan to demonstrate compliance with the applicable Connecticut standards.

The access road design will exceed the requirements of the CT DOT. The access road will be designed to more rigorous standards than the CT DOT standards. This is necessary to accommodate the loads of the cranes and trucks transporting the turbine components.

Q11. How does the project comply with DEP air and water quality standards?

A. The Project will fully comply with Connecticut Department of Environmental Protection ("DEP") air standards. Wind turbines produce zero emissions and thus will comply with DEP air quality standards.

The Project also complies with CT DEP Water Quality Standards. Discharges from the proposed project are related to stormwater management. No direct discharges are proposed to the State's surface waters. Many of the Water Quality Standards are related to discharges into surface waters, matters of compliance are primarily related to potential secondary impacts associated with stormwater discharge to uplands in proximity to surface waters (site inland wetlands). It should be noted that wind generation projects are significantly different, in that they do not discharge cooling water or wastewater often associated with other types of electric generation power plants. In addition, the access

road, parking areas and temporary laydown and construction areas will have a gravel surface to minimize runoff and promote infiltration and recharge of groundwater.

The applicable Surface Water Quality Standards (WQS) include the following:

*1. It is the State's goal to restore or maintain the chemical, physical, and biological integrity of surface waters. Where attainable, the level of water quality that provides for the protection and propagation of fish, shellfish, and wildlife and recreation in and on the water shall be achieved.*

No direct impacts or discharges to surface waters are proposed. Stormwater discharged to uplands in proximity to the site's surface waters will be properly treated by utilizing best management practices in accordance with the CT DEP 2004 Connecticut Stormwater Quality Manual. Potential non-point source pollutants originating from erosion and sedimentation during construction primarily consist of suspended particulate soil media that will be minimized by incorporating best management practices detailed in the 2002 Connecticut Guidelines for Soil Erosion and Sediment Control Manual. Due to the nature of the Project and low traffic it generates, the proposed development would not be considered to be classified as a land use with potential for high pollutant loads (i.e., heavy metals, hydrocarbons, synthetic organic chemicals, trash, etc.). Additional measures have been implemented by BNE Energy to address the potential for secondary impacts to surface waters during construction, including third party erosion and sedimentation control inspections and adoption of a Spill Prevention Plan. Therefore, the Project will comply with the State's goal to maintain the chemical, physical, and biological integrity of surface waters.

*2. Existing and designated uses such as propagation of fish, shellfish and wildlife, recreation, public water supply, and agriculture, industrial use and navigation, and the water quality necessary for their protection is to be maintained and protected.*

As noted above, existing and designated uses will be protected by maintaining and protecting the quality of surface water both during and after construction of the Project.

*18. Best Management Practices for control of non-point source pollutants may be required by the Commissioner on a case-by-case basis.*

As noted above, potential non-point source pollutants originating from erosion and sedimentation during construction will be minimized by incorporating best management practices detailed in the 2002 Connecticut Guidelines for Soil Erosion and Sediment Control Manual. Additional measures will be required to address the potential for secondary impacts to surface waters during construction, including third party erosion and sedimentation control inspections and adoption of a Spill Prevention Plan.

*19. The Commissioner shall require Best Management Practices, including imposition of discharge limitations or other reasonable controls on a case-by-case basis as necessary for point and nonpoint sources of phosphorus and nitrogen, including sources of atmospheric deposition, which have the potential to contribute to the impairment of any surface water, to ensure maintenance and attainment of existing and designated uses, restore impaired waters, and prevent excessive anthropogenic inputs of nutrients or impairment of downstream waters.*

The Project will not result in discharge of phosphorous and nitrogen that will impair surface water or groundwater quality. Disturbed areas of the site will be revegetated following construction with a variety of native herbaceous vegetation which

will not require fertilization or maintenance with herbicides or pesticides. Therefore, the Project will not result in excessive anthropogenic inputs of nutrients or synthetic organic chemicals that might impair surface waters.

With respect to groundwater, the Site is located in an area which is mapped by the Connecticut DEP with a groundwater quality which is "GA." The GA designation is defined by the CTDEP as:

GA – Ground water within the area of existing private water supply wells or an area with the potential to provide water to public or private water supply wells. The Department presumes that ground water in such an area is, at a minimum, suitable for drinking or other domestic uses without treatment.

No use of groundwater or discharge to the ground or subsurface water will be created. Operation of the turbine does not require bulk storage of fuel or other hazardous materials which could be accidentally released to the environment. Normal operations will not require any discharges. The potential for impacts to groundwater resulting from a release of hazardous materials during construction will be minimized through the adoption of a US EPA Spill Prevention Controls and Countermeasures Plan.

Based upon this information, the Project will comply with the Connecticut Water Quality Standards.

Q12. Do the revised plans conform to good engineering practice and to Chapter 5, Section 2 (Preserve and Conserve Soils, Land Grading) of the 2002 Connecticut Guidelines for Soil Erosion and Sediment Control?

A. Yes. The existing topography and natural features have been utilized to the extent possible to minimize the degree of land disturbance. The plans were prepared to control surface runoff and reduce erosion potential and prepare for the establishment of a vegetative cover on those areas where the existing land surface is to be reshaped by

grading. All proposed slopes on the site are 2:1 or 3:1 as prescribed in the 2002 Connecticut Guidelines for Soil Erosion and Sediment Control.

The revised plans divert the majority of stormwater runoff from the undisturbed areas away from the construction areas. This is accomplished via temporary and permanent fill berms and conveyance swales. Energy dissipaters will also be incorporated to reduce the stormwater runoff energy.

Primary treatment will capture and treat the design water quality volume (WQV) or design water quality flow (WQF), remove at least 80% of the average annual suspended solids (TSS) loads, remove at least 80% of the floatable debris for all flow rates up to the design water quality flow, and acceptable performance or operational longevity in the field.

Non-point discharges are primarily related to erosion and sedimentation during construction, which will be managed by best management practices outlined in the 2002 Connecticut Guidelines for Soil Erosion and Sediment Control Manual. All discharges will result from stormwater management features. Primary treatment is proposed as detailed in the 2004 CT Stormwater Quality Manual and thus ensuring the quality of stormwater to be discharged to the uplands. The Erosion and Sediment Control will be in compliance with the 2002 Connecticut Guidelines for Soil Erosion and Sediment Control Manual. We comply with the principles of site planning for erosion and sediment control, including the following: plan development will fit environmental conditions, keep land disturbance to a minimum, slow the flow, keep clean runoff separated, reduce on-site potential internally and install perimeter controls, implement a thorough maintenance program, and provide a third party environmental company to inspect erosion control measures prior to and during construction.

Q13. What steps were taken to ensure a design having the least amount of environmental impact?

A. The Project has been designed to minimize environmental impacts. The BNE team including CIVIL 1, ZAPATA and VHB, worked carefully through numerous iterations of potential turbine locations and spacing to balance capturing optimum wind conditions while avoiding/minimizing effects to the existing environment and habitat.

Realizing the minimum requirements in the 2002 Connecticut Guidelines for Soil Erosion and Sediment Control in an effort to reduce the construction footprint, the original plans designed many slopes as 1(h):1(v) slopes. The revised plans have incorporated a 2:1 maximum slope for all aspects of the project.

Q14. Please briefly summarize your testimony?

A. The revised plans as presented comply with all State guidelines and regulations as noted previously in the testimony. Onsite inspections will ensure that the temporary and permanent erosion control measures will function as designed. The implementation of the plans will bring clean renewable energy to the people of Connecticut and will help us realize our goal of providing 20% renewable energy by 2020.

Q15. Is this the end of your testimony?

A. Yes.

March 24, 2011  
Date

  
Curtis C. Jones, P/E., LEED AP

# **EXHIBIT 1**

## **Curtis C. Jones, P.E., LEED AP**

President

Curt is the President, owner, and founder of **CIVIL 1**. He is responsible for the overall financial and operational management of the company. With over thirty years of civil engineering experience, Curt has successfully designed and secured approvals for hundreds of commercial, residential, industrial, municipal, educational, and mixed use projects. Many of the projects include large parcel, 100+ acre industrial parks and residential communities.

In addition to his duties at **CIVIL 1**, Curt fulfills many civic, professional and cultural responsibilities including –

Greater Waterbury Chamber of Commerce, Public Policy Committee 2009- Present  
Town of Woodbury, CT Charter Revision Committee, 2010-Present  
Town of Woodbury Business & Economic Development Commission 2010- Present  
Tibetan Mongolian Buddhist Cultural Center, Board of Directors 2005- Present  
Oxford Economic Development Corp., Board of Directors 2002- 2007  
Warrior Educational Films, Board of Directors 2006-2009  
American Society of Civil Engineers

Curt received a Bachelor of Science in Civil Engineering cum laude from the University of New Haven in 1981 and is a licensed Professional Engineer in Connecticut, New York, New Jersey, Massachusetts, Rhode Island and Vermont. Curt is also accredited with the Green Building Certification Institute as LEED AP.

# **EXHIBIT 2**

**Due to the size of this document, an electronic version  
will be filed with the Siting Council on disk.**

# **EXHIBIT 3**

**Due to the size of this document, an electronic version  
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# **EXHIBIT 4**

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