STATE OF CONNECTICUT
CONNECTICUT SITING COUNCIL

Petition of BNE Energy Inc. for a Declaratory Ruling for the Location, Construction and Operation of a 3.2 MW Wind Renewable Generating Project on New Haven Road in Prospect, Connecticut ("Wind Prospect")

Petition No. 980

March 8, 2011

SUPPLEMENTAL PRE-FILED TESTIMONY OF MELVIN L. CLINE

Q10. Mr. Cline, have you previously provided testimony in this matter?

A. I have adopted the testimony of Mr. Thomas L. Koning.

Q11. Why are you submitting this supplemental pre-filed testimony?

A. I am providing this supplemental pre-filed testimony to the Council to address revisions to the site plans. The revised site plans are attached hereto as Exhibit 1.

Q12. Please describe these revisions.

A. BNE has taken a pro-active step to relocate the northern-most turbine (Turbine 2), in response to questions from the Council. The proposed location complies with GE recommended setbacks for the 1.6 MW GE turbines and increases the setback distance from the nearest home. In an effort to increase the distance from the turbine to local residences, Turbine 2 was relocated approximately 160 feet to the south southwest of its original position. This relocation resulted in the necessity to revise the laydown areas, crane pad, turnarounds and the position and slope of the access road itself. Since the slope of the access road increased due to the turbines being located closer together, the Erosion and Sedimentation Control (E&SC) and Storm Water Management Plans were revised to accommodate the changes for management and treatment of stormwater. New E&SC calculations were performed and plan sheets were revised to support the revised E&SC Plan. The revised E&SC Plan is attached hereto as Exhibit 2 and the revised Storm Water Pollution Prevention Plan is attached hereto as Exhibit 3.

Since revisions were being made, BNE elected to revisit the issue of using 1:1 slopes versus 2:1 slopes. As stated in earlier testimony, special attention was to be given to slope protection and stabilization in our attempt to reduce the environmental impacts of the project. 1:1 slopes have been eliminated from the project. 2:1 slopes will be used for the areas around Turbine 1 and the access road in the construction and post-construction phases. 1.5:1 slopes will be used around the Turbine 2 temporary areas during the 2 – 4 month construction phase to minimize the potential of impacting the wetlands. The 1.5:1 slopes will be stabilized with geotextile fabric and rip-rap as required by the 2002 CT Erosion and Sedimentation Control Guidelines Section 5-5-10. A geotechnical engineer will review and approve mechanical slope stabilization measures after the topographic survey, geotechnical investigations and soil tests are completed. 2:1 slopes, or flatter, will be used for the post-construction phase around Turbine 2. Also, the revised plans do incorporate reverse slope benches in conformance with 2002 Connecticut Guidelines for Soil Erosion and Sediment Control, Section 5-2.

Q13. Do these revisions cause any temporary or permanent impacts to the wetlands found on site and will it cause an increase to the peak runoff rate?

A. No. The revisions will have no temporary or permanent impacts on the wetlands on site. The peak stormwater runoff will be attenuated via stormwater pocket ponds and structural controls. The post-development discharge rates from the 10-year, 25-year, and 100-year storms will not exceed the corresponding pre-development peak discharge rates as required by Chapter 7 of the 2004 Connecticut Stormwater Quality Manual.

Q14. 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 meet or exceed the required 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 show compliance with all applicable standards.

Q15. 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 in order to minimize the degree of land disturbance. The plans have been revised to incorporate reverse slope benches and surface water diversions. The revised plans divert the majority of runoff from the undisturbed areas away from the site. This is accomplished via temporary and permanent fill berms and conveyance swales. Energy dissipators will also be incorporated to reduce the stormwater runoff energy. I think you also need to address stormwater treatment for removal of suspended solids, etc.

Q16. Do you, BNE, or GE have any concerns with the turbine constructability based upon the dimensions of the temporary construction laydown and assembly areas?

A. No. It has been determined that the 40.3 meter blades will be used on this site. The laydown and assembly areas will provide adequate space to assemble and install each turbine based upon the material and equipment specifications. To clarify, there are locations shown in the plans which require one of the blades to be cantilevered during assembly. This is an acceptable practice based upon previous GE installations.

Q17. Have the temporary sediment basins been revised to comply with the 2002 Connecticut Guidelines for Soil Erosion and Sediment Control?

A. The plans have been revised to eliminate the need for temporary sediment basins. Temporary sediment traps have been proposed in accordance with the 2002 Connecticut Guidelines for Soil Erosion and Sediment Control, Chapter 5, Section 11.

Q18. Are the water quality swales identified in the original plans to be used for stormwater treatment?

A. No. The swales have been redesigned as conveyance swales and will not be used as a primary stormwater treatment method. The primary stormwater treatment will be provided by pocket ponds in accordance with Chapter 11, Section P1 of the 2004 Connecticut Stormwater Quality Manual. The conveyance swales will be used to divert water to the ponds or around the site as required to treat and segregate the stormwater runoff. The conveyance swales will have trapezoidal shapes with a 4 foot bottom, 3:1 side slopes, and rock check dams. The swales will be capable of safely conveying the 2-year storm with non-erosive velocity.

Q19. Have adequate erosion control measures been implemented at the stormwater discharge points?

A. Yes. The stormwater discharge points to include the ponds, culverts, and swales have adequate outlet protection to avoid erosion caused by excess velocities. Catch basins have been incorporated to minimize the pipe slope and discharge velocities. Riprap has been provided at all discharge locations to dissipate the energy.

Q20. Do the revised plans comply with state standards for water quality and quantity?

A. Yes. As previously stated, the temporary sediment basins have been replaced with temporary sediment traps in compliance with Chapter 5, Section 11 of the 2002 Connecticut Guidelines for Soil Erosion and Sediment Control. The drainage basin areas have been revised and the runoff has been segregated to comply with state standards. Ponds in compliance with Chapter 11, Section P1 of the 2004 Connecticut Stormwater Quality Manual have been added to the revised plans. These ponds and their associated outfall controls will provide the required stormwater treatment and runoff attenuation as required. The peak runoff tables and HydroCAD report have been revised to show the revised drainage basin areas and runoff rates. These are in compliance with state standards. Also, the runoff Coefficient Numbers (CN) have been reevaluated based upon the land use and soil type (C). Based upon this reevaluation, the pre-construction conditions typically have a CN of 70 (up to 74), while the post-construction conditions have a typical CN of 89 (down to 77). The time of concentration has been recalculated based upon the new CN values, drainage basin areas, and the sheet-flow concentrated flow values. This information has been incorporated into the HydroCAD report.

Q21. Have the plans been revised to correct the typographical errors?

A. Yes. The plans have been revised eliminating typographical errors and corrections were made to previously incorrect graphical scales.

Q22. Please briefly summarize your testimony?

A. Again the biggest challenge in designing the proposed drawings was incorporating the general requirements of the turbine manufacturer for the layout of the project with topographical and environmental features of the site. Zapata worked closely with BNE, VHB and other members of the BNE team to ensure a proper design of the Project from a civil engineering perspective while minimizing environmental impacts.

Close cooperation between BNE, the transportation company, the installation contractor, the turbine manufacturer and ZAPATA will ensure a safe and timely execution of the project. ZAPATA made an effort to be as conservative as possible in the preparation of the civil engineering designs with the expectation that as we move forward to complete designs for construction even smaller environmental impacts than the minimal ones already expected will be realized.

Q23. Is this the end of your testimony?

A. Yes.

8 MAR 2011

Date

Melvin L. Cline

EXHIBIT 1

REVISED SITE PLANS

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

EXHIBIT 2

REVISED EROSION AND SEDIMENTATION CONTROL PLAN

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

EXHIBIT 3

REVISED STORM WATER POLLUTION CONTROL PLAN

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