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March 2, 2020

VIA HAND DELIVERY AND ELECTRONIC FILING

Melanie A. Bachman
Executive Director
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10 Franklin Square
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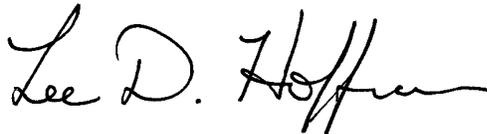
Re: Petition No. 983 - BNE Energy Inc. Declaratory Ruling that no Certificate of Environmental Compatibility and Public Need is required for the construction, maintenance, and operation of a 4.8 MW Wind Renewable Generating facility located on Flagg Hill Road, Colebrook, Connecticut.

Dear Ms. Bachman:

My client, BNE Energy, Inc., hereby respectfully submits one (1) original and fifteen (15) copies of BNE's response to the Connecticut Siting Council's February 25, 2020 D&M Interrogatories.

Please do not hesitate to contact me if you have any questions.

Sincerely,



Lee D. Hoffman

Encs.

Petition 983 – Wind Colebrook South

Certification

A copy of the foregoing has been mailed this date to all parties and intervenors of record.

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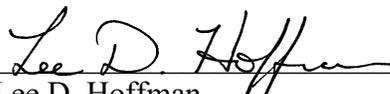
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Lee D. Hoffman

**STATE OF CONNECTICUT
CONNECTICUT SITING COUNCIL**

BNE Energy, Inc. Petition For a Declaratory Ruling That No Certificate of Environmental Compatibility and Public Need Is Required for the Construction, Maintenance, and Operation of a 4.8 MW Wind Renewable Generating Facility Located on Flagg Hill Road, Colebrook, Connecticut.

Petition 983

March 2, 2020

PETITION 983: BNE ENERGY, INC.’S RESPONSE TO THE CONNECTICUT SITING COUNCIL’S FEBRUARY 25, 2020 D&M INTERROGATORIES

BNE Energy, Inc. (“BNE”) hereby submits the following responses to the Connecticut Siting Council’s February 25, 2020 Interrogatories as follows:

Energy Output

1. Referencing BNE’s response to Council interrogatory 5c, explain how BNE would limit the capacity of the Enercon 4.2 MW turbine to 3.83 MW.

Answer: The Enercon 4.2 MW turbine will be set by Enercon to have a maximum nameplate capacity of 3.83 MW. While the maximum output will be capped at 3.83 MW, the power curve of the 4.2 MW turbine will be maintained so that the maximum output limitation does not negatively impact renewable power production at wind speeds below the maximum output of 3.83 MW. This is similar to the existing five (5)-MW cap on T1 and T2, which was set by General Electric (“GE”) due to PPA limitations. Each turbine is capable of producing 2.85 MWs, and both turbines operate at the power curves of the 2.85 MW turbines up to a maximum total output of five (5) MW, so that the respective output of the turbines are not negatively affected at lower wind speeds below the maximum output of five (5) MW.

2. Could Turbine 3 (T3) or the Wind Colebrook South facility (collectively) incorporate a battery storage component?

Answer: Yes, the Wind Colebrook South (“WCS”) facility can incorporate a battery storage component. BNE believes strongly in battery storage technology—particularly, co-located wind and solar with battery storage—as it offers the opportunity to maximize electricity production from Class I renewable sources. As Connecticut’s only wind farm, the WCS facility is uniquely situated to be a demonstration project for co-locating wind and battery storage, such that the technology can be validated and more widely deployed as the offshore wind and battery storage market expands in the State over the coming years.

Environmental

3. Referencing page 2 of the D&M Plan Modification, the fourth bullet point states that there would be a “24% reduction in wetland activity from 4,250 square feet down to 3,260 square feet.” The next paragraph notes that the previously-approved location for T3 included approximately 4,250 square feet of activity within the wetland boundary, and this would be reduced to 2,320 square feet, resulting in a reduction of 45 percent of the wetland activity. Please reconcile the revised wetland activity numbers.

Answer: The revised wetland activity numbers for the proposed location of T3 is 2,320 square feet which is 45 percent reduction of the wetland activity. The reference to 3,260 square feet and a 24% reduction is a mistake that referenced a prior version of the plans that was subsequently revised to minimize wetland impacts. The activity in the wetland was further reduced from 3,260 to 2,320 square feet of wetland impacts due to the elimination of a proposed concrete duck bank. Instead of running the electrical conduit alongside the culvert, the new placement will be under the culvert to minimize wetland impact resulting in the further reduction of wetland activity from 3,260 to 2,320 square feet which is a 45% reduction of wetland activity from the previously approved location for T3. Please refer to sheet E102 for details.

4. Could the optional SCADA bat protection feature listed on the Enercon specifications sheet be installed post-construction, if necessary?

Answer: Yes, the optional SCADA bat protection feature listed on the Enercon specifications sheet can be installed post-construction, if necessary. However, BNE does not anticipate the need for the optional bat protection feature as there were no bat fatalities observed in the 2018 Bird and Bat Fatality Monitoring Report that studied turbines T1 and T2.

Construction

5. The cover page of the D&M Plan Modification indicates a hub height of 128 meters (m). The Enercon Ice Risk Assessment under Tab C of BNE’s responses to the Council interrogatories indicate a hub height of 131 m, and the response to Council interrogatory number 37 indicates that the shadow flicker analysis was based on a 126 m hub height. Please clarify the correct hub height.

Answer: The correct hub height of the Enercon 4.2 is 128 meters. Specifications for the Enercon 4.2 indicate a hub height of 131 meters; however, that figure is for turbines installed in Europe which utilize a different foundation type that adds three (3) meters to the hub height. Accordingly, the reference to a 126 m hub height in BNE’s response to Interrogatory No. 37 is a mistake; it should be 128 m. Below is a corrected response to Interrogatory No. 37:

37. Referencing FOF No. 134 of the Council's June 2, 2011 Declaratory Ruling, would shadow flicker beyond approximately 1.25 miles from T3 be negligible similar to shadow flicker beyond approximately 1.25 miles from T1 and T2? Please explain.

*Answer: BNE retained Vermont Environmental Research Associates ("VERA") to analyze the potential for shadow flicker related to T3 and provide the following response. This analysis showed that shadow flicker from T3 beyond 1.25 miles would be negligible, similar to T1 and T2. As was explained in the Wind Colebrook South Supplemental Shadow Flicker Analysis prepared by Vanasse Hangen Brustlin ("VHB") in March 2011 (the "March 2011 Report"), shadow flicker intensity diminishes with distance from a wind turbine. A conservative measure for determining the maximum distance to evaluate shadow flicker is using a distance equal to ten times the maximum turbine height (hub height plus rotor radius). In the case of T3, this distance is equal to 1,970 m which is 1.22 mi ($10 * 128 \text{ m hub height} + 69 \text{ m rotor radius}$). The calculation of shadow flicker for the March 2011 Report was extended out to 2,000 m (1.24 mi). Beyond these distances of approximately 1.25 miles, the shadow flicker is sufficiently diminished so as not to have an adverse impact.*

6. Please submit a specifications sheet for the General Electric (GE) 5.3-158 wind turbine unit and indicate at what hub height it would be installed at the site.

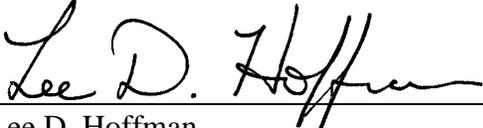
Answer: The specifications sheet for the GE 5.3-158 wind turbine unit is attached hereto as Exhibit A. Given the size of the blades, and the turbulence of the wind resources present on the Site, the hub height that was considered for the GE 5.3-158 wind turbine unit was 151 meters, resulting in a tip height of 755 feet.

7. Referencing BNE's response to Council interrogatory 48, BNE notes that it has a meeting scheduled with Department of Energy and Environmental Protection stormwater personnel on March 4, 2020. Please provide an update regarding the outcome of the meeting.

Answer: The response to this Interrogatory No. 7 will be filed on or before the March 5, 2020 deadline provided by the Siting Council.

Respectfully Submitted,

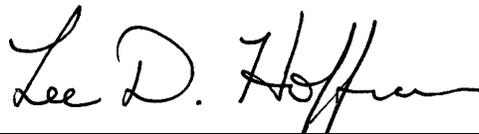
BNE Energy, Inc.

By:  _____

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Its Attorneys

Certification

This is to certify that a copy of the foregoing has been sent on March 2, 2020 to all parties and intervenors of record on the Service List, as of this date via U.S. Mail and/or Electronic Mail.



Lee D. Hoffman

Exhibit A

GE Renewable Energy

HOME | WHO WE ARE | WHAT WE DO | HOW WE WORK



**5 MW Cypress
Onshore Wind Turbine Platform**

Introducing the 5 MW Cypress platform

GE Renewable Energy has launched its new onshore wind turbine platform, named Cypress, and the next model from that platform, GE's 5.3-158 MW wind turbine.

The 5 MW onshore wind turbine platform advances the proven technology of GE's 2 MW and 3 MW fleets, which serves an installed base of nearly 20 GW, while also using architecture and innovations from the 4.8-158 wind turbine introduced in 2017.

 Capable of 5,200 HOMES	 Up to 5.3 MW NAMEPLATE CAPACITY	 20 GWh PER YEAR
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ENGINEERED FOR PERFORMANCE

Key features from the 5 MW Cypress platform

<p>Revolutionary two-piece wind turbine blade design</p>	<p>Revolutionary two-piece wind turbine blade design</p>
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TWO-PIECE SEGMENTED BLADE for GE's Cypress Platform

Revolutionizing turbine blade offerings



Partnership with GE Onshore Wind, LM Wind Power
and GE Global Research

High-tech carbon material

Proven design, with a disruptive design process provides
the flexibility to address customers' specific demands

Simplifies logistics to site locations that were previously
inaccessible, reducing costs

Onsite blade assembly

Blade tips offer greater flexibility to address site wind
conditions and requirements

Significant AEP
Improvements



Condition Monitoring
System (CMS)



More efficient services

The Cypress platform, which also includes the 4.8-15.8 MW wind turbine, will be powered by a groundbreaking two-piece blade design, which allows the wind turbine blades to be manufactured at even longer lengths and improving logistics to offer more siting options. Longer wind turbine blades improve AEP and help drive down Levelized Cost of Electricity (LCOE), and the proprietary design will allow these larger onshore wind turbines to be installed in locations that were previously inaccessible.

This feature of the 5 MW onshore platform significantly drives down logistical costs by enabling blade assembly onsite and reduces the costs for permitting equipment and road work required for transporting longer blades. Equally important, the Cypress 5 MW wind turbine features blade tips that offer customers greater flexibility to address site wind conditions and requirements.

The high-tech carbon blades were developed through the longtime partnership between GE's Onshore Wind business, GE's Global Research Center and GE's LM Wind Power, taking advantage of the research, design, and large-scale manufacturing expertise of these teams to bring the Cypress wind turbine blades from concept to a tested and proven reality.

SPECIFICATIONS

5 MW Cypress wind turbine technical specifications

Cypress Platform	5MW-158
Output (MW)	5.3
Rotor Diameter (m)	158
Hub Heights (m)	101, 121, 151 & 161
Frequency (Hz)	50/60
Vavg (m/s)	7.5
Vref (m/s)	-37-40
Cut-in (m/s)	3
IEC Wind Class	4S*

GE's Cypress Platform Onshore Wind Turbine

Pitch System
Independent blade pitch angle adjustment combined with generator torque control rotor to regulate speed depending on wind conditions.

Hub
Mounted on main shaft, entered through hatch located on the nacelle to simplify service access.

Blades
158 m rotor diameter, carbon two piece blade by LM Wind Power.

Tower
Hub heights available at 101 m, 120.9 m with tubular tower and 150 m, 151 m with hybrid concrete tower.

Nacelle
Large nacelle platform brings more comfort to service personnel and facilitates up-tower repairs.

Generator & Gearbox
Based on proven doubly fed induction generator (DFIG) electrical system, available at 50 Hz and 60 Hz.

Electrical System
High power density electrical system for performance and grid integration.

Control System
Fully digital (openHelm, 20/7/365, remote control operations, Wind SCADA, cybersecurity).

Services
Planned, condition-based and predictive services to ensure more reliability, uptime and production.

Perfect for low and medium wind speed sites

- 1 MW firm power the equivalent of 5,000+ residential homes in Europe
- 5.3 MW, GE's largest, high efficiency onshore wind turbine to date with a 4% increase in AEP over the 4.8-158

GE Renewable Energy