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December 30, 2010

Via Hand Delivery, and Electronic Mail

NH Site Evaluation Committee
c/o Jane Murray, Secretary
29 Hazen Drive, P.O. Box 95
Concord, NH 03302-0095

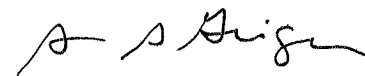
***Re: Docket 2010-01 Application of Groton Wind, LLC
for a Certificate of Site and Facility for a Renewable Energy Facility***

Dear Ms. Murray:

Enclosed for filing with the Site Evaluation Committee in the above-captioned docket, please find an original and eleven copies of the following documents, as well as 12 discs containing the same information: Third Supplemental Prefiled Testimonies of Edward Cherian, Hope Luhman, Nancy Rendall/Peter Walker, Adam Gravel and John Hecklau, and Second Supplemental Prefiled Testimony of Robert O'Neal.

Please contact me if there are any questions about this filing. Thank you for your assistance and cooperation.

Very truly yours,



Susan S. Geiger

Maureen D. Smith
(Of Counsel)

cc: Service List
Enclosures
720221_1.DOC

**THE STATE OF NEW HAMPSHIRE
BEFORE THE
SITE EVALUATION COMMITTEE**

DOCKET NO. 2010-01

**APPLICATION OF GROTON WIND, LLC
FOR A CERTIFICATE OF SITE AND FACILITY**

**THIRD SUPPLEMENTAL PREFILED TESTIMONY OF
EDWARD CHERIAN
ON BEHALF OF
GROTON WIND, LLC**

December 30, 2010

1 **Qualifications**

2 **Q. Please state your name and business address.**

3 A. My name is Edward Cherian. My business address is P.O. Box 326, Concord,
4 New Hampshire, 03302.

5 **Q. Who is your current employer and what are your qualifications?**

6 A. I am employed by Iberdrola Renewables, Inc. ("IBR") as New England
7 Development Director and, in that capacity, I am responsible for directing all
8 development activities for the Groton Wind Project. My background and qualifications
9 were included in my direct prefiled testimony filed with the Application on March 26,
10 2010 and have not changed since then.

11 **Purpose of Testimony**

12 **Q. What is the purpose of this third supplemental testimony?**

13 A. The purpose of my testimony is to provide the Committee with more specific
14 information about the location and description of voltage step-up facilities proposed to be

1 located in Holderness, New Hampshire. I will also discuss the impacts of these facilities
2 on the orderly development of the region, air quality and on public health and safety.¹
3 These facilities will interconnect the 34.5 kV line that brings power from the Project site
4 with the regional power grid, via a 34.5 kV – 115 kV voltage step-up facility and short
5 115 kV line to connect with a Northeast Utilities (“NU”) connection. Details on this
6 facility were provided in Applicant’s Exhibit 35, submitted on November 10, 2010. In
7 addition, I will provide additional information about that 34.5 kV line. I will also provide
8 an update on the post-construction studies recommended by the New Hampshire Fish and
9 Game Department.

10 **Voltage Step-Up Facilities**

11 **Q. Please describe the location and components of the voltage step-up**
12 **facilities.**

13 A. The location of the proposed voltage step-up facilities is on an approximately
14 5 acre parcel of privately-owned land in Holderness, New Hampshire. An aerial map
15 depicting this property is attached to this prefiled testimony. The property is within the
16 district of Holderness that has been zoned for commercial use and is currently used for
17 various purposes, including as a right-of-way (“ROW”) in which the NU 115 kV
18 transmission line is located, as a sand mining operation, for timber processing, and for
19 storage of various machinery and equipment by the owner. The parcel abuts an industrial
20 metal-plating facility. It is located adjacent to Route 175. The voltage step-up facilities

¹ Other witnesses will address the impacts of these facilities on aesthetics, historic sites, noise, water quality and the natural environment.

1 design and details are further described in Applicant's Exhibit 35, submitted on
2 November 10, 2010.

3 **Q. Please discuss whether the location and operation of the voltage step-up**
4 **facilities will be consistent with the orderly development of the region.**

5 A. Groton Wind has had preliminary discussions about the facilities with the
6 Town of Holderness Zoning Enforcement Office and Chairman of the Holderness Zoning
7 Board. The location of the proposed voltage step-up facilities will be consistent with the
8 orderly development of the region, for several reasons, including, but not limited to the
9 following: (1) the site is zoned for commercial usage; (2) the site is already in use, and
10 has been for many years, as a ROW for the 115 kV NU transmission line (that portion of
11 the parcel has been cleared and is maintained for the 115 kV transmission line); (3) the
12 site is located in an area with other commercial and industrial facilities, including those
13 used for metal-plating, an extensive commercial sand mining operation, timber
14 processing, and heavy equipment storage; (4) the site would reduce the total length of the
15 originally-proposed interconnection line by approximately 3.7 miles, by avoiding the
16 portion of the line route that goes all the way to the Beebe River Substation; (5) the site is
17 set back from Route 175 and residential areas; and (6) the region includes a number of
18 other similar facilities along the 115 kV transmission line, including the Beebe River
19 Substation, Ashland Substation, and a former 69 kV facility.

20 **Q. Will the step-up facilities have any impact on air quality?**

21 A. No. The facilities use an internal closed-loop cooling system which does not
22 produce air emissions and therefore requires no air resource permits.

1

2 **Q. Please describe steps that will be taken to insure that the step-up facilities**
3 **will not have an unreasonable adverse effect on public health and safety.**

4 A. The step-up facilities will be designed, constructed, and operated in
5 accordance with applicable electrical codes, and in coordination and approval of the
6 interconnecting utility, Northeast Utilities, and ISO-New England, and will meet the
7 applicable standards and codes of both entities. Access to the facility will be restricted by
8 fencing. The site currently is subject to heavy use by construction and heavy vehicles,
9 including excavators, dump trucks, tractor-trailers, log trucks, and other machinery.
10 During the period of construction, delivery of materials and construction vehicles will
11 add to this existing heavy use for an estimated four to six months.

12 **Interconnection Power Line from Project Site to Voltage Step-Up Facilities**

13 **Q. Please describe the location and components of the 34.5 kV power line**
14 **that will carry power from the Project Site to the voltage step-up facilities.**

15 A. The 34.5 kV interconnection line² will be overbuilt on existing New
16 Hampshire Electric Cooperative facilities in existing ROWs. The overbuild will consist
17 of two circuits of 34.5kv, 795 kcmil Hendrix spacer cable bundles. A representative
18 photograph of the overbuilt lines/cable bundles is attached to this prefiled testimony. It is
19 anticipated that the Groton Wind interconnection line wires will be slightly larger than
20 the ones depicted in the attached photograph. It should be noted that, although the

²Information about the 34.5 kV power line is being submitted to the Site Evaluation Committee for the purpose of providing the Committee with as much information as possible. In so doing, the Applicant does not concede that a certificate of site and facility is required for this line. See Applicant's Procedural Proposal, (November 19, 2010) pp. 3-6; see also Tr. Day 5 (November 5, 2010), Afternoon Session, pp. 96-101.

1 photograph depicts the wires in a “vertical stack,” NHEC may choose to install them in a
2 horizontal stack which would allow for the use of shorter poles.

3 **Q. Please describe any contacts or communications with municipal and**
4 **regional planning officials and municipal governing bodies regarding the 34.5 kV**
5 **interconnection line.**

6 A. On behalf of the Groton Wind Project, I met multiple times with the Town of
7 Rumney Board of Selectmen, Town of Plymouth Board of Selectmen, and the New
8 Hampshire Electric Cooperative to discuss the Project, including the interconnection line.

9 **Q. Please discuss whether the location and operation of the 34.5 kV**
10 **interconnection line will be consistent with the orderly development of the region.**

11 A. The interconnection line will be consistent with the orderly development of
12 the region for several reason, including, but not limited to the following: (1) it will be
13 located in existing NHEC-owned ROW within which poles and wires have been located
14 for many years; (2) it will be an overbuild on NHEC-owned poles whereby Groton Wind
15 will be an “attacher,” similar to other pole attachers such as cable, fire alarm service and
16 telephone companies; (3) NHEC will design and construct the line, according to NHEC
17 standards and code, to ensure safety and compatibility with existing facilities; (4) it will
18 improve the electrical distribution system infrastructure by replacing out-of-date and/or
19 non-compliant poles and wires (older poles and wires that do not meet current NHEC
20 standards), thus contributing to enhanced stability and reliability of the local utility
21 infrastructure; and (5) poles will be licensed by the New Hampshire Department of

1 Transportation (“NH DOT”) in accordance with NH DOT standard pole licensing
2 procedures. Applications for the pole licenses will be submitted to NH DOT by NHEC.

3 **Q. Please describe steps that will be taken to insure that the 34.5 kV**
4 **interconnection line will not have an unreasonable adverse effect on public health**
5 **and safety.**

6 A. The interconnection line will be designed and constructed by the NHEC, in
7 accordance with NHEC electrical standards and codes, as well as electric industry
8 standards and codes. These design and safety standards are the same used throughout the
9 NHEC network to ensure safety and stability. During construction, it is expected that
10 NHEC contractors will have police details as needed to ensure motorist safety during
11 pole and line work.

12 **Q. Please describe the effects, if any, that the 34.5 kV interconnection line**
13 **will have on aesthetics, historic sites, air quality, water quality and the natural**
14 **environment.**

15 A. Because the interconnection line will be located in an existing utility ROW
16 that has been in use for many years, and will be designed and constructed according to
17 NHEC standards, the line is not expected to have any measurable effects on aesthetics,
18 historic sites, air quality, water quality, and the natural environment.

19 Aesthetics. The proposed line will be within a long-standing existing ROW that
20 has existing poles and wires of various configurations. It is anticipated that replacement
21 poles will in some cases be taller than existing poles, but that would be the case for
22 virtually any replacement of old poles that do not meet current NHEC pole height

1 standards. The installation of the interconnection line will also include the transfer of
2 existing lines, which will provide an infrastructure and aesthetic benefit by standardizing
3 the many pole and wire configurations that are evident along the line route.

4 Historic Sites. The proposed line will have no effects on historic resources as it
5 will be within an existing in-use ROW that is already disturbed by the presence of utility
6 poles, and is located along built areas, including roadways and commercial development.
7 The existing viewshed environment contains many pole and wire configurations and
8 therefore the proposed line would not represent an adverse effect.

9 Air Quality. The proposed interconnect line will have no effects on air quality as
10 the lines do not emit air pollutants.

11 Water Quality. The proposed interconnect line will have no effects on water
12 quality as the lines do not emit pollutants and will be installed in existing, disturbed
13 ROWs. All pole licensing by NHEC will be done with the New Hampshire Department
14 of Transportation in accordance with state laws and state regulations.

15 Natural Environment. The proposed interconnect line will have no effects on
16 wildlife. The line is proposed to be installed in existing ROWs within the existing built
17 environment including roads, guard rails, and commercial development.

18 **NHF&G Recommendations**

19 **Q. Please describe discussions (and any agreements) with New Hampshire**
20 **Fish and Game since the letter submitted to the SEC on November 3, 2010.**

21 A. The Applicant has discussed the post-construction study concerns raised by
22 NHFG in its letter to the SEC dated November 3, 2010, which has been marked as

1 Applicant's Exhibit 50. Both NHFG and the Applicant have agreed to the Applicant
2 performing post-construction studies in accordance with the attached memo dated
3 December 22, 2010.

4 **Q. Does this conclude your testimony?**

5 A. Yes.

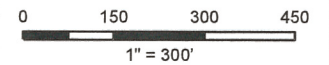


Proposed Substation Prescott Parcel Groton Wind Project

Modify Date: 12/22/2010

Legend

- Proposed 34.5kV Electric Poles (approximate location)
- Proposed 34.5kV Electric Line (approximate location)
- Prescott Parcel
- Proposed Substation Parcel +/- 5 Ac. (approximate location)





12 3:14 PM



Memorandum

To: Carol Henderson - NHFG
John Kanter - NHFG
Scarlett Philibosian - NHFG
From: Kristen Goland - IRI
Date: December 22, 2010
RE: IRI commitment to Groton Post-Construction Studies

The Groton wind project is part of Iberdrola Renewables (IRI) Avian and Bat Protection Plan (ABPP). This involvement dates back to March 2009 where NHFG worked with Iberdrola Renewables to create the work plan for baseline studies. We are very pleased that you have found the pre-construction studies sufficient and view this as a testament to the collaborative partnership underway. It is expected that this joint communication will continue throughout the life of the project.

The ABPP provides guidance as well as a commitment to obtain specific information regarding mortality at the Groton Wind Farm. Baseline and operational monitoring will be conducted to collect information that will be used to implement adaptive management actions, as necessary, to minimize or avoid risk and identify mitigation measures. As you are aware, Groton Wind has committed to conducting mortality surveys through the life of the project as described in the Projects NHSEC Application and the corporate ABPP. The post-construction mortality program consists of two phases of monitoring: baseline and operational. Baseline monitoring consists of short-term intensive surveys involving standardized carcass searches and bias trials for searcher efficiency and carcass removal conducted by trained biologists. The protocols would be similar to those used at the Lempster Wind Farm. This baseline monitoring is proposed to begin the first year after commercial operations. It will provide a baseline mortality rate that IRI, NHFG and USFWS can use to determine whether estimated impact levels for a project are within ranges for northern forested ridgelines. Subsequently, the operational monitoring is a series of long-term standardized surveys using Operations personnel. It systematically monitors and reports wildlife fatalities to assess long-term operational impacts (trends) of the project. One baseline mortality rates are established, operational monitoring shifts the focus from costly short-term mortality rates to examine long-term trends that assess ongoing impacts and their implications.

Groton Wind will continue to collaborate with NHFG through the life of the project as we discussed during our meeting on December 3, 2010. We are pleased that you feel our approach to long term monitoring is comprehensive. Through our Groton Wind Application to the SEC we have committed to the following:

“After the Project commences operations, Groton Wind is committed to one year of formal post-construction monitoring similar to efforts currently underway at the Lempster project, including searcher efficiency, scavenging removal rates, and habitat analysis. If, after one year of study, the Project’s mortality rates are lower or within the range of other Northern Forested wind project locations, Groton Wind will immediately implement yearly monitoring for the life of the Project as described in the Iberdrola Renewables Avian and Bat Protection Plan. If, after the first year of study, Groton Wind’s mortality rates exceed the most current established threshold ranges for mortality at wind projects on northern forested ridges, Groton Wind will conduct a second year of post-construction monitoring similar to the first but with an emphasis on determining why mortality rates have exceeded estimated thresholds.”

IRI will commit to continued coordination with NHFG and a yearly mortality report to the agency including both baseline and operational monitoring will be submitted. IRI will discuss any concerns NHFG has regarding the mortality data including the need for adaptive management measures (curtailment or other) should mortality rates exceed the most current established threshold ranges on northern forested ridgelines.

Additionally, IRI will commit to bat acoustic detection monitoring during the baseline surveys occurring during the operational phase of the project and will attempt to correlate the activity data with Post construction fatality numbers where feasible. This study will be coordinated with NHFG and reports generated will be made available to NHFG.