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August 10, 2012

*Via Hand-Delivery and Electronic Mail*

Ms. Jane Murray, Secretary  
New Hampshire Site Evaluation Committee  
New Hampshire Department of Environmental Services  
29 Hazen Drive  
Concord, NH 03302-0095

*Re: First Supplement to Application of Antrim Wind Energy, LLC*  
*Docket No. 2012-01*

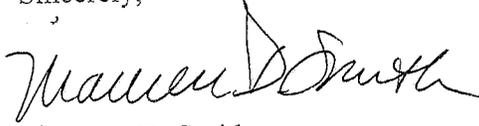
Dear Ms. Murray:

Please find enclosed for filing with the New Hampshire Site Evaluation Committee in the above-captioned matter an original and nine (9) copies of the First Supplement to Application of Antrim Wind Energy, LLC, including Appendices and Exhibits. Please note that all Appendices and Exhibits are also provided on the enclosed CD.

We have provided to members of the service list electronic copies of the First Supplement to Application, with copies of Appendices and Exhibits provided by way of an electronic Dropbox, pending addition of the documents to the Committee's website. Mr. Craig will receive a hard copy of the entire filing.

Please feel free to call me with any questions. Thank you for your assistance.

Sincerely,

  
Maureen D. Smith

Enclosures

cc: Service List (via email), excluding Committee Members  
Clark A. Craig, Jr. (by first class mail)  
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**FIRST SUPPLEMENT TO APPLICATION OF ANTRIM WIND ENERGY, LLC**  
**Docket No. 2012-01**

The following information supplements corresponding sections of Volume 1 and Appendices provided in Volumes 2 and 3 of the Application of Antrim Wind Energy, LLC, which was submitted to the New Hampshire Site Evaluation Committee on January 31, 2012.

**VOLUME 1**

**Section C: Site Information**

**C. 1. Location and address of the site of the proposed facility – pp. 5-6.**

*Insert the following at the end of this subsection:*

For purposes of assisting in construction of the Project, an adjacent property owned by another landowner will be used for a temporary staging or laydown yard, with the landowner's consent. The new laydown yard will be in addition to the one described on page 33 of the Application, as submitted on January 31, 2012. This additional property consists of approximately 3 acres and is located off Route 9, west of the proposed entrance to the Project. Figure C.1 has been revised to show the additional laydown yard location. The revised figure is provided as Figure C.4.

**C.2 Site acreage shown on an attached property map and located by scale on a U.S. Geological Survey or GIS map - pp. 6-7.**

*Insert the following after the first paragraph of this subsection:*

In addition, a portion of property approximately 3 acres in size will be used as a laydown yard. Figure C.1 has been revised to include the Project's additional laydown yard location. The revised figure is provided as Figure C.4.

**C.4. Identification of wetlands and surface waters of the state - p. 9.**

*Insert the following after the first paragraph of this subsection:*

Additional field delineations have been performed to evaluate any potential wetlands or wetlands impacts associated with the addition of a laydown yard. A Supplemental Wetland Delineation Report (July 2012) is provided in Appendix 2A, Exh. 5-1. The report has identified 0.62 acres of wetlands in the property to be used for siting a laydown yard, bringing the total acreage of wetlands identified within entire surveyed area to 7.02 acres. The associated wetland impact for the proposed laydown area totals 955 sq. ft. or 0.02 acre of wetland. See App. 2A, Exh. 5-1, Table 4-1. Additional wetland data is provided in Appendix 2A, Exh. 5-1.

*Insert the following at the end of this subsection:*

The Joint USACE/NH DES Standard Dredge and Fill Permit Application, NHDES Site Specific Terrain Alteration Application and NHDES Section 401 Water Quality Certification Request have been supplemented to include required information about the proposed laydown yard and associated wetlands/surface water impacts.

**C.5. Identification of natural and other resources at or within or adjacent to the site.**

**C.5.a. General setting** - p. 9.

*Insert the following at the end of this subsection:*

Staff of the New Hampshire Natural Heritage Bureau (NHNHB) has visited the Project site on December 13, 2011 and July 13, 2012. In addition, the Natural Community Assessment provided in Appendix 11A of the Application has been updated and revised. The August 2012 Revised Natural Community Assessment is submitted as Appendix 11A-1. On August 2, 2012, the NHNHB determined that “it is unlikely that the proposed wind facility will impact rare plants species or exemplary natural communities.” The August 2, 2012 letter from NHNHB is provided as Appendix 11A-2.

**C.5.b. Wildlife Resources** - pp. 9-10.

*Insert the following at the end of this subsection:*

A general wildlife impact assessment has been conducted, as described in Section I.5.c.(h) of this Application, and the assessment is provided in Appendix 12G.

**C.5.d. Conservation Lands** - pp. 10-11.

*Insert the following at the end of this subsection:*

Additional conservation lands were identified in the vicinity of the Project by the Antrim Conservation Commission and AWE during SEC Technical Session No. 1 in this docket. Mapping depicting these additional areas is provided as Figure C.5.

**C.6. Information related to whether the proposed site and facility will unduly interfere with the orderly development of the region having given due consideration to the views of municipal and regional planning commissions and municipal governing boards – pp. 11-13.**

*Insert the following paragraph before the first full paragraph on page 12 of the Application:*

The Project is located in an area that is largely undeveloped and has been recognized for habitat and ecological values in the Wildlife Action Plan. However, development of a wind park would be consistent with the surroundings, as there are no significant environmental impacts. At the same time, the Project would provide additional tax base for the Town of Antrim without imposing the need for additional town

services, which could alleviate the need to attract high-impact development. As indicated in Appendix 12G, the Project would result in a relatively small and narrow footprint area of 11.5 acres within a much larger landscape. Most of the Project impact will be temporary and forest management activities could continue in the area. Thus, the Project would not prevent further development of other areas within the town or region, would not prevent other economic activities such as logging activities, to the extent permitted, and would not prevent orderly development of the region. That the municipal governing board, the Town of Antrim Board of Selectmen, have supported the Project, provides an indication that the Project would facilitate, rather than inhibit, orderly development in the area.

AWE has also provided information to show that the habitat values provided by the Project site would not be significantly affected, allowing for continued use of the area for recreational and wildlife-related activities. Appendix 12G provides an assessment of wildlife impacts. The unfragmented habitat block associated with the Project area is approximately 12,994 acres (source: NH GRANIT, Wildlife Action Plan, Unfrag block layer, 2010). The area that will be initially disturbed during project construction will be approximately 63 acres and after construction of facilities is complete, approximately 46.4 acres will be restored. Ultimately, the final Project, including the maintained roads, electrical infrastructure and turbine pad footprint, will total 11.5 acres. While the Project will create some degree of disruption in a forested landscape that is already frequently disturbed and bisected by forest management activities, the narrow footprint does not create a significant habitat fragmentation, especially given the scale of the habitat block. Disturbance caused by road use from vehicles will be restricted to operations personnel and will be low in volume. Road footprints are narrow enough that there will still be opportunity for wildlife to traverse the area unimpeded. Finally, several large parcels of land will be conserved as part of the Project, providing for protection of 685 acres of habitat that will not be developed. This habitat conservation effort further ensures that a significant portion of this habitat block will remain intact and that existing values will be preserved. *See Appendix 12G.*

*Delete the first sentence of the first full paragraph on page 12.*

## **Section D: Other Required Applications and Permits**

### **D.3. A copy of the completed application form for each such agency– p. 15.**

*Insert the following at the end of this subsection:*

- First Supplements to Appendices 2A, 2B and 2C: Revisions and Supplements to Appendices 2A, 2B and 2C reflecting additional wetland and other information relative to the laydown yard.

The information contained in the First Supplements to Appendices 2A, 2B and 2C of Volume 2 of the January 31, 2012 application is as follows:

1. First Supplement to Wetlands Permit (Vol. 2, Appendix 2A)
  - Supplement to application forms (App. 2A, Application Form)
  - Copy of supplementary application check (App. 2A, Exh. 1-1)
  - New Hampshire Natural Heritage Bureau Letter, August 2, 2012 (App. 2A, Exh. 2-1) (Appendix 11A-2)
  - Revised Project Location Map (App. 2A, Exh. 3-1)
  - Tax Map; Supplementary Abutter Notifications/Receipts (App. 2A, Exh. 4-1)
  - Supplemental Wetlands Delineation Report (App. 2A, Exh. 5-1)
  - Response to Env-Wt 302.04(a) (App. 2A, Exh. 11-1)
  
2. First Supplement to Alteration of Terrain Application (Vol. 2, Appendix 2B)
  - Supplementary/revised application form (App. 2B, Application Form)
  - Revised Project Mapping (App. 2B, Exh. 3-1)
  - Property Owner Information and Agreements (App. 2B, Exh. 11-1)
  
3. First Supplement to Water Quality Certification Request (Vol. 2, Appendix 2C-1)

The above submissions are incorporated into the Application.

### **Section E. Energy Facility Information**

#### **E.3. The facility's size and configuration - pp. 16-17.**

*The first paragraph of this subsection is revised to read as follows:*

The facility's size, in terms of generating capacity of the Project, is proposed to be 30 MW. The Project will consist of 10 turbines each with a nameplate generating capacity of 3 MW. Antrim Wind is seeking certification of the Acciona AW-116 3 MW turbine (AW-116/3000). This turbine is a horizontal axis machine configured much like any other typical wind turbine in that its major components include a tower, a nacelle, and a rotor with three blades. A 3 MW generator is housed in the nacelle, which is mounted on a sliding ring that allows it to rotate into the wind to maximize energy production. The nacelle is installed on a 92.5M tall tubular steel tower. Each turbine has a rotor diameter of 116 meters. The total turbine height from foundation to blade tip is 492 feet. Additional details concerning the configuration of the AW-116/3000 turbine are found in Appendix 5.

*The first two sentences of the last paragraph on page 16 are revised to read as follows:*

The proposed Project will be located on approximately 1,853 acres of private lands consisting of six parcels that are either leased or used, with consent, by AWE. These parcels are shown on Figure C4 submitted with the First Supplement to Application.

Temporary staging (laydown) areas will be required during construction for contractor offices and materials and equipment handling and storage. One laydown yard will be located in an upland area between Route 9 and the Project substation and will be approximately 2 acres in size. The other laydown area will be located off Route 9, west of the proposed Project entrance, and will occupy approximately 2.9 acres of previously disturbed area which was a gravel borrow pit and log landing. The use of this site will require the filling of approximately 955 square feet or 0.02 acre of scrub-shrub wetland that is within the former gravel borrow pit area.

The Project will include two temporary meteorological (“met”) towers. One of the towers that AWE is requesting to be certificated is currently erected on the site and has been in place since November 2009 pursuant to a building permit issued by the Town of Antrim in October 2009 after AWE received a variance from the Antrim ZBA. Under the current building permit and variance conditions, that tower will need to be removed by November 30, 2012. Consistent with best industry practices, AWE plans to continue to collect data from the existing met tower up until the commencement of construction. As such, AWE is requesting that this met tower be certificated as a temporary part of the facility to be operated and maintained for planning purposes up until commencement of construction of the wind energy facility.

Because the existing met tower is already in place, it will require no new impacts of any kind to remain in place. An existing 4-wheel drive path accesses the site and the minimal clearing required for the existing met tower has already occurred. The tower has no lights, requires no external power, makes no noise and does not present a hazard to the public. The Town of Antrim has already permitted this tower, on more than one occasion. AWE will remove this tower prior to commencement of any construction on the wind energy facility. A map showing the location of the existing met tower is provided as Figure E4. The technical specifications for both towers are provided below.

It is also customary for wind farms in complex terrain to install more than one meteorological tower prior to financing the construction of the facility. For this reason, AWE shall require the installation and certification of a second temporary met tower to be operated and maintained prior to commencement of construction of the wind energy facility.

The proposed site of the second tower is located on private property owned by Stephen Cotran (Map 236 Lot 001) and is entirely within land leased by AWE. Access to the met tower site will be by existing roads and trails to the extent possible. The trail to the site originates from Hattie Brown Road, and traverses property owned by Antrim

Limited Partnership (Map 235 Lot 014), which is also entirely within land leased by AWE. Figure E5 shows the location of the proposed site and access. The met tower will be located at the site proposed for turbine 8. No clearing other than that needed for the proposed turbine will occur for this met tower, and it will total 0.69 acres. Figure E6 depicts a larger scale map with added detail of the met tower location and clearing.

The location for the proposed met tower, being entirely within the proposed site of turbine 8, has been surveyed for natural resources as part of surveys performed to support the AWE Application submitted January 31, 2012. The second met tower will not impact any regulated natural resources and will not create additional impacts beyond those outlined in the Application.

The proposed met tower is manufactured by NRG Systems (Hinesburg, Vermont), the leading supplier of meteorological towers in the world for the purposes of assessing wind resource feasibility. NRG has supplied tens of thousands of towers throughout the world, including more than 100 in New England. Tower height is 60M (196.85 ft) tall. The tower consists of 10-inch diameter tubular steel sections for the bottom half and 8" diameter tubular steel sections for the top half. There is no foundation and the tower sits on a 9 sq. ft. steel base plate which is anchored to the ground. The tower is supported by twenty-four (24) guy wires attached at six levels in 4 directions. There are two guy anchors in each of the four ordinal directions, with three (3) guy wires being attached to each anchor point. The anchors are rock anchors, which are self-camming devices inserted into a 1.5" drilled hole. Each anchor has a pull-out strength in excess of 24,000 lbs. All anchors will be removed below grade and the holes grouted over at the conclusion of the study. The tower is engineered in accordance with EIA/TIA-222-F standards and can accommodate 1" of icing and 120 MPH consistent wind loads.

The tower is outfitted with anemometers and wind direction vanes at three levels, attached with steel mounting booms. The tower also has sensors to measure temperature, barometric pressure and relative humidity. The sensors are attached via signal wires to a logger which is mounted to the lowest section of the tower. The logger is powered by a battery and a small solar panel. A CDMA "ipack" is also powered by a battery and solar panel, which sends daily emails with site data, enabling daily review of data quality and easy alerts if there is any problem with the tower.

The tower emits no light and makes no noise. There are no utilities required for tower installation or operation (water, sewer, electric). The tower creates no waste and is located entirely on private property and poses no public safety hazard. Again, both temporary met towers will be completely removed prior to the commencement of the construction of the wind energy facility.

## **Section F: Renewable Energy Facility Information**

### **F.3.d. Unit efficiency - pp. 24-25.**

*Insert the following at the end of the first paragraph on page 25:*

Therefore, AWE seeks certification of the Acciona AW-116/3000 turbine. In the event that AWE determines that it would be appropriate to install a different turbine

model, AWE will notify the Committee of the change. AWE understands that any proposed change in turbine model will require the review and approval of the Committee. AWE will work collaboratively with the Committee, its counsel and the parties to this docket to provide appropriate information and to support any required processes to enable the Committee to review and approve a turbine model expeditiously.

**F.5.b. Substation, switchyard, staging area, and operation & maintenance building**  
- pp.33-35.

*The second full paragraph of page 33 is revised to read as follows:*

As discussed above, the Project will require a temporary staging (laydown) area to serve as an on-site construction headquarters and for storing and handling materials and equipment used for the Project. Two separate sites have been selected for laydown areas. The first is located in an upland area between Route 9 and the Project substation and will be approximately 2 acres in size. Currently this site is forested, and will need to be cleared and graded. The second proposed site for a laydown yard is located off Route 9, west of the proposed Project entrance, and will occupy approximately 2.9 acres of previously disturbed area which was a gravel borrow pit and log landing. Approximately 0.02 acres or 955 square feet of previously disturbed wetland in the middle of the borrow pit will be filled.

At both locations, temporary erosion control measures will be implemented to prevent erosion and sedimentation and 25-foot setbacks from adjacent wetland areas will be employed. Topsoil will be stripped and stockpiled for use during restoration of the site; geotextile fabric will be installed and topped with a layer of 12-16 inches of well drained gravel. After construction is completed, debris, unused materials, the gravel, and the geotextile fabric will be removed and the stockpiled topsoil will be replaced. The areas will be stabilized and seeded using approved native New Hampshire seed mixes and the site will be allowed to re-vegetate with native plant species.

*Insert the following new sentence on page 34:*

Figure F.5b, entitled “O & M Building and Temporary Staging Area” (shown on page 35 of the Application) has been revised to depict the location of the additional Temporary Staging Area and the revision is provided as Figure F.5c.

*Insert the following after section F.5.c and before section F.5.d on page 36:*

**F.5.c.1 Met Tower Installation**

As described in Section E.3, the second temporary met tower would be installed on land leased by AWE and within the proposed site of turbine 8. No foundation or utilities would be required for installation of the met tower. Sufficient space would be available to erect the met tower using standard erection techniques. The tower would be placed on a 9 ft. sq. steel base plate anchored to the ground and would be supported with two guy anchors in each direction. Three guy wires would be attached to each anchor

point. Because the met towers are temporary and would be removed upon completion of necessary study, standard disassembly techniques would be used, including removal of all anchors below grade and filling all anchor holes.

## **Section H: Additional Information**

### **H.1 Description in detail of the type and size of each major part of the proposed facility – pp. 44-46**

*The first paragraph on page 44 is revised to read as follows:*

The proposed Antrim Wind Energy Project consists of two temporary met towers (one existing and one to be constructed), one permanent met tower, 10 wind turbines, a collection and interconnection substation, approximately 4 miles of new access road, an operations and maintenance building and two temporary staging/laydown areas. There will be no new transmission lines other than collector system lines. It is expected that the total direct impact for the access roads, turbine pads, staging areas, work pads and other construction-related disturbance will be 63 acres, with 49.4 acres of that to be restored and revegetated. The final project footprint area, including roads, infrastructure and turbine pads, will be approximately 11.5 acres. Each element of the Project is described in more detail below.

*Insert the following at the end of the first full paragraph on page 46:*

AWE seeks certification of the Acciona AW-116/3000, as described in section F.3.d.

*Insert the following at the end of section H.1 on page 46:*

### **Temporary Meteorological Tower**

A second temporary meteorological tower will be installed at the same site proposed for turbine 8 within land leased by AWE to obtain wind data at the Project site. The tower will be approximately 60M (196.85 ft.) in height and consists of 10-inch diameter tubular steel sections on the bottom half and 8-inch sections on the top half, with no foundation. The tower is engineered in accordance with EIA/TIA-222-F standards and can accommodate 1 inch of icing and 120 MP consistent wind loads.

## **Section I: Potential Health and Environmental Effects and Mitigation Plans**

### **I. 1. Aesthetics – pp. 59-63.**

*Add the following to the end of the subsection entitled “Meteorological Tower” on page 62:*

In addition, a temporary met tower approximately 60M (196.85 ft.) in height will be constructed to allow for wind data to be gathered pending construction of the turbines and permanent met tower. The tower is similar in appearance to the existing temporary met tower and emits no light or noise. The tower may be visible from certain locations but any aesthetic impact would be very small and also temporary.

**I.4. Water quality** - pp. 65-67.

*Add the following to the last paragraph on page 65:*

The Joint USACE/NH DES Standard Dredge and Fill Permit Application, NHDES Site Specific Terrain Alteration Application, and NHDES Section 401 Water Quality Certification Request have been supplemented as described in Section D.3 to incorporate the First Supplement to Application and supplements to Appendices 2A, 2B and 2C.

**I.5. Natural Environment**

**I.5.a.(a) Plants and trees** – pp. 67-70.

*Insert the following after the last paragraph on p. 68:*

Staff of the New Hampshire Natural Heritage Bureau (“NHNHB”) visited the Project site on December 13, 2011, and July 13, 2012. Based on observations during the site visits, NHNHB has determined that the Project will not likely impact exemplary natural communities. *See* Appendix 11A-1 and Appendix 2A, Exhibit 2-1. However, the Project’s Natural Communities Map (Figure 1.5.a) has been revised to modify several community descriptions developed through consultation with NHNHB. The revised Natural Communities Map is provided as Figure I.5.a-1. In addition, Table I.5.a, the Table of Natural Communities Identified in the Natural Resource Study Area, shown on page 70, has been revised to reflect changes in natural community descriptions that were made as the result of consultations with NHNHB. The revised Table is provided as Table I.5.a-1.

**I.5.a.(b) Rare Plants** – p. 70.

*Insert the following paragraph after the last paragraph on p. 70:*

Staff of the New Hampshire Natural Heritage Bureau (“NHNHB”) visited the Project site on December 13, 2011, and July 13, 2012. Based on observations during the site visits, NHNHB has determined that it is unlikely that the Project will impact rare plants. *See* Appendix 11A-1; Appendix 2A, Exhibit 2-1.

**I.5.b. (a) Wetlands** – pp. 76- 81.

*Insert the following after the second paragraph on page 76:*

Additional wetlands surveys of the newly proposed laydown area were conducted and documented in a report entitled “Supplemental Wetland Delineation Report” dated July 2012. *See* Appendix 2A, Exhibit 5-1. As part of the report, the following supplemental maps and figures were provided. The map depicted in Figure I.5.b. and Figure 2 (Natural Resource Survey Map) have been revised to include additional survey areas (laydown parcels) and mapped wetlands. This revision is provided in the maps provided in Figure I.5.b-1e. Table I.5.b(a), Wetlands and Streams Within the Natural Resource Survey Area, has been revised to include wetlands found on laydown area parcels. This revision is provided in Table I.5.b(a)-1.

**I.5.b(c) Impacts and Mitigation for Wetlands and Vernal Pools** – pp. 80-81  
*Insert the following at the end of this subsection:*

Table I.5.b(c) has been revised to include wetlands impacted by fill at the additional laydown area. This revision is provided in Table I.5.b(c)-1.

**I.5.c. Wildlife** – pp. 81-94.

**(g) Impacts and Mitigation for Avian and Bat Species** - pp. 93-94.  
*The last sentence of the last paragraph on p. 93 is revised to read as follows:*

The initial Avian and Bat Protection Plan is provided in Appendix 12F to this Application and a revised Avian and Bat Protection Plan, dated June 15, 2012, is provided as Appendix 12F-1.

*Insert the following at the end of this subsection:*

**(h) General Wildlife Impact Assessment**

AWE has conducted an assessment of general impacts to wildlife, which appears in Appendix 12G. Direct impacts to wildlife from construction and operation of the project are not expected to be a significant concern. Mortality monitoring at other projects in similar settings suggest that wildlife mortality is low. *See Attachment A to Appendix 12G.* In addition, the Avian Bat and Protection Plan, Appendix 12F-1, incorporates monitoring and continued consultation with appropriate agencies to provide additional protection to avian and bat species on the site. With regard to impacts from habitat alteration, the assessment concludes that the narrow footprint of 11.5 acre development represents a small incision into a large block of habitat and that the habitat conservation effort coming from the Project will ensure that a significant portion of the habitat block will remain intact. Thus, construction or operation of the Project is not expected to significantly alter any wildlife populations in the region. *See Appendix 12G and Attachment A.*