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October 11, 2012

Via Hand-Delivery and Electronic Mail

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

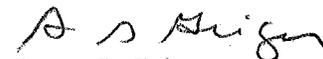
**Re: Docket No. 2012-01-Application of Antrim Wind Energy, LLC
Fourth Supplement to Application, Supplemental Testimony, and Appendices
2D-1, 2H, 2I and 5A**

Dear Ms. Murray:

Enclosed for filing with the New Hampshire Site Evaluation Committee in the above-captioned matter please find an original and 9 copies of Fourth Supplement to Application, Supplemental Testimony, and Appendices 2D-1, 2H, 2I, and 5A.

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

Very truly yours,


Susan S. Geiger

Enclosures

cc: Service List (excluding Committee Members)
Clark A. Craig, Jr. (by first class mail)
926553_1

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

DOCKET NO. 2012-01

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

**FOURTH SUPPLEMENT TO APPLICATION OF
ANTRIM WIND ENERGY, LLC,
SUPPLEMENTAL PREFILED TESTIMONY, AND
APPENDICES 2D-1, 2H, 2I and 5-A**

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**FOURTH SUPPLEMENT TO APPLICATION OF
ANTRIM WIND ENERGY, LLC**

Docket No. 2012-01

The following information supplements corresponding sections of Volume 1 and Appendices of the Application of Antrim Wind Energy, LLC, which was submitted to the New Hampshire Site Evaluation Committee on January 31, 2012 and supplemented by filings made thereafter on August 10, 2012 (First Supplement), August 22, 2012 (Second Supplement) and September 5, 2012 (Third Supplement).

VOLUME 1

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 information in this subsection:

- **Appendix 2D-1:** NH DOT Application for Driveway Permit dated September 4, 2012 for the Temporary Laydown/Construction Area, including plans for the laydown area. Appendix 2D-1 is submitted with this Fourth Supplement to Application of Antrim Wind Energy, LLC.
- **Appendix 2H:** Letter and attachments to Craig Rennie Alteration of Terrain Bureau, NHDES dated August 30, 2012. Appendix 2H contains amendments to Application Appendices 2A, 2B, and 2C, reflecting changes to the Project related to the addition of a radar-activated lighting system, as well as corrections to the 401 Water Quality Certification and the Wetlands Permit application. These amendments are as follows:
 - Appendix 2A, p. 1-3 is revised to reflect the correct wetland area impact of 9,755 square feet.
 - Appendix 2B, Exhibit 1, p. 2, 6.C., and Appendix 2C, Section 2.6 of the NH Programmatic General Permit, are revised to increase the impervious surface area from 500,940 square feet to 501,065 square feet.
 - Revised civil design plans for sheets C-12, C-17, C-20, and G-3, depict the details the radar tower and radar tower site.

- Revised stormwater plans for sheets WS-2, WS-3, and SW-12 reflect the revised impervious surface area.
- A buffer design calculation sheet, B-25, is designed to meet project Water quality requirements for the new impervious area.
- Sheet C-1A is a grading plan for the proposed additional laydown yard.
- Revisions to responses to Env-Wt 302.04(a) to update Agent Information and to revise the wetland impact information to reflect the correct wetland impact area of 9,755 square feet.

Appendix 2H is submitted with this Fourth Amendment to Application of Antrim Wind Energy, LLC.

- **Appendix 2I:** Response to NHDES requests for additional information associated with Antrim Wind Energy’s applications, dated June 14, 2012. Appendix 2I consists of the following:
 - Cover letter from Rick Chase, TRC, to Craig Rennie, NHDES
 - Detailed information associated with the Alteration of Terrain Permit Application, as requested by Craig Rennie, NHDES.
 - Information regarding depth and types of cover associated with the Individual Sewage Disposal System (ISDS) Application, as requested by Rene Pelletier, NHDES.

Appendix 2I is submitted with this Fourth Amendment to Application of Antrim Wind Energy, LLC.

Section E. Energy Facility Information

E.3. The facility’s size and configuration – Application, p. 16, as amended by First Supplement to Application of Antrim Wind Energy, LLC, p. 4.

Insert the following after the first paragraph of this subsection:

The Project also includes a radar activated lighting system such as the Harrier Radar System manufactured by DeTect, Inc. (the “Radar System”). This system is used to control the obstruction lights required by the Federal Aviation Administration (“FAA”) and consists of a radar mounted on a monopole tower and pad-mounted control equipment at the base of the tower. The radar tower will be located approximately 380 feet southeast of WTG-10, near the southerly terminus of the access road. The tower will be 90 feet tall, with a caisson foundation six feet in diameter. The Radar System will also require a concrete equipment pad approximately 16’ X 6’ located at the base of the radar tower. The radar system operates by detecting nearby aircraft and activating the FAA obstruction lights if an aircraft is in close proximity to the wind turbines; otherwise the system keeps the obstruction lights turned off. While AWE is seeking certification of the Radar System facilities, it may not be able to install or operate them until the FAA issues

a revised advisory circular detailing the requirements for such systems. Additional details on the Radar System are included in Appendix 5-A submitted herewith.

Section F: Renewable Energy Facility Information

F.5. Construction schedule, including start date and scheduled completion date

Insert the following after subsection F.5.e – p. 37:

F.5.f. Radar Activated Lighting System installation

AWE plans to install the radar activated lighting system simultaneously with the construction of the other Project facilities, provided that the FAA has issued its revised advisory circular sixty (60) days or more prior to the commencement of construction. In the event that the advisory circular is not issued by that time, then AWE shall install the Radar System no later than twelve months after the FAA has issued the revised advisory circular detailing the requirements for such systems. In the event of a delayed FAA advisory circular, AWE may install the Radar System at the same time that other Project facilities are constructed and only activate it after the advisory circular has been issued.

In any event, the radar system will require the use of an all terrain crane to allow for the erection of the 90-foot tower and the installation of the radar antenna on top of the tower. The radar equipment, including the antenna and tower is relatively light, and installation can be accommodated by a light duty all terrain crane truck that can use the Project's access roads even after they have been restored post construction if necessary. If the radar system is installed at the same time as the other Project facilities, the caisson tower foundation and adjacent equipment slab will be poured at the same time that turbine foundations are being poured. Final installation of the tower and radar would occur after the main turbine crane has left the area of WTG #10. If the installation of the Radar System occurs after the other Project facilities are constructed and the site has been restored, then a small concrete truck will be brought to the site to pour the tower foundation and equipment slab, followed by a crane truck to install the tower and radar antenna after the concrete has cured.

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, as amended by First Supplement to Application of Antrim Wind Energy, LLC, p. 8.

Insert the following at the end of this section:

Radar System

The Project includes a radar activated lighting system such as the Harrier Radar System manufactured by DeTect, Inc. (the “Radar System”). This system is used to control the obstruction lights required by the Federal Aviation Administration (“FAA”) and consists of a radar mounted on a monopole tower and pad-mounted control equipment at the base of the tower. The radar tower will be located approximately 380 feet southeast of WTG-10, near the southerly terminus of the access road. The tower will be 90 feet tall, with a caisson foundation six feet in diameter. The Radar System will also require a concrete equipment pad approximately 16’ X 6’ located at the base of the radar tower. Detailed specifications of the radar tower are contained in Appendix 5A submitted with this Fourth Supplement to Application of Antrim Wind Energy, LLC.

H.5. A description in detail of the applicant’s financial, technical and managerial capability to construct and operate the proposed facility – pp. 53-57.

Applicant’s Financial Capability – p. 55.

The first sentence of the third full paragraph on page 55 is revised to read as follows:

The all-in cost of constructing the Project is estimated to be \$60-\$70 million.

Section I: Potential Health and Environmental Effects and Mitigation Plans

I. 1. Aesthetics – pp. 59-63.

Other Project Components

Night Lighting – p. 62.

Add the following at the end of this subsection:

AWE has entered into an agreement with the Appalachian Mountain Club (“AMC”) to utilize a radar activated lighting system the (“Radar System”), subject to necessary approvals by the FAA. See Appendix 20 submitted with Second Supplement to Application of Antrim Wind Energy, LLC. Such a lighting system is meant to address nighttime visual impacts by keeping the required red obstruction turbine lights turned “off” unless the radar detects aircraft in the area and activates the obstruction lights. This technology represents the best available technology for mitigating visual impacts from nighttime lighting requirements of the FAA and would greatly reduce the frequency of time that any obstruction lighting would be visible on turbines in the Project area. The technology is currently pending approval from the FAA, and is awaiting FAA guidelines for use, known as an advisory circular. AWE has committed to implementing the technology on the Project simultaneously with the commission of the other facilities if

the FAA has issued its advisory circular 60 days or more prior to the commencement of construction. Otherwise installation will occur no later than 12 months after the FAA has issued its revised advisory circular. AWE is requesting that the SEC certificate these facilities which are described in Sections E.3, F.5.f, and H.1, above, and in Appendix 5-A submitted with this Fourth Supplement to Application of Antrim Wind Energy, LLC.

I.4. Water Quality – pp. 65-67.

The last sentence of the second full paragraph on page 67 is revised to read as follows:

Construction will result in only 0.224 acres (approximately) of unavoidable wetland impacts.

APPENDICES

Appendix 12G (Submitted with First Supplement to Application)

Insert the following at the end of Appendix 12G:

Literature Cited

- Anderson, S.H., K. Mann, and H.H. Shugart, Jr. 1977. The effect of transmission line corridors on bird populations. *Amer. Midl. Nat.* 97: 216-221.
- Blake, J.G. and J.R. Karr. 1987. Breeding birds of isolated woodlots: area and habitat relationships *Ecology*. 68: 1724-1734.
- Burke, R.C. and J.A. Sherburne. 1982. Wildlife populations utilizing right-of-way habitats along Interstate 95 in northern Maine.
- Butcher, G.S., W.A. Niering, W.J. Barry, and R.H. Goodwin. 1981. Equilibrium biogeography and the size of nature preserves: an avian case study. *Oecologia*. 49: 29-37.
- Chasko, G.G. and J.E. Gates. 1982. Avian habitat suitability along a transmission line corridor in an oak-hickory forest region. *Wildl. Monogr.* 82:1-41.
- DeGraaf, R.M., M. Yamaski, W.B. Leak, J.W. Lanier. 1992. *New England Wildlife: Management of Forested Habitats*. Gen. Tech. Rep. NE-144, Radnor, PA: United States Department of Agriculture, Forest Service, Northeastern Forest Experiment Station. 271 p.
- Freemark, K. and B. Collins. 1992. Landscape ecology of birds breeding in temperate forest fragments. Pp. 443-454 in Hagan, J.M. and D.W. Johnston (eds.). *Ecology*

- and conservation of neotropical migrant landbirds Smithsonian Institution Press.
Washington D.C. 609 p.
- Gates, J.E. 1991. Powerline corridors, edge effects, and wildlife in forested landscapes of the Central Appalachians. Pp. 14-32 in Rodiek, J.E. and E.G. Boven (eds.). Wildlife and habitats in managed landscapes. Island Press, Washington D.C. 219 p.
- Hunter, M.L. 1990. Wildlife, forests, and forestry: principles of managing forests for biological diversity. Prentice-Hall, Inc. Englewood Cliffs, NJ. 370 p.
- Lynch, J.F. and R.F. Whitcomb. 1978. Effects of the insularization of the eastern deciduous forest on avifaunal diversity and turnover. Pp. 461-489 in A. Marmelstein (ed.). Classification, inventory, and analysis of fish and wildlife habitat: Proceeding of a National Symposium, Phoenix, Arizona, Jan. 24-27, 1977. U.S. Fish and Wildlife Service, Department of the Interior, Washington D.C.
- Whitcomb, R.F., J.F. Lynch, M.K. Klimkiewicz, C.S. Robbins, B.L. Whitcomb, and D. Bystrak. 1981. Effects of forest fragmentation on avifauna of the eastern deciduous forest. Pp. 125-205 in R.L. Burgess and D.M. Sharpe (eds.). Ecological studies 41: Forest island dynamics in man-dominated landscapes. Springer-Verlag, New York.