The State of New Hampshire
Department of Environmental Services
Thomas S. Burack, Commissioner

Celebrating 25 Years of Protecting New Hampshire's Environment

FINAL DECISION AND CONDITIONS

August 31, 2012

Thomas S. Burack, Chairman
NH Energy Facilities Site Evaluation Committee
Dept. of Environmental Services
29 Hazen Drive, PO Box 95
Concord, NH 03302-0095

Re: Application of Antrim Wind Energy, LLC
Site Evaluation Committee No. 2012-001

Dear Chairman Burack:

This letter is to notify you that the DES Water Division staff have completed their technical review of the application and have made a final decision. DES recommends approval of the application with the conditions that are enclosed with this letter. The following is a list of the program permit numbers assigned to this project:

1. Alteration of Terrain Permit No. SEC-0005
2. Wetland Permit No. 2012-00211
3. Individual Subsurface Disposal System Application No. 201200219

This concludes the Division's review of the project which we hope will assist the SEC to complete its project evaluation process and render a final decision. If you have any questions, please contact me at 271-2951 or email at: Rene.Pelletier@des.nh.gov

Sincerely,

Rene Pelletier, Assistant Director
Water Division

cc: Michael J. Iacopino, Counsel to the SEC
Harry T. Stewart, Director, Water Division
Dana Valleau, TRC
David Keddell, ACOE
Gregg Comstock, DES Watershed Bureau
Brandon Kernen, DES Drinking Water & Groundwater Bureau
Eric Thomas, DES Subsurface Systems Bureau

Antrim Wind Energy

ALTERATION OF TERRAIN (AoT) BUREAU FINAL DECISION
AUGUST 31, 2012

RECOMMEND APPROVAL WITH THE FOLLOWING PERMIT CONDITIONS:

(Approval includes permit conditions from the Watershed Management Bureau (WMB) to satisfy 401 Water Quality Certification concerns, and from the Drinking Water and Groundwater Bureau (DWGB) to satisfy concerns regarding ledge blasting and monitoring Best Management Practices. These conditions are based the understanding that the NH Programmatic General Permit (PGP) issued by the U.S. Army Corps of Engineers applies to this project.)

PROJECT DESCRIPTION:

Construct a power generating wind park that will include the construction of 10 wind turbines (3.0 megawatts each), approximately 4 miles of gravel access drives with associated stormwater management facilities, an operations/maintenance building and substation, and various crane pad areas. The total area of contiguous disturbance has been calculated to be 60.8 acres (2,648,448 square feet). In addition, approximately 46.4 acres of the disturbed areas will be restored and re-vegetated, including roadway shoulders and side slopes, and portions of the construction pad areas.

PROJECT SPECIFIC CONDITIONS:

1. Activities associated with construction and/or operation of the project shall not cause or contribute to any violations of the surface water quality standards established in Administrative Rule Env-Wq 1700.
2. Revised plans shall be submitted for an amendment approval prior to any changes in construction details or sequences. The Department must be notified in writing within ten days of a change in ownership.
3. The Department must be notified in writing prior to the start of construction and upon completion of construction. Forms are available at: http://des.nh.gov/organization/divisions/water/aot/categories/forms.htm.
4. The revised plans dated August 30, 2012 and supporting documentation in the file are a part of this approval.
5. No construction activities shall occur on the project after expiration of the approval unless the approval has been extended by the New Hampshire Energy Facility Site Evaluation Committee (SEC).
6. This permit does not relieve the Applicant from the obligation to obtain other local, state or federal permits that may be required (e.g., from US EPA, US Army Corps of Engineers, etc.). Projects disturbing over 1 acre may require a federal stormwater permit from EPA. Information regarding this permitting process can be obtained at: http://des.nh.gov/organization/divisions/water/stormwater/construction.htm.
7. The smallest practical area shall be disturbed during construction activities.
8. The permittee shall employ the services of an environmental monitor ("Monitor"). The Monitor shall be a Certified Professional in Erosion and Sediment Control or a Professional Engineer licensed in the State of New Hampshire and shall be employed to inspect the site from the start of alteration of terrain activities until the alteration of terrain activities are completed and the site is considered stable.
9. During this period, the Monitor shall inspect the subject site at least once a week, and if possible, during any ½ inch or greater rain event (i.e. ½ inch of precipitation or more within a

24 hour period). If unable to be present during such a storm, the Monitor shall inspect the site within 24 hours of this event.

10. The inspections shall be for the purposes of determining compliance with the permit. The Monitor shall submit a written report to the Department within 24 hours of the inspections. The reports shall describe, at a minimum, whether the project is being constructed in accordance with the approved sequence, shall identify any deviation from the conditions of this permit and the approved plans, and identify any other noted deficiencies.
11. The Monitor shall provide technical assistance and recommendations to the Contractor on the appropriate Best Management Practices for Erosion and Sediment Controls required to meet the requirements of RSA 485-A:17 and all applicable DES permit conditions.
12. Within 24 hours of each inspection, the Monitor shall submit a report to DES via email (to Craig Rennie at: craig.rennie@des.nh.gov and to Jennifer Drociak at: jennifer.drociak@des.nh.gov).
13. Unless otherwise authorized by DES, the Applicant shall keep a sufficient quantity of erosion control supplies on the site at all times during construction to facilitate an expeditious (i.e., within 24 hour) response to any construction related erosion issues on the site.
14. The following Best Management Procedures for blasting shall be complied with:
    (1) **Loading practices**. The following blasthole loading practices to minimize environmental effects shall be followed:
        a) Drilling logs shall be maintained by the driller and communicated directly to the blaster. The logs shall indicate depths and lengths of voids, cavities, and fault zones or other weak zones encountered as well as groundwater conditions.
        b) Explosive products shall be managed on-site so that they are either used in the borehole, returned to the delivery vehicle, or placed in secure containers for off-site disposal.
        c) Spillage around the borehole shall either be placed in the borehole or cleaned up and returned to an appropriate vehicle for handling or placement in secured containers for off-site disposal.
        d) Loaded explosives shall be detonated as soon as possible and shall not be left in the blastholes overnight, unless weather or other safety concerns reasonably dictate that detonation should be postponed.
        e) Loading equipment shall be cleaned in an area where wastewater can be properly contained and handled in a manner that prevents release of contaminants to the environment.
        f) Explosives shall be loaded to maintain good continuity in the column load to promote complete detonation. Industry accepted loading practices for priming, stemming, decking and column rise need to be attended to.
    (2) **Explosive Selection**. The following BMPs shall be followed to reduce the potential for groundwater contamination when explosives are used:
        a) Explosive products shall be selected that are appropriate for site conditions and safe blast execution.
        b) Explosive products shall be selected that have the appropriate water resistance for the site conditions present to minimize the potential for hazardous effect of the product upon groundwater.
    (3) **Prevention of Misfires**. Appropriate practices shall be developed and implemented to prevent misfires.

(4) **Muck Pile Management**. Muck piles (the blasted pieces of rock) and rock piles shall be managed in a manner to reduce the potential for contamination by implementing the following measures:
   a) Remove the muck pile from the blast area as soon as reasonably possible.
   b) Manage the interaction of blasted rock piles and stormwater to prevent contamination of water supply wells or surface water.

(5) **Spill Prevention Measures and Spill Mitigation**. Spill prevention and spill mitigation measures shall be implemented to prevent the release of fuel and other related substances to the environment. The measures shall include at a minimum:
   a) The fuel storage requirements shall include:
      i. Storage of regulated substances on an impervious surface;
      ii. Secure storage areas against unauthorized entry;
      iii. Label regulated containers clearly and visibly;
      iv. Inspect storage areas weekly;
      v. Cover regulated containers in outside storage areas;
      vi. Wherever possible, keep regulated containers that are stored outside more than 50 feet from surface water and storm drains, 75 feet from private wells, and 400 feet from public wells; and
      vii. Secondary containment is required for containers containing regulated substances stored outside, except for on premise use heating fuel tanks, or aboveground or underground storage tanks otherwise regulated.
   b) The fuel handling requirements shall include:
      i. Except when in use, keep containers containing regulated substances closed and sealed;
      ii. Place drip pans under spigots, valves, and pumps;
      iii. Have spill control and containment equipment readily available in all work areas;
      iv. Use funnels and drip pans when transferring regulated substances; and
      v. Perform transfers of regulated substances over an impervious surface.
   c) The training of on-site employees and the on-site posting of release response information describing what to do in the event of a spill of regulated substances.
   d) Fueling and maintenance of excavation, earthmoving and other construction related equipment will comply with the regulations of the DES. Note these requirements are summarized in "WD-DWGB-22-6 Best Management Practices for Fueling and Maintenance of Excavation and Earthmoving Equipment" or its successor document (see http://des.nh.gov/organization/commissioner/pip/factsheets/dwgb/documents/dwgb-22-6.pdf).

15. The Applicant shall allow DES to inspect the Activity and its effects on affected surface waters at any time to monitor compliance.
16. Unless otherwise authorized by DES, the Applicant shall develop and submit a Construction BMP Inspection and Maintenance Plan to DES for approval at least 90 days prior to construction. Unless otherwise authorized by DES, the plan shall incorporate all elements described in **Appendix A** (items A through J). The Applicant shall then implement the approved plan.
17. Unless otherwise authorized by DES, the Applicant shall prepare a turbidity sampling plan to confirm that measures to control erosion during construction are not causing or contributing to surface water quality violations. Unless otherwise authorized by DES, the turbidity sampling

plan shall include the turbidity monitoring elements specified in the February 2, 2009 DES Inter-Department Communication entitled "Amendment of the November 16, 2006 Guidance for BMP Inspection and Maintenance and Turbidity Sampling and Analysis Plans for I-93 Expansion Project Water Quality Certification" which includes guidance regarding sampling station number and locations, sampling frequency, sampling duration, size of storms that need to be sampled, how soon after the start of precipitation sampling should begin, quality assurance quality control provisions, and turbidity meter specifications, The plan shall be submitted to DES for approval at least 90 days prior to construction. The Applicant shall then implement the approved plan. Unless otherwise authorized by DES, the turbidity sampling results along with station ID, date, time, other field notes, and a description of corrective actions taken when violations of state surface water quality criteria for turbidity are found, shall be submitted to DES via electronic mail within 48 hours of collection.

18. Unless otherwise authorized by DES, the Applicant shall develop and submit a monitoring plan to DES for approval at least 90 days prior to construction. The purpose of the plan is to confirm that operation of the Activity is not causing or contributing to violations of state surface water quality standards. The plan shall include the parameters to be sampled, the location, timing and frequency of sampling, sampling and laboratory protocols, quality assurance / quality control provisions as well as when data will be submitted to DES. The applicant shall consult with DES and submit the monitoring data in a format that can be automatically uploaded into the DES Environmental Database. Once approved by DES, the Applicant shall implement the sampling plan.
19. Unless otherwise authorized by DES, and in order to ensure the long-term effectiveness of approved permanent stormwater practices, the Applicant shall develop an Inspection and Maintenance (I & M) plan approved by DES. Unless otherwise authorized by DES, the I & M plan shall comply with the requirements of the Alteration of Terrain regulations (Env-Wq 1500), section Env-Wq 1507.08 Long Term Maintenance. Prior to construction, the Applicant shall submit the I & M plan to DES for approval and then implement the approved plan.
20. Unless otherwise authorized by DES , the Applicant shall prepare and submit a Spill Prevention, Control, and Countermeasures plan (SPCC) for the Activity in accordance with federal regulations (40 CFR part 112). The plan shall include a certification by a Professional Engineer licensed in the State of New Hampshire. The Applicant shall submit the plan to the DES Watershed Management Bureau for review and approval at least 90 days prior to the installation of the first turbine. The SPCC Plan shall include, but not be limited to, operating procedures to prevent oil spills, control measures installed to prevent oil from entering surface waters, countermeasures to contain, clean up and mitigate the effects of an oil spill, and facility inspections. The Applicant shall then implement the approved plan and maintain records demonstrating compliance with the plan. Such records shall be made available to DES within 30 days of receiving a written request by DES.
21. Unless otherwise authorized by DES, the Applicant shall submit a plan to prevent water quality violations due to discharges of concrete wash water during construction. The Applicant shall submit the plan to DES Watershed Management Bureau for review and approval at least 90 days prior to placement of any concrete within the Activity area. The Applicant shall then implement the approved plan.
22. Unless otherwise authorized by DES, herbicide use associated with the Activity shall be minimized to the maximum extent possible and shall only be allowed on a limited, as-needed basis to control vegetation that could otherwise disrupt operation of the Activity. Herbicides shall only be applied in strict accordance with the manufacturer's recommendations. Unless otherwise authorized by DES, the Applicant shall maintain records of herbicide use, including

the name and brand of herbicide used, the date herbicides where applied, where they were applied, and the amount used. Such records shall be provided to DES within 30 days of receiving a request from DES.

23. Unless otherwise authorized by DES, fertilizers shall only be applied once on soils disturbed during construction to support the initial establishment of vegetation. Unless otherwise authorized by DES, prior to fertilizer application, soils shall be tested to determine the minimum amounts of lime, nitrogen (N), phosphorus (P) and potassium (K) needed to support vegetation. Lime application rates, fertilizer selection (in terms of N ,P and K content) and fertilizer application rates shall be consistent with the soil test results. Fertilizers shall not contain any pesticides. Where possible, fertilizer with slow release nitrogen shall be used. Soil test results, the name, brand and nutrient content (N, P and K) of fertilizer and application rates for lime and fertilizer shall be provided to DES within 30 days of receiving a request from DES.
24. To the maximum extent possible, winter access for maintenance or other purposes shall be accomplished using tracked equipment (i.e., snowmobiles and snowcats). Plowing and/or sanding of roads (including use of sands containing chloride) for winter access shall be minimized to the maximum extent possible, and shall only be allowed when over-snow transport using tracked equipment is not feasible (i.e., such as for the unscheduled maintenance of turbines that require large or heavy component replacement that cannot be transported over-snow). Unless otherwise authorized by DES, the Applicant shall maintain records of the dates when chloride was applied, the reason it was applied, and the estimated amount of chloride applied on each date. The Applicant shall submit such records to DES by May 1 of the first two years of operation and within 30 days of receiving a request from DES thereafter.

Appendix A:
Details of construction BMP inspection, reporting requirements, and turbidity monitoring

A. Weekly Erosion Control Meeting: The Applicant's prime Contractor for the Activity (prime Contractor) shall hold weekly erosion control meetings with the Monitor. Minutes of the meeting shall be kept on file and made available to DES upon request.

B. Inspection Frequency: Regular inspections shall be conducted as specified below for the purposes of determining compliance with the permit.

   (1) Daily Inspections: The prime Contractor shall inspect all erosion control measures every day that work is conducted from the time construction commences and earth is disturbed until construction is complete.

   (2) Weekly Inspections: After construction has commenced and earth has been disturbed, the Monitor shall conduct weekly erosion control site inspections to verify all erosion control measures are maintained properly to protect surface waters and wetlands. The Monitor shall document and report its findings, including recommendations for maintenance of BMPs or the addition of new control measures to the prime Contractor.

   (3) Pre-storm inspections: The Monitor shall print the 5-day forecast once daily (7-9 am) for the duration of the project. All forecasts shall be clearly marked with the date and time, kept on file, provided to the prime Contractor. In addition, the 5-day forecast on the day of the weekly meeting shall be attached to the weekly meeting minutes distributed by the Monitor. Inspection shall occur within 24 hours prior to the start of any rain event of 0.5 inches or more in a 24-hour period that is predicted to occur during the workweek. A normal workweek is Monday through Friday. Holidays and weekends are included as part of the normal workweek when work is anticipated to occur on those days. If the predicted event occurs outside of the normal workweek, the inspection shall occur on the normal workday just before any scheduled days off, such as holidays and weekends. Unless otherwise approved by DES, the Accuweather website (http://home.accuweather.com/index.asp?partner=accuweather) shall be used for the purpose of predicting future precipitation amounts. Future precipitation amounts on the Accuweather web site may be determined by typing in the location of the project (city, state and/or zip code), clicking on the link for Days 1-5 forecasts and then clicking on the day(s) of interest.

C. Emergency Inspections During Storm Events: Inspections shall occur during the daylight hours (Monday through Sunday, including holidays) during storm events whenever plumes are visible or if turbidity sampling indicates water quality standards are exceeded due to turbid stormwater from the construction site. Inspections and corrective action shall be implemented during the daylight hours (Monday through Sunday, including holidays) until turbidity water quality standards are met.

D. Post Storm Inspections: Inspections shall occur on the first workday following storms of greater than 0.5 inches in a 24-hour period. Precipitation amounts shall be based on precipitation recorded at a rain gauge installed at the construction site or other approved method. Inspections and corrective action shall be implemented during the daylight hours (Monday through Sunday, including holidays) until turbidity water quality standards are met.

E. Winter Shutdown Inspections: Inspections during winter shut down shall occur as specified in the NPDES General Permit for Stormwater Discharges from Construction Activities (commonly known as the Construction General Permit).

F. Provisions for Handling Emergencies: Contact information shall be provided to DES for at least two people that DES can contact at any time regarding construction related stormwater concerns. The Applicant shall prepare an Emergency Procedures Plan describing procedures to address and correct emergency, construction related stormwater issues in an expeditious manner. The plan shall include the responsibilities of key individuals, the availability of equipment, and the availability of erosion control and BMP supplies. All emergency erosion control and BMP supplies must be kept on-site.

G. Inspection and Maintenance Plans and Reports: Written inspection and maintenance reports shall include the items stipulated in the EPA NPDES General Permit for Stormwater Discharges from Construction Activities, as well as the predicted 24-hour rainfall for pre-storm inspection reports, measured rainfall amounts for post-inspection reports. The reports shall also indicate if erosion control measures "pass" or "fail". Unless otherwise authorized by DES, the reports shall be submitted to DES by electronic mail (email) within 24 hours of each inspection.

H. Weather Station Specifications: Unless otherwise authorized by DES, the Applicant shall be responsible for maintaining a weather station that can measure rainfall to an accuracy of 0.01 inches, monitor temperature to an accuracy of 1 degree Fahrenheit or Celsius, and has hourly data storage and download capabilities.

I. Precipitation Notification Plan: The Applicant shall specify how the Monitor, and others, will be notified when precipitation has occurred that will trigger the need for inspections and/or turbidity sampling. Automatic notification is preferred. If considered necessary and feasible by DES, the weather station shall be equipped to send automatic email notifications to notify the Monitor when construction BMP inspections and/or turbidity sampling is necessary. Should automated email notification be considered necessary, it shall be capable of the following: Start of rain event: Once 0.25 inches of rain or rain-mix precipitation has been measured an automated email notification will be sent to the prime Contractor, the Monitor, and any other interested parties. The email shall provide hourly rainfall, and time of rainfall for the previous 24 hours. End of rain event: Once six hours without rain or rain-mix precipitation has passed an automated email notification will be sent to the prime Contractor, the Monitor and DES. The email shall provide hourly rainfall and time of rainfall from the start of the rain event to the end of the rain event, including the six hour "dry" period.

J. Turbidity Monitoring: To confirm that construction best management practices (BMPs) for controlling erosion are performing as intended, turbidity monitoring is needed. Unless otherwise authorized by DES, the Applicant shall submit a Turbidity Sampling Plan that includes the turbidity monitoring elements specified in the February 2, 2009 DES Inter-Department Communication entitled "Amendment of the November 16, 2006 Guidance for BMP Inspection and Maintenance and Turbidity Sampling and Analysis Plans for I-93 Expansion Project Water Quality Certification". This document includes guidance regarding sampling station number and locations, sampling frequency, sampling duration, size of storms that need to be sampled, how soon after the start of precipitation sampling should begin, quality assurance quality control provisions, and turbidity meter specifications.

Antrim Wind Energy

WETLANDS BUREAU FINAL DECISION
AUGUST 31, 2012

RECOMMEND APPROVAL WITH THE FOLLOWING PERMIT CONDITIONS:

PROJECT DESCRIPTION:

Dredge and fill 9,755 square feet of palustrine forested and scrub-shrub wetlands, and dredge and fill 452 square feet within a perennial and an intermittent stream (impacting 230 linear feet) to construct a power generating wind park that will include the construction of 10 wind turbines (3.0 megawatts each), approximately 4 miles of gravel access drives with associated stormwater management facilities, an operations/maintenance building and substation, and various crane pad areas.

PROJECT SPECIFIC CONDITIONS:

1. All work shall be in accordance with revised plans by TRC dated August 30, 2012, as received by the NH Department of Environmental Services (DES) on August 31, 2012.
2. Prior to construction, any plan revisions or changes in construction details or sequences shall be submitted to DES for review and approval.
3. Any further alteration of areas on this property that are within the jurisdiction of the DES Wetlands Bureau will require a new application and further permitting by the Bureau.
4. This permit is contingent on approval by the DES Alteration of Terrain Bureau.
5. No construction activities shall occur on the project after expiration of the approval unless the approval has been extended by the New Hampshire Energy Facility Site Evaluation Committee (SEC).
6. Appropriate siltation/erosion/turbidity controls shall be in place prior to construction, shall be maintained during construction, and remain in place until the area is stabilized. Silt fence(s) must be removed once the area is stabilized.
7. Discharge from dewatering of work areas shall be to sediment basins that are: a) located in uplands; b) lined with hay bales or other acceptable sediment trapping liners; c) set back as far as possible from wetlands and surface waters, in all cases with a minimum of 20 feet of undisturbed vegetated buffer.
8. Dredged material shall be placed outside of the jurisdiction of the DES Wetlands Bureau.
9. Stream work shall be done during low flow conditions.
10. Culvert outlets shall be protected in accordance with the DES Best Management Practices for Urban Stormwater Runoff Manual (January 1996) and the Stormwater Management and Erosion and Sediment Control Handbook for Urban and Developing Areas in New Hampshire (August 1992).
11. Proper headwalls shall be constructed within seven days of culvert installation.
12. Within three days of final grading, all exposed soil areas shall be stabilized by seeding and mulching during the growing season, or if not within the growing season, by mulching with tack or netting and pinning on slopes steeper than 3:1.
13. Where construction activities have been temporarily suspended within the growing season, all exposed soil areas shall be stabilized within 14 days by seeding and mulching.
14. Where construction activities have been temporarily suspended outside the growing season, all exposed areas shall be stabilized within 14 days by mulching and tack. Slopes steeper than 3:1 shall be stabilized by matting and pinning.

15. The contractor responsible for completion of the work shall utilize techniques described in the New Hampshire Stormwater Manual, Volume 3, Erosion and Sediment Controls During Construction (December 2008).

FINDINGS:

1. This project is classified as a Major Impact Project per NH Administrative Rule Env-Wt 303.02(i), as stream impacts are greater than 200 linear feet.
2. The need for the proposed impacts has been demonstrated by the applicant per Rule Env-Wt 302.01.
3. The applicant has provided evidence which demonstrates that this proposal is the alternative with the least adverse impact to areas and environments under the department's jurisdiction per Rule Env-Wt 302.03.
4. The applicant has demonstrated by plan and example that each factor listed in Rule Env-Wt 302.04(a), Requirements for Application Evaluation, has been considered in the design of the project.
5. DES Staff conducted a field inspection of the proposed project on December 13, 2011. Field inspection determined that not many jurisdictional areas occur within the project vicinity and that the proposed impact areas appear to be reasonable.
6. Public hearing is not required with the finding that the project will not impact wetland areas that are considered to be of special value from a local, regional, or state perspective pursuant to Rule Env-Wt 101.90.

Antrim Wind Energy

SUBSURFACE SYSTEMS BUREAU FINAL DECISION
AUGUST 31, 2012

RECOMMEND APPROVAL WITH THE FOLLOWING CONDITION:

PROJECT DESCRIPTION:

The applicant proposes to install a Individual Sewage Disposal System (Enviro-Septic) that will accommodate 300 gallons per day.

PROJECT SPECIFIC CONDITIONS:

1. All work shall be in accordance with the approved plans dated January 18, 2012, as received by DES on June 6, 2012.
2. Due to the seasonal high water table at 14 inches, the bottom of the effluent disposal system shall be constructed 5.3 feet above the original ground on the high contour of the effluent disposal area.