



The State of New Hampshire  
**Department of Environmental Services**

**Thomas S. Burack, Commissioner**

*Celebrating 25 Years of Protecting  
New Hampshire's Environment*



May 23, 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:

Please find enclosed the NH Department of Environmental Services progress report that outlines draft permit conditions and additional data requirements needed to make a final decision for the Alteration of Terrain permit, Wetland permit, Subsurface system permit, and the 401 Water Quality Certificate. Final permit decisions and conditions will be issued to the Site Evaluation Committee no later than September 4, 2012.

If you have any questions, please contact me at 271-2951 or email at: [Rene.Pelletier@des.nh.gov](mailto:Rene.Pelletier@des.nh.gov)

Sincerely,

Rene Pelletier, PG  
Assistant Director  
Water Division

cc: Michael J. Iacopino, Counsel to the SEC  
Harry T. Stewart, Director, Water Division  
Joshua Brown, TRC  
David Keddell, ACOE  
Gregg Comstock, DES Watershed Bureau  
Eric Thomas, DES Subsurface Systems Bureau

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**ALTERATION OF TERRAIN MAY 23, 2012 PROGRESS REPORT**  
**ANTRIM WIND ENERGY**

**ADDITIONAL DATA REQUIREMENTS:**

In order for DES to render a decision on your application, the information below must be addressed in full. DES will make a final determination based upon the information provided in your response.

1. Please provide a pre and post-development drainage analysis that evaluates the project's effect on the defined study points and watersheds as shown in the pre and post-development watershed plans. The pre and post-development analysis must also include the node listing summaries for the 2, 10 and 50-year storm events which totals of all nodes used in the analysis for total flow, areas, volumes, avg. depths, etc.
2. Please submit a curve number summary for the pre-development and the post-development reports (i.e. for each analysis, summarize the total area used for each curve number). *Please note that HydroCAD 8.0 automatically generates this report for you.*
3. The project narrative and summary should include total flows and volumes for the 2, 10 and 50-year storm at each design point (for the pre and post-development analysis) in order to show that the project meets the Channel Protection Requirements of Rule Env-Wq 1507.05, and the Peak Runoff Control Requirements of Env-Wq 1507.06.
4. Sheet flow lengths in the Time of Concentration (Tc) calculations should be limited to 100'. NRCS made an official investigation back in 2001 and have changed their WinTR55 program to limit sheet flow lengths to 100'. They state in the FAQ:  
*Q: Is there any way to increase the sheet flow length beyond 100 feet?*  
*A: No. After much discussion and research, the development team felt that sheet flow greater than 100' was very unusual in natural watersheds. For more information on the subject read W.H. Merkel's "Sheet Flow References" as posted in Technical References and H&H Papers on Various Topics, in the USDA-NRCS National Water and Climate Center website.*
5. Please provide Stormwater Treatment BMP worksheets for each of the proposed treatment devices to ensure they meet the applicable design criteria of NH Administrative Rule Env-Wq 1508.03 through 1508.09. BMP worksheets can be found on our website at:  
<http://des.nh.gov/organization/divisions/water/aot/index.htm>.
6. Please provide the Groundwater Recharge BMP worksheet for the total project to ensure that the recharge requirements of Env-Wq 1507.04.
7. Provide additional documentation from the Natural Heritage Bureau and the NH Fish & Game Dept. to show how the project will minimize potential impacts to exemplary natural communities and species of concern.
8. Please provide rip-rap sizing calculations for the project.
9. In order to meet the program requirements, please include the following construction monitoring notes on the plans:
  - a) 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.
  - b) 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.
  - c) 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.

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- d) 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.
- e) 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](mailto:craig.rennie@des.nh.gov) and to Jennifer Drociak at: [jennifer.drociak@des.nh.gov](mailto:jennifer.drociak@des.nh.gov)).

DRAFT PERMIT CONDITIONS:

PROJECT DESCRIPTION:

Construct a power generation 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 57.9 acres (2,522,124 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 (DRAFT):

- 1. Activities 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 approved plans dated January 20, 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](mailto:craig.rennie@des.nh.gov) and to Jennifer Drociak at: [jennifer.drociak@des.nh.gov](mailto:jennifer.drociak@des.nh.gov)).

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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;

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- 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>).

**SUBSURFACE SYSTEMS BUREAU May 23, 2012 PROGRESS REPORT**  
**ANTRIM WIND ENERGY**

**ADDITIONAL DATA REQUIREMENTS:**

The Subsurface Systems Bureau has reviewed the above referenced Individual Sewage Disposal System (ISDS) application and has determined that the following additional information is needed to clarify and complete it:

1. Please address section c (depth and types of cover) in the Enviro-septic manual (2003 edition) to address vehicular traffic requirements for the proposed field.

**NO DRAFT CONDITIONS RECOMMENDED**

**WETLANDS BUREAU May 23, 2010 PROGRESS REPORT**  
**ANTRIM WIND ENERGY**

**DRAFT PERMIT CONDITIONS:**

**PROJECT DESCRIPTION:**

Dredge and fill 8,348 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 (DRAFT):**

1. All work shall be in accordance with plans by TRC dated January 20, 2012, as received by the NH Department of Environmental Services (DES) on January 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).

Date: 5/23/12

RE: **Draft Conditions for 401 Water Quality Certification**

Antrim Wind Energy LLC  
Proposed 30-MW Wind Farm  
Antrim, NH

The following status report regarding 401 Water Quality Certification (WQC) for the Antrim Wind Energy LLC proposed 30-MW Wind Farm in Antrim, NH is submitted by the DES Watershed Management Bureau in accordance with RSA 162-H:6-a, V which states

“All participating state agencies shall report their progress to the subcommittee within 90 days of the acceptance of the application, outlining draft permit conditions and specifying additional data requirements necessary to make a final decision”.

Background

As specified in Section 401 of the Clean Water Act (CWA) and in RSA 485-A:12, III, any applicant for a Federal license or permit to conduct an activity including but not limited to, the construction or operation of facilities which may result in a discharge to navigable waters, shall provide the licensing or permitting agency a certification from the State that the discharge will comply with State water quality standards. Section 401 of the CWA also requires States to “establish procedures for public notice in the case of all applications”. Public notice procedures in New Hampshire include issuance of a draft 401 WQC for a 30 day public comment period.

401 WQC is required for this project because it requires a federal Section 404 permit from the U.S. Army Corps of Engineers (ACOE) for proposed work in wetlands. There are two types of Section 404 permits; an individual 404 permit and a general 404 permit (called the Programmatic General Permit or PGP in New Hampshire). Projects which require an individual 404 permit must submit an application for and receive a 401 WQC from DES. The PGP is issued every 5 years at which time a general 401 WQC is issued (i.e., the PGP 401 WQC). Projects that fall under the PGP are covered by the PGP 401 WQC unless DES decides additional conditions are necessary to ensure attainment of water quality standards. In such cases, DES may modify the PGP 401 WQC for that particular project, or include applicable conditions in the DES Alteration of Terrain permit (if applicable).

The ACOE has not yet decided if this project will require an individual or general (PGP) 404 permit. In accordance with RSA 162-H:6-a, VI, DES must issue a final decision to the subcommittee on all DES permits, including 401 WQC, by September 4, 2012 (180 days from March 8, 2012). In the event this project requires an individual section 404 permit and, in order to meet the September deadline, the DES Watershed Management Bureau is proceeding with preparing a draft 401 WQC for public comment in July. This will allow sufficient time for DES to solicit public comment, respond to comments and issue a final 401 WQC before the September deadline. If, prior to issuance of the draft for public comment, the ACOE decides this project is covered by the PGP, DES may instead include applicable conditions in the AoT permit and not issue a modified 401 WQC. If, however, the ACOE decides this is a PGP after the 401 WQC is issued for public comment, DES will likely proceed with issuance of a modified version of the PGP 401 WQC.

Additional data requirements needed to make a final 401 WQC decision

- o Application for 401 WQC

Draft 401 WQC Conditions

Based on the information provided to date, draft 401 WQC conditions are provided below. These conditions may change and/or new conditions added as DES continues its review. As previously mentioned, if the ACOE decides that this project is a PGP prior to issuing the draft 401 WQC for public comment in July, DES will likely include applicable conditions in the Alteration of Terrain permit instead of issuing a modified 401 WQC.

DRAFT WATER QUALITY CERTIFICATION CONDITIONS

- E-1. The Activity shall not cause or contribute to a violation of surface water quality standards. If DES determines that surface water quality standards are being violated as a result of the Activity, DES may modify this 401 Certification to include additional conditions to ensure the Activity complies with surface water quality standards, when authorized by law, and after notice and opportunity for hearing.
- E-2. The Applicant shall allow DES to inspect the Activity and its effects on affected surface waters at any time to monitor compliance with the conditions of this 401 Certification.
- E-3. The Activity for this 401 Certification is based on plans and information submitted to DES in support of 401 Certification, Alteration of Terrain and Wetlands Dredge and Fill permits, as well as subsequent documentation submitted in response to DES requests for additional information. The Applicant shall consult with DES regarding any proposed modifications to the Activity, including construction or operation, to determine whether this 401 Certification requires modification in the future.
- E-4. The Applicant shall comply with the conditions of the DES Wetlands Bureau Permit issued for the Activity by the DES Wetlands Bureau, including any amendments. The conditions shall become conditions of this 401 Certification upon issuance of this 401 Certification. This 401 Certification approval is contingent upon issuance of the DES Wetlands Bureau permit.
- E-5. The Applicant shall comply with the conditions of the DES Alteration of Terrain Program Permit issued for the Activity by the DES Terrain Alteration Bureau, including any amendments. The conditions shall become conditions of this 401 Certification upon issuance of this 401 Certification. This 401 Certification approval is contingent upon issuance of the DES Alteration of Terrain Program permit.
- E-6. 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.
- E-7. 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 I). The Applicant shall then implement the approved plan.
- E-8. 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

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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.

- E-9. 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.
- E-10. 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.
- E-11. 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 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.
- E-12. 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.
- E-13. 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 in the switchyard and substation areas 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 were 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.
- E-14. Unless otherwise authorized by DES, fertilizers shall only be applied once on soils disturbed during construction to support the initial establishment of vegetation. Prior to fertilizer application, soils shall

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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. As proposed by the Applicant, unless otherwise authorized by DES, no fertilizers shall be used for the Activity following construction.

- E-15. 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.
- E-16. The terms and conditions of this 401 Certification may be modified and additional terms and conditions added as necessary to ensure compliance with New Hampshire surface water quality standards, when authorized by law, and after notice and opportunity for hearing.

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

In light of the sensitive resources within the project area and scale of the proposed Activity, the following additional construction BMP inspection and reporting requirements and turbidity monitoring are considered necessary to prevent construction related surface water quality violations.

- 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**
  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.

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- 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.

The above construction inspection/maintenance, turbidity monitoring and reporting requirements, combined with a requirement that a sufficient quantity of erosion control supplies shall be kept on site to expeditiously respond to erosion control issues, should be sufficient to ensure and confirm that proposed erosion control measures during construction are not causing or contributing to surface water quality violations.

05/23/12 DES PROGRESS REPORT CONTINUED:

Similar inspection, maintenance and monitoring can be required to ensure that permanent erosion control measures continue to function properly after construction.

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