STATE OF MAINE

Department of Environmental Protection

JOHN ELIAS BALDACCI
GOVERNOR

David P. Littell
COMMISSIONER

June, 2009

Fox Islands Wind, LLC
Attn: Mr. George Baker, CEO
66 Main Street
Vinalhaven, ME 04863

RE: Siting Certification, Small-Scale Wind Energy Development #L-24654-ES-A-N,
Stormwater Management Law Application #L-24564-NI-B-N,
Natural Resource Protection Act Application #L-24564-VP-C-N,
Vinalhaven, Maine

Dear Mr. Baker:

Under cover please find a signed copy of the permit for your project which the Department has reviewed and approved. Your permit is written to include a description of your project, findings of fact that relate to the approval criteria the Department used in evaluating your project, and conditions that are based on those findings and the particulars of your project. Please take a moment to carefully read your permit, paying particular attention to the conditions of the approval. The Department works hard to craft reasonable conditions that meet the requirements of Maine law. I have also included some materials that describe the Department's appeal procedures for your information.

If you have any questions about the permit please get in touch with me directly. I can be reached at 207-287-6733 or by email at Kristen.chamberlain@maine.gov.

Sincerely,

Kristen Chamberlain

Kristen Chamberlain, Project Manager
Division of Land Resource Regulation
Bureau of Land & Water Quality

pc: File

DEP INFORMATION SHEET
Appealing a Commissioner's Licensing Decision

Dated: May 2004 **Contact: (207) 287-2811**

SUMMARY

There are two methods available to an aggrieved person seeking to appeal a licensing decision made by the Department of Environmental Protection's (DEP) Commissioner: (1) in an administrative process before the Board of Environmental Protection (Board); or (2) in a judicial process before Maine's Superior Court. This INFORMATION SHEET, in conjunction with consulting statutory and regulatory provisions referred to herein, can help aggrieved persons with understanding their rights and obligations in filing an administrative or judicial appeal.

I. ADMINISTRATIVE APPEALS TO THE BOARD

LEGAL REFERENCES

DEP's General Laws, 38 M.R.S.A. § 341-D (4), and its Rules Concerning the Processing of Applications and Other Administrative Matters (Chapter 2), 06-096 CMR 2.24 (April 1, 2003).

HOW LONG YOU HAVE TO SUBMIT AN APPEAL TO THE BOARD

The Board must receive a written notice of appeal within 30 calendar days of the date on which the Commissioner's decision was filed with the Board. Appeals filed after 30 calendar days will be rejected.

HOW TO SUBMIT AN APPEAL TO THE BOARD

Signed original appeal documents must be sent to: Chair, Board of Environmental Protection, c/o Department of Environmental Protection, 17 State House Station, Augusta, ME 04333-0017; faxes are acceptable for purposes of meeting the deadline when followed by receipt of mailed original documents within five (5) working days. Receipt on a particular day must be by 5:00 PM at DEP's offices in Augusta; materials received after 5:00 PM are not considered received until the following day. The person appealing a licensing decision must also send the DEP's Commissioner and the applicant a copy of the documents. All the information listed in the next section must be submitted at the time the appeal is filed. Only the extraordinary circumstances described at the end of that section will justify evidence not in the DEP's record at the time of decision being added to the record for consideration by the Board as part of an appeal.

WHAT YOUR APPEAL PAPERWORK MUST CONTAIN

The materials constituting an appeal must contain the following information at the time submitted:

1. *Aggrieved Status*. Standing to maintain an appeal requires the appellant to show they are particularly injured by the Commissioner's decision.

2. *The findings, conclusions or conditions objected to or believed to be in error*. Specific references and facts regarding the appellant's issues with the decision must be provided in the notice of appeal.

3. *The basis of the objections or challenge*. If possible, specific regulations, statutes or other facts should be referenced. This may include citing omissions of relevant requirements, and errors believed to have been made in interpretations, conclusions, and relevant requirements.

4. *The remedy sought*. This can range from reversal of the Commissioner's decision on the license or permit to changes in specific permit conditions.

5. *All the matters to be contested*. The Board will limit its consideration to those arguments specifically raised in the written notice of appeal.

6. *Request for hearing*. The Board will hear presentations on appeals at its regularly scheduled meetings, unless a public hearing is requested and granted. A request for public hearing on an appeal must be filed as part of the notice of appeal.

7. *New or additional evidence to be offered*. The Board may allow new or additional evidence as part of an appeal only when the person seeking to add information to the record can show due diligence in bringing the evidence to the DEP's attention at the earliest possible time in the licensing process or show that the evidence itself is newly discovered and could not have been presented earlier in the process. Specific requirements for additional evidence are found in Chapter 2, Section 24(B) (5)

OTHER CONSIDERATIONS IN APPEALING A DECISION TO THE BOARD

1. *Be familiar with all relevant material in the DEP record*. A license file is public information made easily accessible by DEP. Upon request, the DEP will make the material available during normal working hours, provide space to review the file, and provide opportunity for photocopying materials.
There is a charge for copies or copying services.

2. *Be familiar with the regulations and laws under which the application was processed, and the procedural rules governing your appeal*. DEP staff will provide this information on request and answer questions regarding applicable requirements.

3. *The filing of an appeal does not operate as a stay to any decision.* An applicant proceeding with a project pending the outcome of an appeal runs the risk of the decision being reversed or modified as a result of the appeal.

WHAT TO EXPECT ONCE YOU FILE A TIMELY APPEAL WITH THE BOARD
The Board will formally acknowledge initiation of the appeals procedure, including the name of the DEP project manager assigned to the specific appeal, within 15 days of receiving a timely filing. The notice of appeal, all materials accepted by the Board Chair as additional evidence, and any materials submitted in response to the appeal will be sent to Board members along with a briefing and recommendation from DEP staff. Parties filing appeals and interested persons are notified in advance of the final date set for Board consideration of an appeal or request for public hearing. With or without holding a public hearing, the Board may affirm, amend, or reverse a Commissioner decision. The Board will notify parties to an appeal and interested persons of its decision.

II <u>APPEALS TO MAINE SUPERIOR COURT</u>

Maine law allows aggrieved persons to appeal final Commissioner licensing decisions to Maine's Superior Court, see 38 M.R.S.A. § 346(1); 06-096 CMR 2.26; 5 M.R.S.A. § 11001; & MRCivP 80C. Parties to the licensing decision must file a petition for review within 30 days after receipt of notice of the Commissioner's written decision. A petition for review by any other person aggrieved must be filed within 40-days from the date the written decision is rendered. The laws cited in this paragraph and other legal procedures govern the contents and processing of a Superior Court appeal.

ADDITIONAL INFORMATION: If you have questions or need additional information on the appeal process, contact the DEP's Director of Procedures and Enforcement at (207) 287-2811.

Note: The DEP provides this INFORMATION SHEET for general guidance only; it is not intended for use as a legal reference. Maine law governs an appellant's rights.

STATE OF MAINE
DEPARTMENT OF ENVIRONMENTAL PROTECTION
17 STATE HOUSE STATION
AUGUSTA, ME 04333

DEPARTMENT ORDER
IN THE MATTER OF

FOX ISLANDS WIND, LLC	) STORMWATER MANAGEMENT LAW
Vinalhaven, Knox County	) CERTIFICATION SMALL-SCALE WIND
FOX ISLAND WIND POWER PROJECT	) NATURAL RESOURCES PROTECTION
L-24564-ES-A-N	) SIGNFICANT WILDLIFE HABITAT
L-24564-NI-B-N	) WATER QUALITY CERTIFICATION
L-24564-VP-C-N	) FINDINGS OF FACT AND ORDER

Pursuant to the provisions of 38 M.R.S.A. Sections 480-A et seq. and 420-D, and 35-A M.R.S.A Section 3456, and Section 401 of the Federal Water Pollution Control Act, the Department of Environmental Protection has considered the application of FOX ISLANDS WIND, LLC with the supportive data, agency review comments, and other related materials on file and FINDS THE FOLLOWING FACTS:

1. PROJECT DESCRIPTION:

A. Summary: The applicant proposes to construct a small-scale wind energy development consisting of three 1.5 megawatt (MW) wind turbines and associated gravel pads, 2,050 linear feet of access roads, construction staging areas, and stormwater management system. The project is located on a 75.4-acre parcel off of North Haven Road in the Town of Vinalhaven.

The project is shown on a set of plans the first of which is entitled "Fox Islands Wind Power Project, Vinalhaven, Maine," prepared by Sebago Technics and dated February 19, 2009 with a latest revision date on any of the sheets of April 29, 2009.

Construction of Turbine 2 will temporarily impact 4,000 square feet of forested wetland. Vegetation removal will be required to assemble the turbine; however no grading or fill will be required and the wetland will be allowed to revegetate to pre-construction conditions. This amount of wetland impact is exempt from review under the Natural Resources Protection Act pursuant to 38 M.R.S.A Section 480-Q (17).

One significant vernal pool was identified in a ledge outcrop at the southwestern corner of the site. Construction of Turbine 1 will require 77,126 square feet of clearing within the 250-foot critical terrestrial habitat associated with this vernal pool. Impacts to significant vernal pool habitat are discussed further in Findings 6, 7, and 8.

B. Current Use of the Site: The project site is identified as Lot 24 on the Town of Vinalhaven Tax Map 9. The site was previously operated as Swenson's Quarry, and

portions of the site are occupied by related quarry operations and buildings. A stone cutting business currently operates on the site. An existing gravel road traverses through the center of the site from north to south. The remainder of the site is undeveloped pine and spruce woodland with open ledge outcroppings. A stream and associated wetland complex is located approximately 630 feet north of Turbine 3 and approximately 75 feet west of the proposed access road. Other isolated wetlands are located throughout the property.

The site is located in a low-density residential area in the center of the island. The property has approximately 3,500 feet of frontage on North Haven Road which forms the site's northeasterly property line. The site abuts undeveloped land to the west and four residential properties along Zion Farm Road to the south. Two of the residential lots are occupied by single-family residences and two are undeveloped. The applicant has entered into Purchase & Sale Agreements to acquire three of these residential properties.

2. STORMWATER STANDARDS:

The property ranges in elevation from approximately 138 feet to 184 feet with a high point in the center of the site. The majority of the site drains north and west to Murch's Brook. The east end of the site, including former quarry operations, drains to the east towards Stepping Stone Brook and Mill Creek. Slopes on the site range from 3% to 25%.

The proposed project includes approximately 1.1 acres of impervious area (permanent gravel roads and crane pads) and 4.7 acres of disturbed area. Approximately 3.6 acres of the disturbed area will be re-vegetated and restored to pre-development drainage patterns within one calendar year. These areas will be mowed infrequently and maintained in a meadow condition.

Construction roads will initially be constructed to provide a 30-foot wide travel width at the entrance of the site to accommodate the vehicles transporting turbine components. The access road will increase to 36-feet wide travel width at the approaches to the turbine locations to accommodate the crane for turbine assembly. Once the turbines are assembled, portions of the construction access roads will be re-vegetated to reduce the width of the permanent gravel road surface to approximately 15-16 feet.

The applicant submitted a stormwater management plan based on the basic and general standards contained in Department Rules, Chapter 500. The proposed stormwater management system consists of ditch turnouts and level spreaders that will direct runoff from the project to vegetated buffers.

A. Basic Standards:

(1) Erosion and Sedimentation Control: The applicant submitted an Erosion and Sedimentation Control Plan that is based on the performance standards contained in Appendix A of Chapter 500 and the Best Management Practices outlined in the Maine Erosion and Sediment Control BMPS, which were developed by the Department. This

plan and plan sheets containing erosion control details were reviewed by, and revised in response to the comments of the Division of Watershed Management (DWM) of the Bureau of Land and Water Quality (BLWQ).

Erosion control details are shown on Sheets C2-1, C2-2, C2-3, and C5-1 and will be included on the final construction plans. The erosion control narrative will be included in the project specifications to be provided to the construction contractor.

(2) Inspection and Maintenance: The applicant submitted a maintenance plan that addresses both short and long-term maintenance requirements for the stormwater management system. This plan was reviewed by DWM. The maintenance plan is based on the standards contained in Appendix B of Chapter 500. The applicant will be responsible for the maintenance of all common facilities including the stormwater management system.

(3) Housekeeping: The proposed project will comply with the performance standards outlined in Appendix C of Chapter 500.

Based on DWM's review of the erosion and sedimentation control plan and the maintenance plan, the Department finds that the proposed project meets the Basic Standards contained in Chapter 500(4) (A).

B. General Standards: The applicant's stormwater management plan includes seven wooded buffers and one meadow buffer that will mitigate for the increased frequency and duration of channel erosive flows due to runoff from smaller storms, provide for effective treatment of pollutants in stormwater, and mitigate potential temperature impacts.

The proposed project meets the definition of a linear project in Chapter 500. Therefore, the applicant is required to provide treatment for at least 75% of the volume from the impervious area and at least 50% of the developed area. The proposed buffers will treat 76% of the proposed impervious area and 55% of the proposed developed area, which meets the requirements of the General Standards. The buffers are oversized and will provide treatment for areas that will be disturbed during construction and revegetated as meadow. The proposed stormwater buffers are shown on Sheet C1-0 of the submitted plan set.

The forested, limited disturbance and non-wooded meadow stormwater buffers will be protected from alteration through the execution of a deed restriction. The applicant proposes to use the deed restriction language contained in Appendix G of Chapter 500 and submitted a draft deed restriction that meets Department standards. Prior to the start of construction, the location of forested and meadow buffers must be permanently marked on the ground. Within 30 days of the date of this Order, the applicant must submit a copy of the recorded deed restriction to the BLWQ.

The stormwater management system proposed by the applicant was reviewed by, and revised in response to, comments from DWM. After a final review, DWM commented

that the proposed stormwater management system is designed in accordance with the Chapter 500 General Standards.

Based on the stormwater system's design and DWM's review, the Department finds that the applicant has made adequate provision to ensure that the proposed project will meet the Chapter 500, Basic and General Standards provided that stormwater buffers are permanently marked and protected from alteration as described above.

3. NOISE:

The applicant submitted a sound level study entitled "Fox Islands Wind Power Project, Vinalhaven Island, Maine, Construction, Operation and Maintenance Noise Impact Assessment," completed by Accentech Incorporated dated March 2009. Supplemental information was submitted in response to Department requests in April 2009 and May 6, 2009 and the final report was revised on May 20, 2009. The sound level study was conducted to model expected sound levels from the proposed project and to compare the results to operational standards pursuant to the Site Location of Development Rules, Chapter 375 §10. The Department contracted with EnRad Consulting (EnRad) to provide outside peer review of the sound level assessment submitted by the applicant.

The applicant has entered into Purchase and Sale agreements with the owners of three residential properties to the south (Parcel Numbers 009-021B-2, 009-021B-3, 009-021B-4). The applicant has also entered into a Lease Agreement for 14 acres of the property to the west with the owner of Parcel Number 008-035. These locations are considered part of the project site and are not subject to sound level limits in accordance Chapter 375 Section 10(C) 5. Therefore, they were not addressed in the noise impact assessment.

The applicant identified sixteen (16) residential structure locations (A-P) that are within 2,000 feet of the project site most likely to be affected by routine operation of the development. These protected locations are identified on Figure 2 of the noise impact assessment.

The applicant completed baseline ambient sound level measurements for informational purposes. Measurements were conducted at the two nearest residences along property lines common to the project site during the period of October 23 through November 7, 2008. In addition, surface wind speeds (12 feet and 4 inches above grade) were measured continuously during the baseline sound measurements in a clearing adjacent to residence A.

Ambient sound levels were measured and average daytime/nighttime values were calculated disregarding sound levels during wind speeds 0-2 mph. Hub level wind speeds were not measured. Daylong equivalent sound levels of 42 dBA and 38 dBA and nightlong equivalent sound levels of 37 dBA were reported. EnRad commented that the data indicate that the protected locations are within a very quiet rural setting. EnRad further commented that because low wind speeds were excluded and a correlation

between hub level and surface level winds could not be established, the ambient sound limits for quiet locations outlined in Chapter 375 should be applied.

Chapter 375 states that when a proposed development is to be located in an area where the daytime pre-development ambient hourly sound level at a protected location is equal to or less than 45 dBA and/or the nighttime pre-development ambient hourly sound level at a protected location is equal to or less than 35 dBA, the hourly sound levels resulting from routine operation of the development and measured in accordance with the measurement procedures described in subsection H shall not exceed the following limits at that protected location: 55 dBA between 7:00 a.m. and 7:00 p.m. (the "daytime hourly limit"); and 45 dBA between 7:00 p.m. and 7:00 a.m. (the "nighttime hourly limit"). Based on EnRad comments, the Department determined that this standard is applicable to the proposed project.

The applicant calculated routine operation sound levels for the 16 protected locations. The expected operating sound levels are based on the distances between each wind turbine and the nearest noise-sensitive receptors, and data received from the manufacturer for normal as well as noise-reduced operation. Noise-reduced operation entails reducing both the turbine sound output and the generator electrical power output. EnRad commented that the report confirms a design and operation plan such that routine hourly sound levels will comply with the Maine DEP standards applicable to the project.

EnRad noted that significant vertical and directional wind shear in the Gulf of Maine (islands included) is documented for elevations similar to the proposed project site during winds from the southwest through southeast. The applicant submitted wind rose data for spring through fall 2004 that indicates that these are the prominent wind directions for the proposed site. EnRad referenced the Pubnico Point Wind Project in Nova Scotia, (150 miles east of Vinalhaven Island in the Gulf of Maine) where occasional sound levels in excess of those predicted using standard methods (divergence, air absorption, ground, etc.) were observed under these wind conditions. In addition, these occasional periods of significant wind shear may produce amplitude modulations at +/-1 Hz in excess of 6 dBA.

The Department considers this type of amplitude modulation to be a potential short duration repetitive (SDR) sound. Chapter 375 states that when routine operation of a development produces short duration repetitive sound, 5 dBA shall be added to the observed levels of the short duration repetitive sounds that result from routine operation of the development for the purposes of determining compliance with sound level limits. If SDR sounds occur for a significantly large percentage of time at the proposed project site, application of the 5 dBA penalty could result in locations with measured sound levels of 43 dBA or greater exceeding the 45 dBA limit for periods of the SDR sound event. Values reported for maximum wind turbine sound output indicated 5 locations (A-E), where predicted levels were 43-45 dBA.

In consideration of the comments from EnRad and the potential for SDR sounds to occur, and to ensure that the 45 dBA hourly sound level limit is met during all conditions, the

applicant must submit to the Bureau of Land and Water Quality an operational compliance assessment methodology for review and approval prior to operation of the facility. The plan must be implemented upon commencement of operations, and must enable compliance measurements to be determined under the most favorable conditions for sound propagation and maximum amplitude modulation. The required measurement conditions are outlined in Section 9 of a document prepared by EnRad entitled, "Fox Islands Wind Power Project Noise Impact Assessment-Peer Review," dated June 1, 2009. Compliance measurements will be conducted at a minimum of two protected locations, as determined by the Department, and at all locations in which the Department receives a sound related complaint.

If the compliance data indicates that, under most favorable conditions for sound propagation and maximum amplitude modulation, the proposed project is not in compliance with Department standards as described above, within 60 days of a determination of non-compliance by the Department, the applicant must submit, for review and approval, a revised operation protocol that demonstrates that the project will be in compliance at all the protected locations surrounding the development.

The applicant agrees to pay all reasonable and documented costs incurred by the Department in reviewing the compliance information associated with the implementation of the compliance assessment plan in accordance with the provisions of 38 M.R.S.A. § 344-A.

Based on the information provided by the applicant and EnRad comments, the Department finds that the applicant has made adequate provisions to ensure that noise standards pursuant to the Site Location of Development Rules, Chapter 375 §10 are met provided that the applicant submits and implements a compliance assessment plan as described above.

4. <u>SHADOW FLICKER EFFECTS:</u>

The applicant must demonstrate the proposed wind power project generating facilities have been designed to avoid unreasonable adverse shadow flicker effects. Shadow flicker caused by wind turbines is the alternating changes in light intensity caused by the moving blade casting shadows on the ground and stationary objects, such as a window at a dwelling. Shadow flicker is not the sun seen through a rotating wind turbine rotor nor what an individual might view moving through the shadows of a wind farm. The spatial relationships between a wind turbine and receptor, as well as wind direction are key determining factors related to shadow flicker duration. Shadow flicker can be a nuisance to people living near a wind energy development. Shadow flicker frequency due to wind turbines is generally on the order of the rotor frequency, typically 0.6-1.0 Hz, which is below the 10 Hz threshold generally held in the literature to be the exposure that can cause harm to humans.

Maine has no set regulatory limits on exposure to shadow flicker, however, the industry commonly uses 30 hours per year as a limit to reduce nuisance complaints. The applicant

submitted a shadow flicker analysis as Attachment 2 of the certification application. The analysis was completed by the University of Massachusetts Renewable Energy Research Laboratory using the WindPro software package. The analysis identified 15 existing houses with the potential to be impacted by shadow flicker. The applicant has entered into Purchase and Sale agreements with the owners of three residential properties to the south (Parcel Numbers 009-021B-2, 009-021B-3, 009-021B-4). The applicant has also entered into a Lease Agreement for 14 acres of the property to the west with the owner of Parcel Number 008-035. These locations are considered part of the project site and were not considered in the shadow flicker analysis.

WindPro projects maximum shadow flicker effects assuming that the sun is always shining; the turbines are always operating; the wind is blowing from a direction parallel to the sun's shadow so that turbine blades produce maximum shadow area; and windows of affected residences face fully in the direction of the wind turbines. The shadow flicker analysis was adjusted to reflect climate data as reported by NOAA that indicates the average annual percent of potential sunshine for Vinalhaven is conservatively estimated at 57%. With this adjustment, the estimated hours of flicker per year ranged from 9.7 hours to 66.6 hours. An additional mathematical adjustment was performed to account for cut-in wind speed and wind direction. Based on these adjustments, the estimated hours of flicker per year ranged from 3.4 hours to 18.5 hours at the 15 existing houses included in the analysis.

Based on this information, the Department finds that the applicant has made adequate provision for the control of unreasonable shadow flicker from the proposed project.

5. PUBLIC SAFETY-RELATED SETBACKS:

The Department recognizes that locating wind turbines a safe distance away from any occupied structures, public roads or other public use areas is of utmost importance. In establishing a recommended safety setback, the Department considered industry standards for wind energy production in climates similar to Maine, as well as the guidelines recommended by certifying agencies such as Germanischer Lloyd and Deutsches Windenergie-Institute. Based on these sources, the Department recommends that all wind turbines be setback from the property line, occupied structures or public areas, a minimum of 1.5 times the maximum blade height of the wind turbine.

The maximum height of the General Electric (GE) 1.5 MW is 389 feet from the base of the tower. Based on the Department minimum setback specifications, the required setback distance to the nearest property line is 583.5 feet.

The applicant submitted a plan showing the turbine locations and a 600-foot setback to each turbine relative to property lines as Figure 1 of the application. The applicant has entered into Purchase and Sale agreements with the owners of three residential properties to the south (Parcel Numbers 009-021B-2, 009-021B-3, 009-021B-4). The applicant has entered into a Lease Agreement for 15.4 acres of the property to the west with the owner

of Parcel Number 008-035. These locations were considered part of the project site for the purpose of determining public safety-related setbacks.

The setback for Turbine 2 is entirely within the project site. The setback for Turbine 3 extends off of the project site onto adjacent properties to the northwest. The applicant submitted a waiver from the setback requirement from the Vinalhaven Land Trust, the owner of Parcel Number 008-044, located north and west of the project site.

Based on this information, the Department finds that the proposed generating facilities will be constructed with setbacks adequate to protect public safety.

6. HABITAT CONSIDERATIONS:

The applicant proposes to alter 77,126 square feet of significant vernal pool habitat to construct Turbine 1, its associated crane pad, and the access road required to move components to the Turbine 1 location. Approximately 11,000 square feet of permanent impervious area will be created within the habitat. The remainder of the impact area will cleared for construction but will revert to meadow condition. The proposed impacts are summarized in Table 3-1 of the application and are shown on an exhibit in Appendix 1 entitled, "Vernal Pool Habitat/Impact-250 Feet, of Fox Islands Wind Power Project, North Haven Road, Vinalhaven, Maine," prepared by Sebago Technics and dated May 29, 2009. Department staff visited the site on May 20 and May 22, 2009.

The Department's Significant Wildlife Habitat Rules, Chapter 335, require that the applicant meet the following standards:

A. Avoidance: No activity may be permitted if there is a practicable alternative to the project that would be less damaging to the environment. Each application for a significant wildlife habitat permit must provide an analysis of alternatives in order to demonstrate that a practicable alternative does not exist. The applicant submitted an alternative analysis for the proposed project completed by Sebago Technics, Inc. and dated May 29, 2009.

The purpose of the project is to provide electricity to consumers on Vinalhaven and North Haven (Fox Islands) to reduce price volatility associated with purchasing electricity from the New England Power Grid. The applicant worked with the University of Massachusetts Renewable Energy Research Lab to identify appropriate wind resources that could meet the energy needs of the electric coop. The applicant identified the proposed project site after consideration of several criteria including proximity to access and transmission infrastructure, parcel availability, environmental considerations, elevation and sufficient wind resources. The applicant considered different sizes and models of turbines but concluded that a three 1.5 MW turbine configuration best fits the wind regime at the site while meeting the energy needs of the project. According to the applicant, reducing the number of turbines was not considered feasible because the project would not be able to generate sufficient power to meet the required demand.

The applicant selected the proposed turbine sites based on several setback requirements. The turbine manufacturer required that turbines be located at least 770 feet from North Haven Road; the Town of Vinalhaven Wind Power Facility Ordinance required that the turbines be placed at least 158 feet from property lines; and the small-scale wind certification requires setbacks to ensure public safety as described in Finding 5.

Once the property line setbacks were established, micro-siting of the turbines was completed by GE based on their specific equipment criteria, including an evaluation of the site topography, wind regime and the potential wake affect of multiple turbines on the site. The criteria for siting Turbine 1 did not allow for alteration of its position to avoid impacts to significant vernal pool habitat.

The applicant did consider re-alignment of the main access road to increase the distance between the road and the pool. However, because the proposed alignment follows existing, gradual grades and maximizes the use of existing cleared areas, moving the road would have resulted in significantly more disturbance to the vernal pool habitat to achieve desired turning radii and road grades. In addition, it might have required blasting and/or installation of stormwater management structures rather than the use of vegetated buffers.

Based on this information, the Department finds that the applicant has avoided impacts to significant vernal pool habitat to the extent practicable.

B. Minimal Alteration: The amount of significant wildlife habitat to be altered must be kept to the minimum amount necessary for meeting the overall purpose of the project.

The majority of disturbance within the significant vernal pool habitat will be the clearing for crane operation and turbine assembly. The applicant has minimized the cleared area within the vernal pool habitat by arranging for alternative equipment delivery vehicles, which allowed elimination of equipment turn-around areas. The majority of construction lay-down areas will be re-vegetated by installing loam/erosion control mix and a conservation seed mix and will be allowed to revert to a meadow condition after construction is completed. The area can not be allowed to revert to a forested condition because the Town of Vinalhaven requires that the area around Turbine 1, approximately equal to the turbine blade diameter, be cleared of trees and forest debris for fire protection.

The applicant incorporated several design features to minimize impacts to critical terrestrial habitat from the road. The road alignment follows existing cleared areas and existing grades (generally within 2 feet of existing grade) and will not significantly alter the drainage area of the pool. The road will be surfaced with gravel without curbing so that the roadway embankment will not present a significant impediment to the movement of amphibians. Once construction is completed, a portion of the road will be revegetated and will be allowed to revert to a meadow condition. The permanent gravel surface will be 16-feet wide, which is the minimum width required for maintenance and emergency vehicle access. The road will see very infrequent traffic which will minimize the

potential for amphibian mortality due to vehicle traffic. The access road will not be salted. The turbine will be fitted with a single low wattage light fixture controlled with a motion detector.

The Department finds that the applicant has minimized significant vernal pool habitat impacts to the greatest extent practicable, and that the proposed project represents the least environmentally damaging alternative that meets the overall purpose of the project.

C. Habitat Management Standards: The applicant is required to meet, to the extent practicable, the following habitat management standards:

(1) No disturbance within the vernal pool depression: The applicant is not proposing any disturbance or activity within the vernal pool depression.

(2) Maintain a minimum of 75% of the critical terrestrial habitat as unfragmented forest with at least a partly-closed canopy of overstory trees to provide shade, deep litter and woody debris: The project will maintain approximately 52% of the 250-foot critical terrestrial habitat as at least a partly closed canopy of over-story trees to provide shade, undisturbed forest litter, and woody debris. However, the project will maintain 77% of the critical terrestrial habitat within 500 feet of the vernal pool as forest to off-set proposed impacts, described further in Finding 6D.

(3) Maintain or restore forest corridors connecting wetlands and significant vernal pools; minimize forest floor disturbance; and maintain native understory vegetation and downed woody debris: The applicant's efforts to minimize disturbance of forest structure and connectivity is described in Findings 6A and 6B above.

The Department finds that the applicant has demonstrated the habitat management standards have been met to the extent practicable.

D. Compensation: In accordance with Chapter 335 Section 3(D), the applicant is required to compensate for unavoidable significant wildlife habitat impacts and to achieve the goal of no net loss of significant wildlife habitat functions and values. The applicant proposes to preserve 14.2 acres of undeveloped area within the 500-foot critical terrestrial habitat of the vernal pool. The proposed conservation area is shown on the plan entitled, "Conservation Areas" attached in Appendix 2. Within 30 days from the date of this Order, the applicant must submit draft language for a Declaration of Covenants and Restrictions or a Conservation Easement for permanent protection of the compensation area to the Bureau of Land and Water Quality for review and approval. The applicant must execute, record, and provide a recorded copy of the restriction or easement within 30 days of approval of the draft language.

The Maine Department of Inland Fisheries and Wildlife (MDIFW) reviewed the proposed project and identified a concern regarding the value of having the compensation package comprised of easement acreage surrounding the pool, because the area was not likely to be developed.

The critical terrestrial habitat between 250 and 500 feet of the pool is not subject to Department jurisdiction, which means that the applicant, if they chose to, could clear the entire terrestrial habitat between 250 and 500 feet with no Department review. By proposing to place restrictive covenants on a large portion of this area, the applicant will ensure that 75% of the critical terrestrial habitat within 500 feet of the pool will be maintained in a forested condition. This has value to the Department with respect to habitat management standard and reducing the anticipated impacts to functions and values. In addition, the impacts are primarily clearing (only 11,000 square feet of their impact area will be permanent impervious area) and will be allowed to revegetate. This type of impact has less impact on functions and values than other more permanent impacts. Based on these factors and consultation with MDIFW, the Department finds that the proposed compensation plan meets the requirements of Chapter 335 and adequately off-sets lost functions and values provided that the compensation area is protected as described above.

The Department finds that the activity will not unreasonably harm any significant wildlife habitat, freshwater wetland plant habitat, threatened or endangered plant habitat, aquatic or adjacent upland habitat, travel corridor, freshwater, estuarine or marine fisheries or other aquatic life provided that the applicant implements the compensation plan as described above.

7. SOIL EROSION & WATER QUALITY CONSIDERATIONS:

The applicant submitted construction plans that show the anticipated construction phase and permanent road layout for all three turbine sites, as well as expected staging areas for cranes and turbine lay-down areas. The applicant also submitted an erosion and sedimentation control plan as described in Finding 2. The plan includes temporary and permanent stabilization measures and outlines specific erosion control measures for construction areas adjacent to protected natural resources. No disturbance within the vernal pool is permitted.

Based on this information, the Department finds that the activity will not cause unreasonable erosion of soil or sediment nor unreasonably inhibit the natural transfer of soil from the terrestrial to the marine or freshwater environment.

The Department does not anticipate that the proposed project will violate any state water quality law, including those governing the classification of the State’s waters.

8. OTHER CONSIDERATIONS:

The Department did not identify any other issues involving existing scenic, aesthetic, or navigational uses, soil erosion, habitat or fisheries, the natural transfer of soil, natural flow of water, water quality, or flooding.

BASED on the above findings of fact, and subject to the conditions listed below, the Department makes the following conclusions pursuant to 38 M.R.S.A. Section 420-D, and Chapters 500 and 502 of the Department's Regulations:

A. The applicant has made adequate provision to ensure that the proposed project will meet the Chapter 500 Basic Standards for: (1) erosion and sediment control; (2) inspection and maintenance; (3) housekeeping; and (4) grading and construction activity.

B. The applicant has made adequate provision to ensure that the proposed project will meet the Chapter 500 General Standards provided that stormwater buffers are permanently marked and protected from alteration as described in Finding 2.

BASED on the above findings of fact, and subject to the conditions listed below, the Department makes the following conclusions pursuant to 35-A M.R.S.A. Section 3456:

A. The generating facilities will meet the requirements of the noise control rules adopted by the Board of Environmental Protection pursuant to 38 M.R.S.A. Section 484 provided that the applicant submits and implements a compliance assessment plan as described in Finding 3.

B. The generating facilities will be designed and sited to avoid unreasonable adverse shadow flicker effects; and

C. The generating facilities will be constructed with setbacks adequate to protect public safety.

BASED on the above findings of fact, and subject to the conditions listed below, the Department makes the following conclusions pursuant to 38 M.R.S.A. Sections 480-A et seq. and Section 401 of the Federal Water Pollution Control Act:

A. The proposed activity will not unreasonably interfere with existing scenic, aesthetic, recreational, or navigational uses.

B. The proposed activity will not cause unreasonable erosion of soil or sediment.

C. The proposed activity will not unreasonably inhibit the natural transfer of soil from the terrestrial to the marine or freshwater environment.

D. The proposed activity will not unreasonably harm any significant wildlife habitat, freshwater wetland plant habitat, threatened or endangered plant habitat, aquatic or adjacent upland habitat, travel corridor, freshwater, estuarine, or marine fisheries or other aquatic life provided that the vernal pool compensation area is protected as described in Finding 6.

E. The proposed activity will not unreasonably interfere with the natural flow of any surface or subsurface waters.

F. The proposed activity will not violate any state water quality law including those governing the classifications of the State's waters.

G. The proposed activity will not unreasonably cause or increase the flooding of the alteration area or adjacent properties.

H. The proposed activity is not on or adjacent to a sand dune.

I. The proposed activity is not on an outstanding river segment as noted in Title 38 M.R.S.A. Section 480-P.

THEREFORE, the Department APPROVES the above noted application of FOX ISLANDS WIND, LLC to construct a stormwater management system and site a small-scale wind energy development as described above in Town, Maine, SUBJECT TO THE FOLLOWING CONDITIONS, and all applicable standards and regulations:

1. The Standard Conditions of Approval, a copy attached.

2. In addition to any specific erosion control measures described in this order, the applicant shall take all necessary actions to ensure that its activities or those of its agents do not result in noticeable erosion of soils or fugitive dust emissions on the site during the construction and operation of the project covered by this approval.

3. Severability. The invalidity or unenforceability of any provision, or part thereof, of this License shall not affect the remainder of the provision or any other provisions. This License shall be construed and enforced in all respects as if such invalid or unenforceable provision or part thereof had been omitted.

5. Prior to the start of construction, the applicant shall permanently mark the locations of forested and meadow stormwater buffers on the site.

6. Within 30 days of the date of this Order, the applicant must submit a copy of the recorded stormwater buffer deed restriction to the BLWQ.

7. Prior to operation of the facility, the applicant shall submit to the Bureau of Land and Water Quality an operational compliance assessment methodology for review and approval. The plan shall be implemented upon commencement of operations, and shall enable compliance measurements to be determined under the most favorable conditions for sound propagation and maximum amplitude modulation as outlined in Section 9 of a document prepared by EnRad entitled, “Fox Islands Wind Power Project Noise Impact Assessment-Peer Review,” dated June 1, 2009.

8. If the compliance data indicates that, under most favorable conditions for sound propagation and maximum amplitude modulation, the proposed project is not in compliance with Department standards as described in Finding 3, within 60 days of a determination of non-compliance by the Department, the applicant shall submit, for review and approval, a revised operation protocol that demonstrates that the project will be in compliance at all the protected locations surrounding the development.

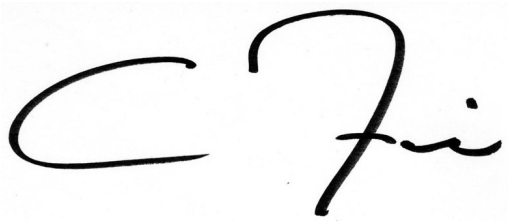
9. The applicant shall pay all reasonable and documented costs incurred by the Department in reviewing the compliance information associated with the implementation of the compliance assessment plan in accordance with the provisions of 38 M.R.S.A. § 344-A.

10. The applicant shall submit draft language for a Declaration of Covenants and Restrictions or a Conservation Easement for permanent protection of the vernal pool compensation area to the Bureau of Land and Water Quality for review and approval.

11. The applicant shall execute, record, and provide a recorded copy of the protective covenants for the vernal pool compensation area to the Bureau of Land & Water Quality within 30 days of approval of the draft language.

THIS APPROVAL DOES NOT CONSTITUTE OR SUBSTITUTE FOR ANY OTHER REQUIRED STATE, FEDERAL OR LOCAL APPROVALS NOR DOES IT VERIFY COMPLIANCE WITH ANY APPLICABLE SHORELAND ZONING ORDINANCES.

DEPARTMENT OF ENVIRONMENTAL PROTECTION



This permit has been digitally signed by Andrew C. Fisk on behalf of Commissioner David P. Littell. It is digitally signed pursuant to authority under 10 M. R.S.A. § 9418. It has been filed with the Board of Environmental Protection as of the signature date 2009.06.05 12:04:01 -04'00'

PLEASE NOTE THE ATTACHED SHEET FOR GUIDANCE ON APPEAL PROCEDURES…

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STORMWATER STANDARD CONDITIONS

STRICT CONFORMANCE WITH THE STANDARD AND SPECIAL CONDITIONS OF THIS APPROVAL IS NECESSARY FOR THE PROJECT TO MEET THE STATUTORY CRITERIA FOR APPROVAL

Standard conditions of approval. Unless otherwise specifically stated in the approval, a department approval is subject to the following standard conditions pursuant to Chapter 500 Stormwater Management Law.

(1) Approval of variations from plans. The granting of this approval is dependent upon and limited to the proposals and plans contained in the application and supporting documents submitted and affirmed to by the applicant. Any variation from these plans, proposals, and supporting documents must be reviewed and approved by the department prior to implementation. Any variation undertaken without approval of the department is in violation of 38 M.R.S.A. § 420-D (8) and is subject to penalties under 38 M.R.S.A. § 349.

(2) Compliance with all terms and conditions of approval. The applicant shall submit all reports and information requested by the department demonstrating that the applicant has complied or will comply with all terms and conditions of this approval. All preconstruction terms and conditions must be met before construction begins.

(3) Advertising. Advertising relating to matters included in this application may not refer to this approval unless it notes that the approval has been granted WITH CONDITIONS, and indicates where copies of those conditions may be obtained.

(4) Transfer of project. Unless otherwise provided in this approval, the applicant may not sell, lease, assign, or otherwise transfer the project or any portion thereof without written approval by the department where the purpose or consequence of the transfer is to transfer any of the obligations of the developer as incorporated in this approval. Such approval may only be granted if the applicant or transferee demonstrates to the department that the transferee agrees to comply with conditions of this approval and the proposals and plans contained in the application and supporting documents submitted by the applicant. Approval of a transfer of the permit must be applied for no later than two weeks after any transfer of property subject to the license.

(5) Initiation of project within two years. If the construction or operation of the activity is not begun within two years, this approval shall lapse and the applicant shall reapply to the department for a new approval. The applicant may not begin construction or operation of the project until a new approval is granted. A reapplication for approval may include information submitted in the initial application by reference.

(6) Reexamination after five years. If the project is not completed within five years from the date of the granting of approval, the department may reexamine its approval and impose additional terms or conditions or prescribe other necessary corrective action to respond to significant changes in circumstances or requirements which may have occurred during the five-year period.

(7) Certification. Contracts must specify that "all work is to comply with the conditions of the Stormwater Permit." Work done by a contractor or subcontractor pursuant to this approval may not begin before the contractor and any subcontractors have been shown a copy of this approval with the conditions by the developer, and the owner and each contractor and subcontractor has certified, on a

form provided by the department, that the approval and conditions have been received and read, and that the work will be carried out in accordance with the approval and conditions. Completed certification forms must be forwarded to the department.

(8) Maintenance. The components of the stormwater management system must be adequately maintained to ensure that the system operates as designed, and as approved by the department.

(9) Recertification requirement. Within three months of the expiration of each five-year interval from the date of issuance of the permit, the permittee shall certify the following to the department.

(a) All areas of the project site have been inspected for areas of erosion, and appropriate steps have been taken to permanently stabilize these areas.
(b) All aspects of the stormwater control system have been inspected for damage, wear, and malfunction, and appropriate steps have been taken to repair or replace the facilities.
(c) The erosion and stormwater maintenance plan for the site is being implemented as written, or modifications to the plan have been submitted to and approved by the department, and the maintenance log is being maintained

November 16, 2005

Natural Resource Protection Act (NRPA)
Standard Conditions

THE FOLLOWING STANDARD CONDITIONS SHALL APPLY TO ALL PERMITS GRANTED UNDER THE NATURAL RESOURCE PROTECTION ACT, TITLE 38, M.R.S.A. SECTION 480-A ET.SEQ. UNLESS OTHERWISE SPECIFICALLY STATED IN THE PERMIT.

A. Approval of Variations From Plans. The granting of this permit is dependent upon and limited to the proposals and plans contained in the application and supporting documents submitted and affirmed to by the applicant. Any variation from these plans, proposals, and supporting documents is subject to review and approval prior to implementation.

B. Compliance With All Applicable Laws. The applicant shall secure and comply with all applicable federal, state, and local licenses, permits, authorizations, conditions, agreements, and orders prior to or during construction and operation, as appropriate.

C. Erosion Control. The applicant shall take all necessary measures to ensure that his activities or those of his agents do not result in measurable erosion of soils on the site during the construction and operation of the project covered by this Approval.

D. Compliance With Conditions. Should the project be found, at any time, not to be in compliance with any of the Conditions of this Approval, or should the applicant construct or operate this development in any way other the specified in the Application or Supporting Documents, as modified by the Conditions of this Approval, then the terms of this Approval shall be considered to have been violated.

E. Initiation of Activity Within Two Years. If construction or operation of the activity is not begun within two years, this permit shall lapse and the applicant shall reapply to the Board for a new permit. The applicant may not begin construction or operation of the activity until a new permit is granted. Reapplications for permits shall state the reasons why the applicant will be able to begin the activity within two years form the granting of a new permit, if so granted. Reapplications for permits may include information submitted in the initial application by reference.

F. Reexamination After Five Years. If the approved activity is not completed within five years from the date of the granting of a permit, the Board may reexamine its permit approval and impose additional terms or conditions to respond to significant changes in circumstances which may have occurred during the five-year period.

G. No Construction Equipment Below High Water. No construction equipment used in the undertaking of an approved activity is allowed below the mean high water line unless otherwise specified by this permit.

H. Permit Included In Contract Bids. A copy of this permit must be included in or attached to all contract bid specifications for the approved activity.

I. Permit Shown To Contractor. Work done by a contractor pursuant to this permit shall not begin before the contractor has been shown by the applicant a copy of this permit.

Revised (4/92/DEP LW0428

DEPARTMENT OF ENVIRONMENTAL PROTECTION

Erosion Control for Homeowners

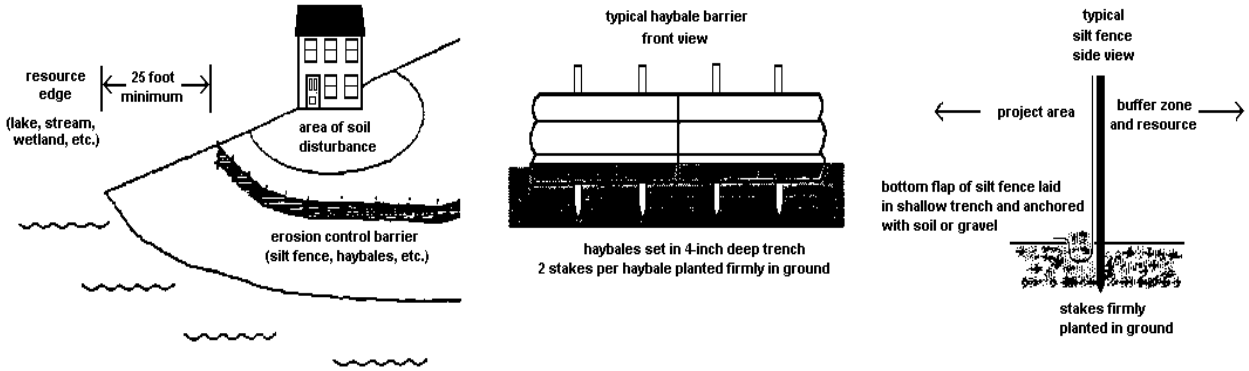
Before Construction

1. If you have hired a contractor, make sure you discuss your permit-by-rule with them. Talk about what measures they plan to take to control erosion. Everybody involved should understand what the resource is, and where it is located. Most people can identify the edge of a lake or river. However, the edges of wetlands are often not so obvious. Your contractor may be the person actually pushing dirt around, but you are both responsible for complying with the permit-by-rule.

2. Call around to find where erosion control materials are available. Chances are your contractor has these materials already on hand. You probably will need silt fence, hay bales, wooden stakes, grass seed (or conservation mix), and perhaps filter fabric. Places to check for these items include farm & feed supply stores, garden & lawn suppliers, and landscaping companies. It is not always easy to find hay or straw during late winter and early spring. It also may be more expensive during those times of year. Plan ahead -- buy a supply early and keep it under a tarp.

3. Before any soil is disturbed, make sure an erosion control barrier has been installed. The barrier can be either a silt fence, a row of staked hay bales, or both. Use the drawings below as a guide for correct installation and placement. The barrier should be placed as close as possible to the soil-disturbance activity.

4. If a contractor is installing the erosion control barrier, double check it as a precaution. Erosion control barriers should be installed "on the contour", meaning at the same level or elevation across the land slope, whenever possible. This keeps stormwater from flowing to the lowest point along the barrier where it can build up and overflow or destroy the barrier.



During Construction

1. Use lots of hay or straw mulch on disturbed soil. The idea behind mulch is to prevent rain from striking the soil directly. It is the force of raindrops hitting the bare ground that makes the soil begin to move downslope with the runoff water, and cause erosion. More than 90% of erosion is prevented by keeping the soil covered.

2. Inspect your erosion control barriers frequently. This is especially important after a rainfall. If there is muddy water leaving the project site, then your erosion controls are not working as intended. You or your contractor then need to figure out what can be done to prevent more soil from getting past the barrier.

3. Keep your erosion control barrier up and maintained until you get a good and healthy growth of grass and the area is permanently stabilized.