March 2015

Hancock Wind, LLC
129 Middle Street, 3rd Floor
Portland, ME 04101
ATTN: David Fowler

RE: Site Location of Development Act Amendment Application, T16 MD/T22 MD/Aurora/Osborn, DEP #L-25875-24-E-A

Dear Mr. Fowler:

Please find enclosed a signed copy of your Department of Environmental Protection land use permit. You will note that the permit includes 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 several moments to read your permit carefully, paying particular attention to the conditions of the approval. The Department reviews every application thoroughly and strives to formulate reasonable conditions of approval within the context of the Department’s environmental laws. You will also find attached 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) 446-7120 or at maria.lentine-eggett@maine.gov.

Sincerely,

Maria Eggett, Project Manager
Division of Land Resource Regulation
Bureau of Land & Water Quality

pc: File
IN THE MATTER OF

HANCOCK WIND, LLC
T16 MD/T22 MD/Aurora, Osborn, Hancock County
TURBINE OPTION
L-25875-24-E-A (approval)

) SITE LOCATION OF DEVELOPMENT LAW
) AMENDMENT
) FINDINGS OF FACT AND ORDER

Pursuant to the provisions of The Maine Wind Energy Act, 35-A M.R.S.A. §§ 3401–3404, the Expedited Permitting of Grid-Scale Wind Energy Development law, 35-A M.R.S.A. §§ 3451–3459, and Site Location of Development law (“Site Law”), 38 M.R.S.A. §§ 481–490, the Department of Environmental Protection (“Department”) has considered the application of HANCOCK WIND, LLC with the supportive data, agency review comments, and other related materials on file and FINDS THE FOLLOWING FACTS:

1. PROJECT DESCRIPTION:

A. History of Project: In Department Order #L-25875-24-A-N/L-25875-TF-B-N, dated July 22, 2013, the Department approved the development of the “Hancock Wind energy facility.” The facility was approved for the use of eighteen 3.0-megawatt (MW) turbines with two possible turbine options: Siemens 3.0-113 (total height of 512 feet), or Vestas V112 (total height of 492 feet). The turbine portion of the project will be located in T16 MD and T22 MD. In Board Order #L-25875-24-C-Z/L-25875-TF-D-Z, dated December 6, 2013, the Board of Environmental Protection issued a denial of two appeals of the project approval.

B. Summary: Through this amendment, the applicant proposes a third turbine option for the facility, Vestas V117. The Vestas V117 is a 3.3-MW turbine with a total turbine height of 574 feet to the tip of the fully extended blade. The applicant proposes to eliminate the approved Turbine 05 in T22 MD if the Vestas V117 turbine option is chosen for construction. No changes concerning soil types, stormwater management, ground water, infrastructure including water supplies, wastewater disposal, or solid waste, or flooding are proposed. Turbine pad size and access roads will remain as approved by the Department. No new impacts to protected natural resources are proposed. This amendment addresses only those permitting standards that would be affected by the substitution of Vestas V117 turbines.

C. Public Interest: The Department did not receive any requests for a public hearing during the 20-day period specified in the Department’s Rule Concerning the Processing of Applications and Other Administrative Matters (“Chapter 2”), 06-096 CMR 2(7)(A). The Department held a public meeting in accordance with 38
M.R.S.A. § 345-A(5) and Chapter 2(8) in Aurora on September 25, 2014 to receive public comments on the proposed amendment.

2. **FINANCIAL CAPACITY:**

Pursuant to the Site Law, 38 M.R.S.A. §484(1), and Financial Capacity Standard of the Site Location Law (“Chapter 373”), 06-096 CMR 373(1), applications for approval of proposed developments must include evidence that affirmatively demonstrates that the developer has the financial capacity to construct, operate, and maintain all aspects of the development.

Including the proposed amendment, the applicant estimates the total cost of the project to be $112 million. The applicant stated that there are no proposed changes to the project structure and financing associated with the use of the Vestas V117 turbine option. With the exception of the construction of two temporary meteorological towers, prior to the start of construction, the applicant must submit evidence that it has been granted a line of credit or a loan by a financial institution authorized to do business in this State, or evidence of any other form of financial assurance determined by the Department to be adequate under Chapter 373, for review and approval by the Department.

The Department finds that the applicant has the financial capacity to construct, operate, and maintain all aspects of the development provided that evidence of final financial capacity is submitted to the Department for review and approval prior to the start of construction as detailed above.

3. **NOISE:**

To address the Site Law’s standard pertaining to the control of noise, 38 M.R.S.A. § 484(3), and applicable rules, No Adverse Environmental Effect Standard of the Site Location Law (“Chapter 375”), 06-096 CMR 375(10), the applicant submitted a Noise Impact Study entitled “Supplement to Sound Level Assessment,” completed by Bodwell EnviroAcoustics LLC and dated December 2014. The Noise Impact Study was conducted to predict expected sound levels from the Vestas V117 turbines, and to compare the model results to the applicable requirements of Chapter 375(10). The Noise Impact Study supplement also addressed an error in the turbine locations in the original Bodwell report.

The Vestas V117 turbines must comply with Department regulations applicable to sound levels from construction activities, routine operation and routine maintenance. Chapter 375(10) applies sound level limits (LeqA-Hr) at facility property boundaries and at “protected locations.” Chapter 375(10)(G)(16) defines a protected location as “[a]ny location accessible by foot, on a parcel of land containing a residence or planned residence or approved residential subdivision . . . near the development site at the time a Site Location of Development application is submitted…” In addition to residential parcels, protected locations include, but are not limited to, schools, state parks, and designated wilderness areas.
As outlined in Chapter 375(10)(I)(2), the sound levels resulting from routine operation of a wind energy development is limited to 75 decibels (dBA) at any time of day at any development property boundary. At any protected location, the limit is 55 dBA between 7:00 a.m. and 7:00 p.m. and 42 dBA between 7:00 p.m. and 7:00 a.m. At protected locations more than 500 feet from living and sleeping quarters, the daytime hourly sound level limits shall apply regardless of the time of day. With the proposed removal of Turbine 05, the nearest protected location is approximately 3,552 feet from a turbine. The nearest protected location is identified in the study as H1.

To assist with the review of the application, the Department retained an independent noise consultant, Peter Guldberg of Tech Environmental, Inc., to review the applicant’s sound prediction model and associated data as well as other evidence received on the issue of noise.

A. Sound Level Modeling: The applicant’s noise consultant, Bodwell EnviroAcoustics LLC, developed a sound level prediction model to estimate sound levels from the operation of the proposed project. The sound model for the project was created using Cadna/A software developed by DataKustik of Germany. Cadna/A allows the consultant to construct topographic surface models of area terrain for calculating sound attenuation from multiple sound sources such as wind turbines. The locations of the proposed turbines, roads, parcels, land uses and waterbodies were entered into Cadna/A in order to calculate sound levels at various points within the proposed project area. Sound level predictions were calculated in accordance with ISO 9613-2, which is an international standard for calculating outdoor sound propagation.

This computerized model is capable of predicting sound levels at specific receiver positions originating from a variety of sound sources. Applicable national or international standards can also be included in the analysis as described above. Cadna/A accounts for such factors as:

- Distance attenuation;
- Geometrical characteristics of sources and receivers;
- Atmospheric attenuation (i.e. the rate of sound absorption by atmospheric gases in the air between sound sources and receptors);
- Ground attenuation (effect of sound absorption by the ground as sound passes over various terrain and vegetation types between source and receptor);
- Screening effects of surrounding terrain; and
- Meteorological conditions and effects.

To be conservative in calculating the high end of the sound power levels produced by the turbines, the applicant added in the manufacturer’s sound power level uncertainty value of 2.0 dBA. In addition, Bodwell EnviroAcoustics added 1.0 dBA to the turbine sound power output to compensate for any uncertainty in the model. The total uncertainty factor is used in the modeling is 3.0 dBA for the Vestas V117 turbine.
Sound associated with the operational phase of the project was modeled excluding other existing sound sources. Modeling the sound generated from the operation of the 17 turbines was conducted by first obtaining the manufacturer’s sound power level specifications (106.5 dBA), and then applying the uncertainty factor described above to account for the manufacturer’s uncertainty and the modeling uncertainty, for a total sound power level of 109.5 dBA from each turbine. The model was run with all 17 turbines operating at full sound power output. The applicant reported that the highest predicted sound levels at protected location Receptors H1 to H3 ranged from 35.2 dBA to 36.0 dBA. Based on the modeling, the applicant concluded that the proposed project would result in sound levels below the required daytime sound level limit of 55 dBA at all protected locations; below 42 dBA between 7:00 p.m. and 7:00 a.m. within a 500-foot radius of sleeping and living quarters on any parcel containing sleeping or living quarters; and, below 55 dBA outside of a 500-foot radius of any sleeping and living quarters on such parcels between 7:00 a.m. and 7:00 p.m. No noise reduced operations are proposed for this project.

B. **Tonal Sound:** As defined in Chapter 375(10)(I)(3), a tonal sound exists if:

- at a protected location, the 10 minute equivalent average one-third octave band sound pressure level in the band containing the tonal sound exceeds the arithmetic average of the sound pressure levels of the two contiguous one-third octave bands by 5 dB for center frequencies at or between 500 Hz and 10,000 Hz, by 8 dB for center frequencies at or between 160 and 400 Hz, and by 15 dB for center frequencies at or between 25 Hz and 125 Hz. 5 dBA shall be added to any average 10 minute sound level ($L_{eqA\ 10\-min}$) for which a tonal sound occurs that results from routine operation of the wind energy development.

The applicant’s December 2014 Supplement to Sound Assessment states that the proposed Vestas V117 turbines carry Sound Level Performance Standard warranties certifying that they will not produce a tonal sound as it is defined by the Department’s Noise Regulations. In his review of the applicant’s June 2014 Supplement to Sound Assessment on behalf of the Department, Mr. Guldberg confirmed that an analysis of the sound power octave band spectrum reveals that the Vestas V117 turbines have no potential for creating a tonal sound as defined in Chapter 375(10)(I)(3).

C. **Short Duration Repetitive Sound:** Chapter 375(10)(I)(4) defines Short Duration Repetitive Sound (“SDRS”) as:

- a sequence of repetitive sounds that occur within a 10-minute measurement interval, each clearly discernible as an event resulting from the development and causing an increase in the sound level of 5 dBA or greater on the fast meter response above the sound level observed immediately before and after the event, each typically ±1 second in duration, and which are inherent to the process or operation of the development.” Chapter 375(10)(I)(4)(a) requires that if any defined SDRS results from routine operation of a development, 5 dBA must
added to the average 10-minute sound level ($\text{Leq}_{10\text{ min}}$) measurement interval in which greater than five SDRS events are present.

Compliance testing for SDRS will be incorporated into the post-construction noise monitoring program (discussed in Section 3.E. below) after project completion to provide assurance that SDRS was not occurring that would result in sound levels above the applicable limits.

D. Department Analysis: Mr. Guldberg reviewed Section 1 of the project application, Project Description, as well as Section 5, Noise. Section 5 contains the report by Bodwell EnviroAcoustics, LLC, entitled “Supplement to Sound Level Assessment, Hancock Wind, LLC, and Hancock Wind Project”. Mr. Guldberg concluded the Vestas V117 turbine maximum sound power levels with conservative uncertainty factors were used in the analysis; the acoustic model and its assumptions were appropriate; the sound receiver locations were appropriate; the decibel contour maps adequately covered the potential impact area; and the Department provisions on the control of noise found in Chapter 375(10) have been properly interpreted and applied for by the applicant. Although not required, the applicant’s noise consultant also performed a cumulative impact analysis of the Hancock Wind Project and Bull Hill project, demonstrating compliance with both Chapter 375(10) and the Town of Eastbrook’s noise ordinance.

E. Post-construction Monitoring Program: In his review, Mr. Guldberg stated that to ensure that the sound level predictions submitted by the applicant were accurate for the type of wind turbines installed, and to ensure compliance with Chapter 375(10), including the provisions regarding SDRS and tonal sound, the Department should require post-construction sound monitoring for the project. With the exception of Receptor H3 that is 4,749 away from the nearest turbine, all protected locations, and those closest to the turbines, are on the east shore of Spectacle Pond.

Mr. Guldberg recommended that the Department require sound compliance testing at Receptor H1 as it has the highest predicted sound level in the combined project analysis, and it is the closest protected location to any turbine in the Hancock Wind Project. A verification of compliance at Receptor H1 will ensure the project complies with Chapter 375(10) at all other protected locations. At least six of the 12 test periods used in the compliance test report should represent the nighttime period (7 p.m. to 7 a.m.) during which the sound level limit is 42 dBA. The compliance test report should include a complete presentation of the data and calculations for the SDRS analysis performed.

Sound compliance testing must be completed at Receptor H1. At least six of the 12 test periods used in the compliance test report must represent the nighttime period (7 pm to 7 am) during which the sound level limit is 42 dBA. The compliance test report must include a complete presentation of the data and calculations for the SDRS analysis performed. The results of the monitoring must be submitted to the Department within 60 days of the completion of monitoring for that specific year.
The applicant must conduct post-construction monitoring in accordance with all applicable standards of Chapter 375(10)(I)(8), which specifies the methods for measuring sound and information to be reported to the Department.

F. **Sound Complaint Response and Resolution Protocol:** The applicant proposed to implement a formal protocol for responding to noise complaints. The proposed protocol for responding to sound complaints must meet all applicable standards of Chapter 375(10)(I)(7)(j). The applicant must notify the Department of any complaints within three business days of receiving them and must notify the Department of the outcome of its investigation within three business days of completion.

G. **Turbine Layout Correction:** The January 2013 Bodwell EnviroAcoustics report was based on a turbine layout that differed slightly from the approved configuration. Bodwell submitted an addendum to address this error as part of this amendment application. The addendum states a minor decrease in predicted sound level at receptor H3 is expected when considering the approved layout. Mr. Goldberg reviewed the addendum and stated the acoustic studies submitted for the Vestas V112 and Siemens 3.0-113 turbine layouts are reasonable and technically correct according to standard engineering practices and they comply with Chapter 375(10).

Based on the applicant's submissions and the review of those submissions by the Department and the Department’s noise consultant, the Department finds that the proposed project will meet all applicable standards of Chapter 375(10), including tonal sound and SDRS, and that the applicant has made adequate provisions for the control of excessive environmental noise from the proposed project. To ensure that the project operates in compliance with the permit and the Department’s regulations, the Department finds that the applicant must implement the post-construction monitoring program described above, including the sound complaint protocol. The applicant must investigate all complaints and must notify the Department of any complaints within three business days of receiving them; must notify the Department of the outcome of its investigation within three business days of completion; and, the applicant must submit sound level monitoring reports in accordance with the post-construction monitoring program described above. Upon any finding of non-compliance by the Department, the applicant must take short-term action immediately to adjust operations to reduce sound output to applicable limits under Chapter 375(10). Within 60 days of a determination of non-compliance by the Department, the applicant must submit, for review and approval, a mitigation plan that proposes actions to bring the project into compliance. The Department will review any such mitigation plan and may require additional mitigation or alternative measures. If immediate actions to bring the project into compliance with the applicable noise standards are not taken or not successful while the process of generating and obtaining approval of a longer term plan is taking place, the Department may take such enforcement action as it finds appropriate to ensure compliance with the Site Law, applicable provisions of Chapter 375(10), and this Order.
SCENIC CHARACTER:

The Site Law, 38 M.R.S.A. § 484(3), has standards pertaining to scenic impacts that must be satisfied in order to obtain a permit for a wind energy project. The Site Law requires an applicant for a wind energy project to demonstrate that the proposed project will not adversely affect existing uses or scenic character in the municipality or in neighboring municipalities. Maine’s Expedited Permitting of Grid-Scale Wind Energy Development law, 35-A M.R.S.A. § 3452(1), further specifies those standards and states that when expedited wind energy developments are being evaluated:

[T]he [Department] shall determine, in the manner provided in subsection 3, whether the development significantly compromises views from a scenic resource of state or national significance such that the development has an unreasonable adverse effect on the scenic character or existing uses related to scenic character . . . Except as otherwise provided in subsection 2, determination that a wind energy development fits harmoniously into the existing natural environment in terms of potential effects on scenic character and existing uses related to scenic character is not required for approval under…Title 38, section 484, subsection 3.

The proposed wind project contains “generating facilities” such as wind turbines, as defined by 35-A M.R.S.A. § 3451(5) and “associated facilities” such as buildings, access roads, collection lines, and substation, as defined by 35-A M.R.S.A. § 3451(1). The proposed amendment does not impact any of the associated facilities.

Title 35-A M.R.S.A. § 3452(3), further provides that:

A finding by the [Department] that the development’s generating facilities are a highly visible feature in the landscape is not solely sufficient basis for determination that an expedited wind energy project has an unreasonable adverse effect on the scenic character and existing uses related to scenic character of a scenic resource of state or national significance. In making its determination under subsection 1, the [Department] shall consider insignificant the effects of portions of the development’s generating facilities located more than 8 miles, measured horizontally, from a scenic resource of state or national significance.

To address the scenic impact criteria, the applicant submitted a Visual Impact Assessment (“VIA”) entitled “Visual Impacts of Additional Design Option”, prepared by Terrence J. DeWan and Associates (“TJD&A”) and dated July 1, 2014. The VIA examined the potential scenic impact of the third turbine option on Scenic Resources of State or National Significance (“SRSNS”) within eight miles of the proposed project using the evaluation criteria contained in the Expedited Permitting of Grid-Scale Wind Energy Development law. In the proposed amendment, the applicant proposes to remove Turbine 05 from the project, which is the turbine closest to Spectacle Pond. The applicant conducted a comparative viewshed analysis to assess the change in visibility within an eight-mile radius of the proposed generation facilities. The applicant identified eleven SRSNS within eight miles of the original proposal. The applicant concluded that
the increase in overall turbine height, the increase in tower height, the increase in rotor diameter, the removal of Turbine 05, and the corresponding reduction in the eight-mile study area would not have an unreasonable adverse impact on the SRSNS.

A. Peer Review of the Visual Impact Assessment: The Department hired Dr. James F. Palmer of Scenic Quality Consultants, an independent scenic consultant, to assist in its review of the technical evidence submitted on scenic character. Dr. Palmer provided the Department with comments dated August 15, 2014. Dr. Palmer reviewed the VIA and photosimulations provided by the applicant and stated that there will be an increase in the extent of the area with potential visibility, and in the number of turbines visible from any particular viewpoint, but concluded that the overall change was slight.

B. Department Analysis and Findings: In its analysis, the Department considered the evidence pertaining to scenic impacts submitted by the applicant, the comments of its independent scenic consultant, and the evidence gathered by staff. The proposed project will cause changes in visibility from five SRSNS: Lower Lead Mountain Pond, Middle Lead Mountain Pond, Upper Lead Mountain Pond, Narraguagus Lake and Tunk Mountain. The Department determined that a greater number of turbine hubs will be visible from Lower Lead Mountain Pond and Upper Lead Mountain Pond. In the original approval, Lower Lead Mountain Pond had turbines visible from 23 percent of the pond. The taller turbines would increase visibility to 25 percent of the pond. On Upper Lead Mountain Pond, visibility will increase from six percent to 15 percent. Narraguagus Lake will increase in visibility from 17 percent for the original turbine design to 22 percent for the Vestas V117 turbines. However, no increase in visibility is anticipated from Tunk Mountain. While the taller turbines may be visible from a greater area of three SRSNS (Lower Lead Mountain Pond, Upper Lead Mountain Pond, Narraguagus Lake), the majority of each of these SRSNS will not have any visibility of the project. There are no other changes to the visibility from any of the other six SRSNS. The applicant’s proposal to install a radar-activated lighting system when approved by the FAA does not change as a result of this amendment. The lighting must be installed on the Vestas V117 turbines as outlined in the original Department Order.

Based on the evidence in the record, the Department finds that the proposed project will not have an unreasonable adverse effect on scenic character or existing uses related to scenic character of the SRSNS within eight miles of the generating facilities.

5. WILDLIFE AND FISHERIES:

Applicants for Site Law permits are required to demonstrate that the proposed project would not unreasonably harm wildlife and fisheries; any significant wildlife habitat; freshwater plant habitat; threatened or endangered plant habitat; aquatic or adjacent upland habitat; travel corridor; freshwater, estuarine or marine fisheries; or other aquatic life. The applicant concluded that the increase in turbine height would have a minimal impact on birds and bats. To support that conclusion the applicant submitted an analysis
of the existing bat radar data and raptor observations with the new turbine heights included in that analysis. The applicant noted that there is a three to four percent increase in the number of bats and no increase in the number of raptors flying below the height of the taller turbines. The proposed amendment does not alter the findings from the Department’s original order to the project’s significant vernal pools, inland waterfowl and wading bird habitat, deer wintering areas, rare threatened and endangered species, salmon habitat streams, or wild brook trout streams.

A. Birds and Bats: The Maine Department of Inland Fisheries and Wildlife (“MDIFW”) reviewed the proposed project and stated in response to impacts from disease plus anthropogenic threats to the bat population, it has revised its curtailment policy for wind energy projects. MDIFW’s recommendation for curtailment is as follows:

Wind turbines should operate only at cut-in wind speeds exceeding 6.0 meters per second each night (from at least ½ hour before sunset to at least ½ hour after sunrise) during the period April 20 – October 15. Cut-in speeds are determined based on mean wind speeds measured at hub heights of a turbine over a 10-minute interval. Turbines should be feathered during these low wind periods to minimize risks of bat mortality. These cut-in speeds are independent of ambient air temperature.

The cut-in wind speed of 6.0 meters per second only applies to the Vestas V117 turbine option. If used, the Vestas V112 or the Siemens 3.0-113 turbines are subject to the curtailment conditions in the original Order. MDIFW requested that the applicant be required to implement a post-construction avian monitoring plan (“PCM”) to ensure that there are no unreasonable adverse impacts on birds. Prior to operation of the facility, a PCM plan and an implementation schedule must be submitted to the Department for review and approval.

The Department finds that adequate provisions have been made for the protection of wildlife and fisheries and that the project will not result in an unreasonable impact to 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 turbine operation is curtailed as outlined above and provided, prior to operation of the facility, the PCM and implementation schedule are submitted to the Department for review and approval.

If the Department determines that one or more turbines are causing an unreasonable adverse impact on bats or birds the Department may initiate its modification or corrective action procedure as set forth in 38 M.R.S.A. §§ 341-D(3) & 342(11-C) or its suspension or revocation procedure as set forth in 38 M.R.S.A. § 342(11-B).
6. **SHADOW FLICKER:**

In accordance with 38 M.R.S.A. § 484(10)(A), an applicant must demonstrate that the proposed wind energy development has been designed to avoid unreasonable adverse shadow flicker effects. Shadow flicker caused by wind turbines is defined as alternating changes in light intensity caused by the moving blade casting shadows on the ground and stationary objects. Shadow flicker is the sun seen through a rotating wind turbine rotor. Shadow flicker does not occur when the sun is obscured by clouds or fog or when the turbine is not rotating. The spatial relationships between a wind turbine and receptor, as well as wind direction which cause the turbines to rotate, are key factors relating to shadow flicker occurrence and duration. At distances of greater than 1,000 feet between wind turbines and receptors, shadow flicker usually occurs when the rotor plane is in-line with the sun and receptor (as seen from the receptor), the cast shadows will be very narrow (blade thickness) and of low intensity, and the shadows will move quickly past the stationary receptor. When the rotor plane is perpendicular to the sun-receptor “view line,” the cast shadow of the blades will move within a circle equal to the turbine rotor diameter.

The applicant submitted a shadow flicker analysis in the amendment application based on Vestas V117 turbines. The applicant used WindPRO, a wind modeling software program, to model expected shadow flicker effects on adjacent properties from the 17 proposed turbine locations. The applicant assumed a worst-case scenario, that all receptors have a direct in-line view of the incoming shadow flicker sunlight, and did not take into account any existing vegetative buffers.

The Department generally recommends that an applicant conduct a shadow flicker model out to a distance of 1,000 feet or greater from a residential structure, and the applicant’s model did so. The applicant modeled 26 receptors, with a result of zero hours of flicker at all receptors, due to the proposed elimination of Turbine 05. Maine currently has no numerical regulatory limits on exposure to shadow flicker; however, the industry commonly uses 30 hours per year as a limit to reduce nuisance complaints.

To adjust for likely weather conditions, the applicant based the model on sunlight data obtained from the National Oceanic and Atmosphere Administration (“NOAA”) station in Portland, Maine. NOAA collects cloud data at two locations in Maine, Caribou and Portland. Portland has the higher number of sunny or partly cloudy days, two hundred per year.

The Department finds the shadow flicker modeling conducted by the applicant is credible. Based upon the proposed project’s location and design, the distance to the nearest shadow flicker receptor, and results of the shadow flicker analysis, the Department finds that the proposed project will not unreasonably cause shadow flicker to occur over adjacent properties.
7. **PUBLIC SAFETY:**

In accordance with 38 M.R.S.A. § 484(10)(A), an applicant must demonstrate that the proposed wind energy development will be constructed with setbacks adequate to protect public safety. The applicant proposes to add the Vestas V117 wind turbines as an option for construction.

The Department recognizes that locating wind turbines a safe distance away from any occupied structures, public roads or other public use areas is extremely important. To determine an adequate 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 Det Norske Veritas. The Vestas V117 turbine’s conformity with International Electrotechnical Commission standards has been certified by Det Norske Veritas and is included in Section 27 of the amendment application. Based on this analysis, the Department requires that all proposed wind turbines be set back from the property line, occupied structures, or public areas a minimum of 1.5 times the maximum blade height for the wind turbine. Therefore, the minimum setback distance to the nearest property line would be 861 feet for the Vestas V117 turbines. A review of the application indicates that all turbines are proposed to be set back more than 2,400 feet from the nearest non-participating landowner.

The applicant has submitted a template for the Emergency Preparedness and Emergency Action Plan (“Emergency Plan”). The applicant proposes to complete a site specific Emergency Plan for the project once it is constructed. Prior to the commencement of operations at the facility, the final Emergency Plan must be submitted to the Department for review and approval.

The applicant also submitted overspeed control and fire safety information for the Vestas V117 turbines. The Vestas V117 turbines use a Condition Monitoring System to ensure safe operation. Smoke detectors would automatically shut down a turbine if fire is detected. Additionally, a fire suppression system is located in the electrical cabinet, consisting of tubing containing an extinguishing agent. Other measures, such as lightning protection systems, staff training, and annual maintenance are utilized to minimize fire risk. The applicant must notify the Department within 48 hours of any fire event that causes one or more turbines to cease generating electricity.

The Department finds that the applicant provided documentation for the Vestas V117 turbines in the form of industry standards compliance and certification by an engineer that the wind generation equipment has been designed to conform to applicable industry safety standards, and has demonstrated that the proposed project has been sited such that it will not present an unreasonable safety hazard to adjacent properties or adjacent property uses, provided the applicant submits a site specific Emergency Plan prior to operation to the Department for review and approval, and provided the applicant notifies the Department within 48 hours of any fire event that causes one or more turbines to cease generating electricity. The Department finds that the applicant has submitted
sufficient evidence which demonstrates that the proposed project will be sited to adequately protect public safety.

8. **DECOMMISSIONING PLAN:**

In order to facilitate and ensure appropriate removal of the wind generation equipment when it reaches the end of its useful life or if the applicant ceases operation of the project, the Department requires an applicant to demonstrate, in the form of a decommissioning plan, the means by which decommissioning will be accomplished. The applicant submitted a decommissioning plan which includes a description of the work required, an estimate of decommissioning costs, a schedule for contributions to its decommissioning fund, and a demonstration of financial assurance.

A. **Trigger for implementation of decommissioning:** The proposed wind turbine generators are designed and certified by independent agencies for a minimum expected operational life of 20 years; however other factors may trigger the requirement for decommissioning before 20 years have passed. The applicant’s proposal is that the wind generation facility, or any single turbine, will be decommissioned when it ceases to generate electricity for a continuous period of 12 months. In the case of a force majeure event which causes the project, or any single turbine, to fail to generate electricity for 12 months, the applicant proposes that it be allowed to submit to the Department for review and approval reasonable evidence in support of a request that they not be required to decommission the project at that time.

Decommissioning will begin if 12 months of no generation occurs. An exception to the requirement will be allowed for a force majeure event; however, the Department finds that the applicant’s proposed definition of force majeure is exceedingly broad, and instead the definition will be as follows: The Department considers a force majeure event to mean fire, earthquake, flood, tornado, or other acts of God and natural disasters; and war, civil strife or other similar violence. In the event of a force majeure event which results in the absence of electrical generation by one or more turbines for 12 months, by the end of the twelfth month of non-operation the applicant shall demonstrate to the Department that the project, or any single turbine, will be substantially operational and producing electricity within 24 months of the force majeure event. If such a demonstration is not made to the Department’s satisfaction, the decommissioning must be initiated eighteen months after the force majeure event. Additionally, if a single turbine or the entire project fails to generate electricity for 12 consecutive months for a reason other than a force majeure event and the applicants demonstrate to the Department’s satisfaction that the turbine or the project will be substantially operational within 24 months, then the turbine or project will not need to be decommissioned.

B. **Description of work:** The description of work contained in the application outlines the applicant’s proposal for the manner in which the turbines and other components of the proposed project will be dismantled and removed from the site. Subsurface components will be removed to a minimum of 24 inches below grade, generating
facilities will be removed and salvaged, and disturbed areas will be re-seeded. At the
time of decommissioning, the applicant must submit a plan for continued beneficial
use of any wind energy development components proposed to be left on-site to the
Department for review and approval.

C. Financial Assurance: The applicant estimates that the current cost for
decommissioning the project will be $939,900. The applicant proposes to have the
full financial assurance mechanism in place prior to construction and to re-evaluate
the decommissioning cost at least once every five years throughout the life of the
project. The applicant proposes that financial assurance for the decommissioning
costs will be in the form of (i) performance bond, (ii) surety bond, or (iii) letter of
credit, or other acceptable form of financial assurance for the total cost of
decommissioning. Proof of acceptable financial assurance must be submitted to the
Department for review and approval prior to the start of construction.

D. Notification: The applicant must notify the Department within two business days of
any catastrophic turbine failure. Catastrophic turbine failure shall include the
voluntary or involuntary shut-down of a turbine due to a fire event, structural failure
or accidental event resulting in a turbine collapse, a force majeure event, or any
mechanical breakdown the applicant anticipates will result in a turbine being off-line
for a period greater than six months.

Based on the applicants’ proposal outlined above, the Department finds that the
applicant’s proposal will adequately provide for decommissioning, provided the applicant
implements the decommissioning plan as proposed and submits proof of financial
assurance to the Department for review and approval prior to the start of construction, for
the decommissioning costs as set forth above.

9. TANGIBLE BENEFITS:

In accordance with 38 M.R.S.A. § 484(10)(C), an applicant must demonstrate that the
proposed wind energy development provide significant tangible benefits. In its
amendment application, the applicant described tangible benefits that the project will
provide to the State of Maine and to host communities, including economic benefits and
environmental benefits.

A. Generation of Wind Energy: The applicant estimates that the proposed project will
provide an approximate average output of 132,500 megawatt-hours per year, which is
enough to power 20,794 homes.

B. Property Tax Payments: The applicant estimates that the proposed project will result
in estimated average annual property tax payments to Unorganized Territories in
excess of $362,000, and average annual payments to the Town of Aurora of $8,000.

C. Community Benefits Agreement: The applicant has provided proposed Community
Benefit Agreements with the Towns of Osborn, Waltham and Eastbrook. The towns
may use the funds at their discretion for public purposes including lowering tax rates
or investment in municipal assets and/or services. Annual payments made to the Towns of Osborn, Waltham, and Eastbrook as part of the Community Benefits Agreements total $5,411 per turbine per year for 20 years. The applicant must submit confirmation of the receipt of funds by the towns to the Department annually for review.

Based on the proposed energy generation, property tax revenue and the Community Benefits Agreements proposed by the applicant, the Department finds that the applicant has demonstrated that the proposed project will provide significant tangible benefits to the State, host communities and surrounding area pursuant to 35-A M.R.S.A. § 3454, provided that annual payments are made to Osborn, Waltham, and Eastbrook and the applicant submits confirmation to the Department for review as described above.

10. ALL OTHER:

All other Findings of Fact, Conclusions and Conditions remain as approved in Department Order #L-25875-24-A-N/L-25875-TF-B-N, and subsequent Orders.

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. §§ 3401–3404, 38 M.R.S.A. §§ 3451–3459, and 38 M.R.S.A. § 481–490:

A. The applicant has provided adequate evidence of financial capacity to develop the project in a manner consistent with state environmental standards provided that the applicant meets the requirement of Finding 2.

B. The proposed activity will not significantly compromise views from a SRSNS and will not have an unreasonable adverse effect on the scenic character and existing uses related to scenic character of the resource, provided that the applicant submits an application to the FAA for a radar-activated lighting system as described in Finding 4.

C. The applicant has made adequate provisions for air quality, water quality, control of noise and other natural resources in the municipality or in neighboring municipalities provided that the post-construction sound level monitoring and complaint response protocol is implemented by the applicant as described in Finding 3; and the applicant submits a post-construction monitoring plan and implementation schedule as described in Finding 5.

D. The proposed development will not unreasonably cause shadow flicker effects to occur over adjacent properties.

E. The proposed project will be sited to adequately protect public safety and the activity will not present an unreasonable safety hazard to adjacent properties or adjacent property uses provided the applicant meets the requirement of Finding 7.
F. The applicant has made adequate provisions to achieve decommissioning of the wind energy facility provided the decommissioning plan is implemented and financial assurance of funds for decommissioning is demonstrated as set forth in Finding 8.

G. The activity will provide significant tangible benefits to the host community and surrounding area, provided that the applicant implements the Community Benefit Agreement as discussed in Finding 9.

THEREFORE, the Department APPROVES the amendment application of HANCOCK WIND, LLC for a third turbine option as described in Finding 1, SUBJECT TO THE FOLLOWING CONDITIONS and all applicable standards and regulations:

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

2. 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.

3. Prior to the start of construction, with the exception of two 60-meter meteorological towers, the applicant shall submit evidence that it has been granted a line of credit or a loan by a financial institution authorized to do business in this State or evidence of any other form of financial assurance determined by the Department to be adequate under Chapter 373(1), for review and approval by the Department.

4. Prior to the start of commercial operation, the applicant shall submit to the Department for review and approval the sound complaint response protocol outlined in Finding 3. The proposed protocol must meet all applicable standards of Chapter 375(10)(I)(7)(j).

5. The applicant shall investigate all complaints and must notify the Department of any complaints within three business days of receiving them, and must notify the Department of the outcome of its investigation within three business days of completion; and the applicant must submit sound level monitoring reports in accordance with the post-construction monitoring program described above. Upon any finding of non-compliance by the Department, the applicant shall take short-term action immediately to adjust operations to reduce sound output to applicable limits under Chapter 375(10). Within 60 days of a determination of non-compliance by the Department, the applicants shall submit, for review and approval, a mitigation plan that proposes actions to bring the project into compliance. The Department will review any such mitigation plan and may require additional mitigation or alternative measures.

6. Sound compliance testing shall be completed at Receptor H1. At least six of the 12 test periods used in the compliance test report shall represent the nighttime period (7 pm to 7 am) during which the sound level limit is 42 dBA. The compliance test report shall include a complete presentation of the data and calculations for the SDRS analysis.
performed. The results of the monitoring shall be submitted to the Department within 60 days of the completion of monitoring for that specific year.

7. To ensure compliance, noise post-construction monitoring shall meet all applicable standards of Chapter 375(10)I(8), which specifies the methods for measuring sound and the information to be reported to the Department.

8. The applicant shall submit an application to the FAA for a radar-activated lighting system within six months of FAA’s adoption of the rules for these systems for wind energy projects, and shall install the system within one year of FAA’s approval.

9. The Vestas V117 wind turbines shall operate only at cut-in wind speeds exceeding 6.0 meters per second each night (from at least ½ hour before sunset to at least ½ hour after sunrise) during the period April 20 to October 15 over the life of the project. Cut-in speeds are determined based on mean wind speeds measured at hub heights of a turbine over a 10-minute interval. Turbines shall be feathered during these low wind periods to minimize risks of bat mortality. These cut-in speeds are independent of ambient air temperature.

10. Prior to operation of the project, the applicant shall submit a wildlife post-construction monitoring plan and implementation schedule to the Department for review and approval.

11. The applicant shall submit an Emergency Preparedness and Emergency Action Plan for the project to the Department for review and approval prior to the commencement of operation at the facility. The applicant shall notify the Department within 48 hours of any fire event that causes one or more turbines to cease generating electricity.

12. Prior to the start of construction, the applicant shall submit evidence to the Department that the decommissioning plan has been fully funded, for review and approval by the Department. The financial assurance for the decommissioning costs must be in the form of (i) performance bond, (ii) surety bond, or (iii) letter of credit, or other form of financial assurance for the total cost of decommissioning acceptable to the Department. The financial assurance mechanism must be in place prior to the start of construction. The applicants must re-evaluate the decommissioning cost and update financial assurance to reflect the current decommissioning costs at the end of years five, ten, and fifteen.

13. The applicant shall implement the decommissioning plan as proposed and as discussed in Finding 8.

14. Decommissioning shall begin if 12 months of no generation occurs. Decommissioning of a single turbine shall begin if 12 consecutive months of no generation occurs at that turbine. An exception to the requirement will be allowed for a force majeure event. A ‘force majeure’ event will consist of fire, earthquake, flood, tornado, or other acts of God and natural disasters; and war, civil strife or other similar violence. In the event of a force majeure event which results in the absence of electrical generation by one or more turbines for 12 months, by the end of the twelfth month of non-operation the applicant
shall demonstrate to the Department that the project, or any single turbine, will be substantially operational and producing electricity within 24 months of the force majeure event. If such a demonstration is not made to the Department’s satisfaction, the decommissioning must be initiated eighteen months after the force majeure event. Additionally, if a single turbine or the entire project fails to generate electricity for 12 consecutive months for a reason other than a force majeure event and the applicants demonstrate to the Department’s satisfaction that the turbine or the project will be substantially operational within 24 months, then the turbine or project will not need to be decommissioned.

15. The applicant shall notify the Department within two business days of any catastrophic turbine failure. Catastrophic turbine failure shall include the voluntary or involuntary shut-down of a turbine due to a fire event, structural failure or accidental event resulting in a turbine collapse, a force majeure event, or any mechanical breakdown the applicant anticipates will result in a turbine being off-line for a period greater than six months.

16. The applicant shall submit confirmation of the receipt of tangible benefits by the Towns of Osborn, Waltham, and Eastbrook to the Department annually for review.

17. All other Findings of Fact, Conclusions and Conditions remain as approved in Department Order #L-25875-24-A-N/L-25875-TF-B-N, and subsequent Orders, and are incorporated herein.

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.

DONE AND DATED IN AUGUSTA, MAINE, THIS 5th DAY OF March, 2015.

DEPARTMENT OF ENVIRONMENTAL PROTECTION

BY: [Signature]
For: Patricia W. Aho, Commissioner

PLEASE NOTE THE ATTACHED SHEET FOR GUIDANCE ON APPEAL PROCEDURES...

ME/L25875EA/ATS#77942
Department of Environmental Protection
SITE LOCATION OF DEVELOPMENT (SITE)
STANDARD CONDITIONS

A. 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 is subject to review and approval prior to implementation. Further subdivision of proposed lots by the applicant or future owners is specifically prohibited without prior approval of the Board, and the applicant shall include deed restrictions to that effect.

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. Compliance with All Terms and Conditions of Approval. The applicant shall submit all reports and information requested by the Board or the Department demonstrating that the applicant has complied or will comply with all preconstruction terms and conditions of this approval. All preconstruction terms and conditions must be met before construction begins.

D. Advertising. Advertising relating to matters included in this application shall refer to this approval only if it notes that the approval has been granted WITH CONDITIONS, and indicates where copies of those conditions may be obtained.

E. Transfer of Development. Unless otherwise provided in this approval, the applicant shall not sell, lease, assign or otherwise transfer the development or any portion thereof without prior written approval of the Board 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 shall be granted only if the applicant or transferee demonstrates to the Board that the transferee has the technical capacity and financial ability to comply with conditions of this approval and the proposals and plans contained in the application and supporting documents submitted by the applicant.

F. Time frame for approvals. If the construction or operation of the activity is not begun within four years, this approval shall lapse and the applicant shall reapply to the Board for a new approval. The applicant may not begin construction or operation of the development until a new approval is granted. A reapplication for approval may include information submitted in the initial application by reference. This approval, if construction is begun within the four-year time frame, is valid for seven years. If construction is not completed within the seven-year time frame, the applicant must reapply for, and receive, approval prior to continuing construction.

G. Approval Included in Contract Bids. A copy of this approval must be included in or attached to all contract bid specifications for the development.

H. Approval Shown to Contractors. Work done by a contractor pursuant to this approval shall not begin before the contractor has been shown by the developer a copy of this approval.

(2/81)/Revised December 27, 2011
DEPLW 0429
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. An aggrieved person seeking review of a licensing decision over which the Board had original jurisdiction may seek judicial review in Maine’s Superior Court.

A judicial appeal of final action by the Commissioner or the Board regarding an application for an expedited wind energy development (35-A M.R.S.A. § 3451(4)) or a general permit for an offshore wind energy demonstration project (38 M.R.S.A. § 480-HH(1)) or a general permit for a tidal energy demonstration project (38 M.R.S.A. § 636-A) must be taken to the Supreme Judicial Court sitting as the Law Court.

This INFORMATION SHEET, in conjunction with a review of the statutory and regulatory provisions referred to herein, can help a person to understand his or her rights and obligations in filing an administrative or judicial appeal.

I. ADMINISTRATIVE APPEALS TO THE BOARD

LEGAL REFERENCES


HOW LONG YOU HAVE TO SUBMIT AN APPEAL TO THE BOARD

The Board must receive a written appeal within 30 days of the date on which the Commissioner's decision was filed with the Board. Appeals filed after 30 calendar days of the date on which the Commissioner's decision was filed with the Board 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 the Board’s 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 a copy of the appeal documents and if the person appealing is not the applicant in the license proceeding at issue the applicant must also be sent a copy of the appeal documents. All of 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

Appeal materials must contain the following information at the time submitted:

1. *Aggrieved Status.* The appeal must explain how the person filing the appeal has standing to maintain an appeal. This requires an explanation of how the person filing the appeal may suffer a particularized injury as a result of 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 on the appeal 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, referred to as supplemental evidence, to be considered by the Board in an appeal only when the evidence is relevant and material and that 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 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.

OTHER CONSIDERATIONS IN APPEALING A DECISION TO THE BOARD

1. *Be familiar with all relevant material in the DEP record.* A license application file is public information, subject to any applicable statutory exceptions, 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.* If a license has been granted and it has been appealed the license normally remains in effect pending the processing of the appeal. A license holder may proceed with a project pending the outcome of an appeal but the license holder 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 receipt of an appeal, including the name of the DEP project manager assigned to the specific appeal. The notice of appeal, any materials accepted by the Board Chair as supplementary evidence, and any materials submitted in response to the appeal will be sent to Board members with a recommendation from DEP staff. Persons filing appeals and interested persons are notified in advance of the 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 or remand the matter to the Commissioner for further proceedings. The Board will notify the appellant, a license holder, and interested persons of its decision.
II. JUDICIAL APPEALS

Maine law generally allows aggrieved persons to appeal final Commissioner or Board licensing decisions to Maine’s Superior Court, see 38 M.R.S.A. § 346(1); 06-096 CMR 2; 5 M.R.S.A. § 11001; & M.R. Civ. P 80C. A party’s appeal must be filed with the Superior Court within 30 days of receipt of notice of the Board’s or the Commissioner’s decision. For any other person, an appeal must be filed within 40 days of the date the decision was rendered. Failure to file a timely appeal will result in the Board’s or the Commissioner’s decision becoming final.

An appeal to court of a license decision regarding an expedited wind energy development, a general permit for an offshore wind energy demonstration project, or a general permit for a tidal energy demonstration project may only be taken directly to the Maine Supreme Judicial Court. See 38 M.R.S.A. § 346(4).

Maine’s Administrative Procedure Act, DEP statutes governing a particular matter, and the Maine Rules of Civil Procedure must be consulted for the substantive and procedural details applicable to judicial appeals.

ADDITIONAL INFORMATION

If you have questions or need additional information on the appeal process, for administrative appeals contact the Board’s Executive Analyst at (207) 287-2452 or for judicial appeals contact the court clerk’s office in which your appeal will be filed.

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.