



STATE OF MAINE
DEPARTMENT OF ENVIRONMENTAL PROTECTION

16.

PAUL R. LEPAGE
GOVERNOR

JAMES P. BROOKS
ACTING COMMISSIONER

MEMORANDUM

TO: The Board of Environmental Protection
FROM: Dawn Hallowell, Regional Compliance & Licensing Manager and James Cassida, Division Director, Bureau of Land & Water Quality
RE: Appeal filed by Friends of Spruce Mountain, Scot and Thelma Kendall, Leo Bilodeau and Irene Chabot, Nathaniel Snow, Richard and Patricia Mabey, Richard Marasse, Robert and Joann Moulton, Daryl Routhier, Nate Ladd and Rob Roy, Kevin Corbett, Wendall Hall, and Richard and Suzee Woods of Site Location of Development Act and Natural Resources Protection Act Approval #L-24838-24-A-N/L-24838-2G-B-N for Spruce Mountain Wind Project, Woodstock

DATE: February 3, 2011

Statutory and Regulatory References: The applicable statutory and regulatory framework for this permit application is the Site Location of Development Law (Site Law), 38 M.R.S.A. § 484; Site Location of Development Rules, Chapter 375 §§ (10), (14) and (15); Stormwater Management Rules; the Natural Resources Protection Act (NRPA) § 480-D; the Significant Wildlife Habitat Rules, 38 M.R.S.A. § 335 (3)(C); and the Maine Wind Energy Act, 35-A M.R.S. A. §§ 3451-3455. The Site Law Rules interpret and elaborate on the Site Law criteria and the Significant Wildlife Habitat Rules interpret and elaborate on the NRPA criteria. In the sections pertinent to this appeal, the Site Law Rules provide guidance for the determination of whether a project will be in compliance with noise regulations and whether a project would unreasonable adversely affect scenic character, wildlife, and fisheries. The Stormwater Management rules provide guidance for the determination of whether a project will be in compliance with the stormwater management law. The Significant Wildlife Habitat Rules govern the analysis of whether a project's impacts on the subject wildlife would be unreasonable. The Maine Wind Energy Act sets forth additional licensing criteria specific to wind projects, and it alters the analysis of scenic impacts for wind projects. Procedures for appeals before the Board are outlined in the Department's Rules Concerning the Processing of Applications, Chapter 2 § 24 (B).

Location: The project site is located north of Cushman Road and south of Shagg Pond Road in the Town of Woodstock.

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Procedural History and Project Description: On January 19, 2010, the licensee submitted a Site Law application and an NRPA application for the construction of a 20-megawatt (MW) wind energy generation facility known as the "Spruce Mountain Wind Project", which is an expedited wind energy development as defined by the Maine Wind Energy Act. The proposed project consists of 10 Gamesa G-90 wind turbines (2.0 MW each) with associated turbine pads. The turbines will be constructed in a south to northeast array along the ridgeline of Spruce Mountain. The proposed project also includes 3.5 miles of new access roads and a crane path, 6,890 linear feet of electrical transmission lines, one permanent meteorological tower, and a 1,750 square foot operations & maintenance building.

In response to the amount of public interest in the proposed project, the Department held a public meeting on March 25, 2010 in the Town of Bryant Pond to provide interested parties with an opportunity to present their concerns to the Department and submit information into the record.

The Department approved the permit applications on October 5, 2010. A timely appeal to the Board was filed on November 3, 2010 by the appellants listed above.

Environmental Issues and Discussion:

1. **NOISE:** The appellants contend that the Department erred in its findings that the noise generated from the proposed project will have not an unreasonable effect on the surrounding environment, based on the following contentions:

- (A) The Department failed to require the licensee to correctly consider short duration repetitive sound in its predictive noise model;
- (B) The Department failed to require the licensee to correctly consider line source analysis in its predictive noise model;
- (C) The Department failed to require the licensee to correctly consider ground absorption and atmospheric stability in its predictive noise model;
- (D) The Department accepted a predictive sound model which forecasts sound levels too close to the Department's regulatory limits because of the limitations of the licensee's model and the licensee's proposal to rely on an unproven operating method (noise reduction operation) to meet Department's standards; and
- (E) The Department failed to consider the health effects of nighttime noise.

The Department retained a third party acoustics consultant, EnRad Consulting (EnRad), to review the evidence in the record pertaining to noise generated by the project. The licensee's sound level study used point source calculations to determine predicted noise levels. EnRad concluded that the applicant's study is technically correct according to standard engineering practices. Regarding source calculations, EnRad stated that point source and line source calculations produce the same measurements when applied correctly. Regarding SDRS (the thumping noise associated with operation of turbine blades), Chapter 375 (10) requires a penalty of +5 dBA to be incorporated into a sound level prediction model to adjust for SDRS when it is found to occur. Both the licensee's study and the Department's noise consultant

concluded that the project's noise would not meet the definition of SDRS; however, the Department found there to be sufficient concern related to the accuracy of SDRS predictability to impose as a precaution monitoring requirements for that type of noise. Therefore, the Department required the licensee to implement a routine operation noise compliance assessment plan for the project as a condition of approval. As part of the plan, if it is determined that the project is not in compliance with noise regulations the licensee is required to analyze mitigation measures, including potential shutdown scenarios and submit plans to the Department which will achieve compliance with the noise regulations.

Regarding ground absorption and atmospheric stability, in response to a Department request, the licensee incorporated into its sound level prediction model the addition of 3 dBA to the specified sound power levels of the turbines to allow for uncertainty in the sound level modeling calculations and measurements which could stem from different ground absorption or atmospheric stability.

As a result of the revision, in order to meet the regulatory noise limits, the licensee proposed to operate several turbines in a noise reduction operation mode during nighttime hours. Turbines 6-11 will be "locked" by the manufacturer, Gamesa, to operate at the reduced noise levels. The remaining turbines will operate at full sound power output during nighttime hours.

The results of the licensee's revised sound level study indicate that sound levels following the proposed noise reduction operation mode of the Spruce Mountain Wind Project will meet the Department's nighttime 45 dBA hourly equivalent limit at the closest protected location. Results also indicate that sound levels during the daytime while operating at full sound power will be from 8 to 16 dBA below the 55 dBA hourly equivalent limit.

During review of the applications, the appellants raised concerns pertaining to potential health effects associated with wind turbines. The licensee submitted a detailed sound level assessment model which uses the Department's most restrictive sound level limits and which meets standard industrial sound modeling protocols. Results of the licensee's sound level study indicates that the proposed development can be constructed such that it is in compliance with the 45 dBA sound level limit required pursuant to Chapter 375 (10). Noise emitted from the proposed project has a potential to be heard at an audible level from protected locations and the noise generated by the Spruce Mountain Wind Project may be deemed as an annoyance depending on a person's level of sensitivity. In response to the appellants' concerns, the Department consulted with the Maine Center for Disease Control (MCDC). MCDC considered the appellants' concerns and found no evidence in peer-reviewed medical and health literature of unreasonable adverse health affects from the noise generated by wind turbines.

2. DECOMMISSIONING: The Site Law application form requests that applicants provide a demonstration that, upon the end of the useful life of the facility, the applicant will have financial assurance in place for 100% of the total cost of decommissioning, less salvage value. At the time of the filing of this application, the Site Law permit application form stated that an applicant could propose securing financial assurance in phases, as long as complete financial assurance is in place a minimum of 5 years prior to the expected end of the useful life of the equipment.

The expected operating life of the proposed wind turbines is 20 years. The licensee's decommissioning plan ensures that the funds for decommissioning costs will be fully reserved by year thirteen of operation. The licensee will provide financial assurance in the form of a performance bond, surety bond, letter of credit parental guaranty or other acceptable form of financial guarantee. The initial financial assurance levels, 20% of the total decommissioning costs, will be in place prior to commercial operation and will be increased 20% every three years until the financial assurance level reached 100% of the total project decommissioning costs. The licensee will reassess the estimated total decommissioning costs (decommissioning costs minus salvage value) prior to the end of years 6, 12, 18, 20 and each year thereafter and will submitted that information to the Department for review and approval..

The licensee will make the Department the obligee of any performance bond used to prove financial assurance. The Department will have the right to call the bond in the event of non-performance.

The permit requires that the licensee provide a mechanism that would fully fund the cost of decommissioning, if necessary, minus salvage value, within thirteen years of the commencement of operation of the wind energy facility.

3. SCENIC CHARACTER, VISUAL QUALITY, AND EXISTING USES: The appellants assert that the Department erred in its finding that the project would not have an unreasonable adverse effect on the scenic character, or existing uses related to scenic character of scenic resources of state or national significance, or other existing uses in the area. They argue that the Department should have evaluated the scenic impacts on and in the area of Concord Pond (commonly referred to as Big Concord Pond), that a comprehensive user survey of all scenic resources in the area should have been required and that the Department should have considered potential scenic impacts to other important locations such as homes, ponds and peaks not identified as significant by the Wind Energy Act. The appellants also argue that the wind farm will have a negative impact on tourism in the project area.

The Wind Energy Act provides that in the organized territory of the State, a great pond is a "scenic resource of state or national significance," for if it is one of the 66 great ponds identified as having outstanding or significant scenic quality in the "Maine's Finest Lakes" study, published by the Maine State Planning Office. For the unorganized territory of the State, the Wind Energy Act provides that a great pond qualifies as a scenic resource of state

or national significance if it is one of the 280 great ponds designated as outstanding or significant from a scenic perspective in the "Maine Wildlands Lakes Assessment" published by the Maine Land Use Regulation Commission in June of 1987. There are six great ponds located within an 8-mile radius of the project site that are listed in "Maine's Finest Lakes, the Results of the Maine Lakes Study" published by the Maine State Planning Office or "Maine Wildlands Lakes Assessment" published by the Maine Land Use Regulation Commission. The listed great ponds include: Abbott's Pond, Little Concord Pond, Shagg Pond, Labrador Pond, Little Labrador Pond and Joe's Pond. Concord Pond (or "Big Concord Pond") is not listed in the study of Maine's Finest Lakes; therefore it is not defined as a scenic resource of state or national significance and the applicant is not required to demonstrate that the development would not have an unreasonable effect on its scenic character or existing uses.

There are two state owned parcels of land within an eight mile radius of any turbine or associated project facilities, Little Concord Pond/Bald Mountain and Speckled Mountain and eight historic properties.

Because of the number of scenic resources near the project site with potential views of the project (six lakes, two state owned parcels and eight historic resources), the Department hired an independent expert, James F. Palmer of Scenic Quality Consultants, to review the evidence pertaining to scenic impacts and provide the Department with comments. The licensee's simulations were generally found to be accurate, except for the photo simulation from Shagg Pond, which was revised by the licensee.

The Department required that the licensee conduct a user survey at the top of Bald Mountain, in a location that has a prominent view of the proposed project and publicly accessible trails. In an effort to understand the use of nearby Shagg Pond, the licensee also submitted data on how many boats were visible on Shagg Pond at hourly intervals on both days that the survey was conducted on Bald Mountain.

Department staff visited the project area three times throughout the project review. The character of the area is rural with camps visible on the shores of some ponds and cutting and residential development visible on the east slope of Spruce Mountain. Two existing communications towers located on the top of Spruce Mountain and are visible from several scenic resources of state or national significance.

In light of the special visual impact criteria set forth in the Wind Energy Act, the Department recommends that the Board find that the licensee adequately assessed the proposed project's potential visual impacts and demonstrated that the project will not significantly compromise views from a scenic resource of state or national significance.

4. WILDLIFE: One appellants contends that the proposed development presents a risk to wildlife such as eagles, raptors, bats, and local flocks of migrating birds.

In the application, the licensee submitted the results of a series of ecological field surveys conducted by Tetra Tech, including avian and bat surveys, within the project area. The Department consulted with the Maine Department of Inland Fisheries & Wildlife (MDIFW) regarding the potential impacts to wildlife from the project. MDIFW staff visited the project site and attended the public informational meeting held by the Department, March 25, 2010. MDIFW found the licensee's survey methodology to be appropriate and the results credible and consistent with its knowledge of and expectations for this site.

The licensee's surveys noted the presences of bald eagles, peregrine falcons and a golden eagle in the project area. MDIFW reviewed the survey data and commented on the use of the site by raptors, bats and migrating birds. MDIFW further commented on required FAA lighting, lighting of the turbine monopole and insulating turbine nacelles to reduce the amount of heat lost by the generators which may attract insects and subsequently bats. At the recommendation of MDIFW, as a safety measure, the permit requires the licensee to implement a post-construction avian, bat, and raptor post-construction monitoring protocol which will include monitoring at all ten turbine locations and adjustments to be made if data collected indicates that the project is negatively impacting birds and bats.

5. STORMWATER: One appellant contends that the proposed project will damage surrounding roads as a result of stormwater runoff from the project site.

The licensee's stormwater management plan calculated post-development site stormwater runoff and peak flows of stormwater for the watersheds in which the project lies. The Department's Division of Watershed Management determined that the licensee's plan to control stormwater will result the project being in compliance with Department regulations.

6. PUBLIC HEARING:

The appellants request a public hearing to give them the opportunity to present credible, technical information and medical evidence that proves that the Department erred in finding that Chapter 375 (10) was met. The appellants propose to present the testimony of Richard James, E-Coustics Solutions, and Dr. Michael Nissenbaum at the public hearing.

In response to the appeal, the licensee argues that a public hearing is not warranted in this case. The licensee argues that not only must there be credible, conflicting information, but the Board must determine that a public hearing will likely assist it in understanding the evidence.

While it was processing the application, the Department did not receive any requests from interested persons for a public hearing on this project. The Department did conduct a public meeting in the Town of Bryant Pond to afford the public an opportunity to provide information for inclusion in the Department permitting record and allow the opportunity to ask questions of Department staff, staff of other state agencies reviewing the application and the Department's experts. During the eight month period of the review of the applications, the appellants had the opportunity to present information and argument to the Department

and availed themselves of that opportunity both at the public meeting and through submittal of additional information during the review process. Participants of the Friends of Spruce Mountain and other participants' submitted information related to noise, health effects, wildlife, tangible benefits, scenic character, groundwater, stormwater management, decommissioning, economic feasibility, and title, right, or interest.

The holding of a public adjudicatory hearing on an appeal is discretionary with the Board. The department recommends that the Board find that the record for this appeal is adequately developed with regard to the statutory criteria, that the appellants had ample opportunity to submit evidence during the licensing process, and that an adjudicatory hearing is not warranted in this matter.

Other Considerations: Appellants contend that the proposed wind energy development will have an adverse impact on property values within the community.

Neither the Board nor the Department has the authority to consider potential impacts to property values under the applicable laws for this project.

Department Recommendation: The Department recommends that the Board deny the appellants' request for a public hearing on this appeal and affirm the Department's decision to approve the proposed wind energy development in Department Order #L-24838-24-A-N/L-24838-2G-B-N.

Estimated Time of Presentation: 4 hours