STATE OF MAINE
DEPARTMENT OF CONSERVATION
MAINE LAND USE REGULATION COMMISSION
22 STATE HOUSE STATION
AUGUSTA, MAINE
04333-0022

JOHN ELIAS BALDACCI
GOVERNOR

PATRICK K. McGOWAN
COMMISSIONER

PERMIT

COMMISSION DECISION
IN THE MATTER OF

Stetson Wind II, LLC
Development Permit DP 4818

Findings of Fact and Decision

The Maine Land Use Regulation Commission, at a meeting of the Commission held on March 4, 2009, at Bangor, Maine, after reviewing the application and supporting documents submitted by Stetson Wind II, LLC for Development Permit DP 4818, public comments, agency review comments and other related materials on file, pursuant to Title 12, §681, *et seq.* and the Commission's Standards and Rules, and Public Law 2008 Chapter 661 finds the following facts:

1. Applicant: Stetson Wind II, LLC
   85 Wells Avenue, Suite 305
   Newton, MA 02459

2. Application Accepted as Complete for Processing: November 25, 2008

3. Location of Proposal: T8 R4 NBPP, Washington County
   (Map WA26, Plan 01, Lot #1)

   Owl Mountain:
   UTM N. 5049491.18289021, E. 581181.855393743
   Jimmey Mountain:
   UTM N. 5053403.69299615, E. 579530.380668396

4. Current Zoning: (M-GN) General Management Subdistrict
   (P-WL) Wetland Protection Subdistrict
   (P-SL2) Shoreland Protection Subdistrict

5. Parcel Size: Approximately 18,000 acres (leased)
   Lessor: Lakeville Shores, Inc.

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6. Waterbodies located within the watershed.

   Upper Hot Brook Lake is a management class 7, resource class 3, accessible, undeveloped lake.

   Lower Hot Brook Lake is a management class 7, resource class 3, inaccessible, undeveloped lake.

   Baskahegan Stream, Mattawamkeag Stream, Hot Brook, Hawkins Brook, Bog Brook, Webster Brook, and an unnamed brook flowing into the west side of Upper Hot Brook Lake are Class A flowing waters.

Administrative History

7. Development Permit DP 4786 was issued to Stetson Wind II, LLC (hereafter referred to as "the applicant") in December of 2007, authorizing two temporary meteorological testing equipment poles located on Owl Mountain and Jimmey Mountain in T8 R4 NBPP, Washington County. The applicant is a subsidiary of First Wind Holdings, LLC (herein after "First Wind"). Since 2003, First Wind has conducted studies of the wind resource at the vicinity of the development area (reference Development Permits DP 4756 and DP 4786), determining that it is between Class IV and Class V [approximately 7.5 meters/second (m/s)], which is rated as "Good"/"Excellent" on the Wind Power Classification scale[1]. The prevailing wind is from the northwest.

8. Zoning Petition ZP 713 and Preliminary Development Plan was issued to Evergreen Wind Power V, LLC (also a subsidiary of First Wind) on November 7, 2007, rezoning approximately 4,800 acres on Stetson Mountain in T8 R3 NBPP and T8 R4 NBPP to (D-PD) Planned Development Subdistrict for the purpose of developing the 57 megawatt (MW) Stetson Wind Project (SWP) consisting of 38 wind turbines. This site is located immediately to the south of the Stetson II Wind Project proposed herein (see Finding of Fact #9, below).

   A. A public hearing on Zoning Petition ZP 713 was held on August 7 and 8, 2007, in Lee, Maine. The hearing record closed on August 27, 2007.

   B. Final Development Plan Permit DP 4788 was granted approval by the Commission on January 2, 2008 for the SWP, authorizing activities within the D-PD Subdistrict (turbines, roads, collector lines, clearing for the transmission line corridor, Operation & Maintenance building, substation). DP 4788 did not include the 115 KV transmission line (see Section C, below). The SWP became operational on January 22, 2009.

   C. Separate permits for the 115 kV transmission line (*i.e.*, generator lead line) connecting the SWP to the New England grid at the Keene Road Substation in the Town of Chester (the so-called "Line 56 Transmission Line Project") was issued by the Maine Department of Environmental Protection (MDEP) in 2008 (reference MDEP Site Development Law and

[1] U.S. Dept. of Energy, National Renewable Energy Laboratory

the Natural Resources Protection Act permits #L-23774-24-A-N and #L-23774-TH-B-N, respectively) (reference Finding of Fact #28 in DP 4788).

D. The SWP Interconnection System Impact Study conducted for ISO-NE and the Bangor Hydro Electric Company was completed on June 15, 2007. The study concluded that the SWP would not adversely impact the New England grid, and that no additional system upgrades directly related to the SWP interconnection, except those at the Keene Road substation, were needed to bring the SWP on-line.

Proposal

9. The applicant proposes to construct the 25.5 megawatt (MW) Stetson II Wind Project (SIIWP), consisting of seventeen (17) 1.5 MW General Electric wind turbines, on Owl Mountain and Jimmey Mountain in T8 R4 NBPP, Washington County. Owl Mountain and Jimmey Mountain together form a north-south oriented ridgeline with a combined length of approximately 4 miles and maximum elevation of 910 feet (ft.) above mean sea level.

A. The relevant review criteria contained within Public Law 2008, Chapter 661 (Title 35-A, chapter 34-A, §3451 to §3457); Title 12, §685-B; and the Commission's Land Use Districts and Standards, are attached as Appendix A, and incorporated herein by reference.

B. The term "parcel" as used herein, refers to the entire leased area, which extends beyond the proposed development area. The term "development area", as used herein, refers to the actual locations within the parcel to be disturbed for the SIIWP.

C. *Existing conditions.* The proposed development area is along the ridgelines of Owl Mountain and Jimmey Mountain. The development area, as well as the entire leased parcel, is presently subject to commercial timber harvesting by the landowner, Lakeville Shores, Inc (LSI). An existing network of land management roads and two existing gravel pits used for previous road construction are present on the parcel. Webster Brook and an unnamed brook flow easterly in the valley between the two mountains into Upper Hot Brook Lake. Hot Brook crosses Route 169 near the entrance to the Jimmey Mountain road and flows into the southern end of Upper Hot Brook Lake. Two existing meteorological towers are present in the development area, one on each mountain (reference Development Permit DP 4786).

D. *Continued uses of the development area.* The existing and proposed roads within the development area would continue to be available for use by the underlying landowner, LSI, for forest management activities, and be available for public access across the parcel and for recreational activities (*e.g.* hunting, fishing, snowmobiling, and ATV use), except as noted herein. Areas associated with the turbines may be restricted for security reasons (see Finding of Fact #14,B).

E. *Other project permits required.* No Section 404 permit is required from the U.S. Army Corps of Engineers (ACOE) for the SIIWP. No Maine Department of Environmental

Protection (MDEP) Site Law or Natural Resources Protection Act permits, pursuant to Title 38, are required for the SIIWP; however, a Notice of Intent (NOI) to comply with Maine's Storm Water General Permit will be submitted to MDEP by the applicant in March 2009. Permits for Road Opening (for clearing next to Route 169), Road Crossing (for the collector line), and Driveway Entrance; and possibly for an exemption to road posting from the Maine Department of Transportation (MDOT) and the Maine Bureau of Motor Vehicles (MBMV) would also be required during construction of the SIIWP. A Forest Operations Notification will be obtained prior to clearing for this project.

F. *Connection to the New England electrical grid.* A separate LURC development permit has been applied for to extend the existing 34.5 kV collector line associated with the SWP to connect with the SIIWP line proposed herein (reference Amendment B to DP 4788). The southern end of the SIIWP line would be connected to the northern end of the SWP line at Route 169. The SIIWP would connect to the New England electrical grid using the 115 kV transmission line serving the SWP (see Finding of Fact #8,C).

G. The draft System Impact Study[2] for the SIIWP was received by the applicant on January 29, 2009. The report states: "the steady-state, stability, and short-circuit results of the Jimmey Owl [Stetson II] Interconnection System Impact revealed that the Project has no significant adverse impact on the reliability, stability, and operating characteristics of the BHE transmission system, the transmission facilities of another Transmission Owner, or the system of a Market Participant when dispatched against local area generation. No network upgrades are needed except those directly related to the Project's interconnection."

10. *Title, right, or interest.* With the exceptions discussed below in Sections A and B, the portion of T8 R4 NBPP north of Route 169 is owned in fee by LSI. The applicant holds a lease for this entire parcel. A lease was signed on December 7, 2007, granting the applicant the right to access the development area to construct the proposed SIIWP, improve the existing roads, and conduct other associated activities such as resource studies and monitoring. The lease is for a 20 year period, with the option to extend it for an additional 20 year period. LSI intends to continue commercial timber management on the parcel, in accordance with the lease agreement.

A. *Background.* For the SWP, Evergreen Wind V, LLC assessed the ownership of LSI and divisions of the parent parcel over the past 20 years within T8 R4 NBPP, determining that the lease to Evergreen Wind V represented the first division of the parent parcel in a 5-year period (reference Finding of Fact #16 of Development Permit DP 4788). The only other division of the parent parcel in the previous 20 years is a 1998 out-sale to Herbert C. Haynes, Inc. The parcel leased to Evergreen Wind V is located on the south side of Route 169, which is a State road. The ownership of the land under the road was not determined.

B. For the SIIWP, the applicant assessed the subdivision history of the parent parcel on the north side of Route 169 over the past 20 years. Because the entire remaining parent

[2] Pursuant to ISO-NE Open Access Transmission Tariff Schedule 22 – Large Generator Interconnection Procedures

parcel is being leased by the applicant, no additional land divisions occurred as a result of the lease. In addition to the parcel leased to the applicant, there are five existing leased camp lots on the parent parcel owned by LSI (three camps on or between Upper and Lower Hot Brook Lakes, one campsite on Kittery Island, and one lot in the southwest corner of T8 R4 NBPP). These lots have been transferred but not further divided over the past 20 years. Four other lots are referred to in LSI's source deeds, all of which appear to affect land formerly within T8 R4 NBPP, but are now a part of the Town of Danforth.

C. LSI holds all 20 million common and undivided interests in the parcel. A summary of the consolidation of the common and undivided interests into LSI is as follows: H.C. Haynes, Inc. (2,184,668); Nova Scotia Company (1,638,501); Prentiss & Carlisle Company, Inc. (400,235); Brent Slater (400,235); and Lange Timber Limited Liability Company, et al. (15,376,361).

11. *Financial capacity and estimated costs.* The applicant is wholly owned by First Wind Maine Holdings, LLC, which in turn is a wholly owned subsidiary of First Wind Holdings, LLC (First Wind). Stetson Wind II, LLC was formed specifically to develop, build, own, and operate the SIIWP. First Wind would provide financing for the project. An affiliated company, First Wind Energy, would provide consulting services during the development of the project. A letter dated August 1, 2008 from Paul Gaynor, President of all three First Wind companies, stated a commitment to provide funding for the development and operation of the SIIWP. The applicant supplied a balance sheet for First Wind for 2006 to 2008 as supporting evidence of financial capacity: as of June 2008, First Wind had assets of over one billion dollars.

A. *Estimated cost.* The estimated cost of the proposed SIIWP is $60 million. Of this amount, the turbines would cost $34 million, the foundations $3 million, the turbine installation $3 million, the collector transmission line $4 million, and the roads $4 million.

B. In addition to the proposed SIIWP and the existing SWP, First Wind is currently pursuing one other wind energy development along the route of the 115 kV transmission line constructed for the SWP: Rollins Mountain, which will be located in Lincoln, Lee Burlington, and Winn..

12. *Decommissioning*[3]. The applicant estimated that $374,000 (estimated as total cost minus salvage value), would be required for decommissioning of the SIIWP, if decommissioning were found in the future to be necessary. The applicant stated that the turbines, towers, transformers, and above-ground wiring have salvage value. The minimum expected life of the turbines is 20 years, when the turbines are expected to be replaced rather than removed. Nevertheless to provide financial assurance for decommissioning, the applicant proposed that

[3] PL 2008, chapter 661, Sec. B-13, subsection 6, specifies as one of the submission requirements for wind energy development: "Decommissioning plans, including demonstration of current and future financial capacity that would be unaffected by the applicant's future financial condition to fully fund any necessary decommissioning costs commensurate with the project's scale, location and other relevant considerations, including, but not limited to, those associated with site restoration and turbine removal."

on or prior to December 31st of each year, beginning with the first year of operation and concluding with year seven, $27,000 per year would be reserved for decommissioning and site restoration. At the end of year 15, the estimated amount needed for the decommissioning would be reviewed, and the balance updated.

A. The financing mechanism for the decommissioning plan would be in the form of a performance bond, surety bond, letter of credit, parental guarantee or other acceptable form of Financial Assurance. During the review of DP 4788, a template for an Irrevocable Standby Letter of Credit was submitted by First Wind for the decommissioning of the SWP and reviewed by the Maine Attorney General's Office (reference Finding of Fact #15,C; Conclusions #3,A and #7,C, and Condition #13 of DP 4788).

B. If it becomes necessary to decommission the SIIWP, all above- and below-ground structures on Owl Mountain and Jimmey Mountain would be removed to two feet below grade. Disturbed areas will be graded, spread with topsoil, and seeded, and original surface contours re-created to the extent possible. All construction-related debris would be removed, except that the turbine components or other materials with salvage value may be stored on-site for a reasonable period of time until provisions are made for transport. The details of the proposed decommissioning plan were provided in Exhibit #19 of the application.

C. The applicant proposes that, barring Force Majeure, if the SIIWP has not generated electricity for a period of 12 months, decommissioning would be initiated. However, the applicant proposes to reserve the right to provide reasonable evidence to the Commission that the project has not been abandoned and should not be decommissioned.

13. *Technical capacity*. First Wind has experience in developing and siting wind power projects. As of August 31, 2008, First Wind's portfolio of wind energy projects included approximately 5,564 MW of capacity, both operational and in various stages of development. First Wind's currently operational projects total 274 MW, of which 99 MW (the Mars Hill and the SWP) are in Maine. Several other projects in Maine are in various stages of development. First Wind has raised more than $230 million for the development and construction of wind energy facilities in Maine.

The applicant submitted a summary of its key personnel and consultants, and supplied resumes for each to provide evidence of technical capacity. Principal members of the design and planning team include: James W. Sewall Company and SGC Engineering, LLC (engineering); Stantec Consulting (formerly Woodlot Alternatives, Inc. - environmental); Terrence J. DeWan & Associates (visual impact); Resource System Engineering (sound); Albert Frick Associates, Inc. (soils); TRC, Independent Archeological Consulting and Public Archeology Lab (cultural resources); and Verrill Dana (legal counsel).

14. *Site access and traffic flow*. The primary access to the proposed development area is from Route 169 by two existing logging roads: the Owl Mountain road and the Jimmey Mountain road (aka Eight Mile Road). The Owl Mountain road intersects Route 169 approximately

1,260 ft. east of, and on the opposite side of the road from, Atlas Road (which provides access to the SWP). The Jimmey Mountain road intersects Route 169 approximately 1 mile east of, and on the opposite side of the road from, Atlas Road.

A. *Existing roads.* Route 169 is a state-owned public road. The Owl Mountain road and Jimmey Mountain road are privately owned logging roads within the parcel owned by LSI. The Owl Mountain road provides access only to Owl Mountain. The Jimmey Mountain road extends north from Route 169 along the west side of Upper and Lower Hot Brook Lakes, providing access to Jimmey Mountain and Hardwood Ridge, and also extends west to connect with Route 171. There are also other existing unnamed land management roads within the parcel.

B. *Restricted access areas.* Any portions of the SIIWP to have restricted access would be limited to the areas of new development. The applicant does not intend to gate the Owl Mountain road or the Jimmey Mountain road, except where those roads might intersect with turbine pad areas. The final decision regarding which areas to gate would be made in consultation with LSI (see Finding of Fact #9,D).

C. *Entrance sight distance.* The Owl Mountain road and the Jimmey Mountain road sight distances are adequate. Route 169 would be widened only at the entrances to the Owl Mountain road and the Jimmey Mountain road to accommodate a large vehicle turning radius.

D. *Traffic.* During construction, increased traffic at peak activity periods would be:
   (1) Approximately 40 worker vehicles per day.
   (2) During an eight-week period of turbine delivery, based on delivery of one turbine per day, approximately 9 trucks per day would be required, resulting in a maximum of 90 trips per week possible. Because only 17 turbines are being installed, on most weeks the total number of trucks trips would be less than the maximum.
   (3) During construction of the turbine foundations, approximately 12 to 15 concrete trucks per day, per foundation would be required. Up to two foundations per day are expected to be poured. A maximum of 210 concrete truck trips per week are possible during the pouring of the foundations.

E. *Transportation of turbines to the site.* MDOT and MBMV were consulted by the applicant and General Electric (GE) when the turbine components (blades, towers, and nacelles) were transported to two storage areas, one within the SWP D-PD Subdistrict and the other in Danforth, in November and December of 2008 (reference Amendment B to DP 4788). Route selection for delivery of the turbine components was managed by GE, utilizing routes approved and/or selected by the MDOT as part of the oversized permit process. Permits for the delivery of the turbines were obtained from MDOT and MBVM. The turbine components will remain in the storage areas until road postings are lifted or an agreement is reached with the MDOT to allow movement. It is not currently expected that turbine components would be moved to the development area until road postings are lifted.
   (1) *Posted roads.* Construction activities are proposed to start in spring of 2009, and the

timing of road postings could affect the initial mobilization of civil equipment and foundation activities.

(a) For the SWP, the general contractor worked with MDOT to allow travel on the isolated section of Route 169 from Danforth to the development area, setting aside funds to address any road damage that occurred. A large percentage of that funding was returned due to minimal damage.

(b) The applicant would comply with all road postings unless an agreement is reached with the MDOT to allow limited use of specific sections of Route 169.

(2) *MDOT permits*. The applicant is pursuing all permits required from MDOT or MBMV for the proposed SIIWP.

F. *Road maintenance*. After the SIIWP is constructed, the applicant would continue to be responsible for monitoring and maintenance of the project roads and facilities within the leased area. Other logging road maintenance within the leased area would be the responsibility of LSI.

15. *Public services*.

A. *Fire suppression*. Fire suppression mechanisms are incorporated in the turbine design. The access roads cleared areas around each turbine would provide a firebreak. The applicant provided a letter from the Maine Forest Service stating that the appropriate fire suppression services are available and that any additional wildfire protection for the SIIWP would be minimal. In addition, the Danforth Fire Department participated in high rescue training courses for the SWP, and was given a donation of high rescue gear in the event of an emergency.

B. *Police services*. The Washington County Sheriff's Office was consulted by the applicant, who determined that the services it provides in northern Washington County would include the development area and that there does not appear to be any unique safety risks associated with the proposed SIIWP.

C. *Solid waste disposal*. Pine Tree Wastes stated that they have capacity to handle the estimated amount of solid waste removal during construction.

(1) Approximately 176 cubic yards (cy) of solid waste such as construction debris, packaging material, and other construction wastes would be created during construction.

(2) Approximately 14,000 cy of organic material produced by clearing of the collector line corridor would either be sold or re-used on-site. Any cleared timber with value would be sold. Stumps would be ground and mixed with erosion control mix, left in place in the filled areas around the turbine pads where possible, or disposed of at the proposed one acre stump dump. The location of the stump dump would be determined by the applicant and the contractor during construction.

(3) Waste concrete material would be used for fill in the roads and turbine pads.

D. *Emergency medical services.* If emergency medical services are needed, 911 would be called, invoking the services of LifeFlight, via dispatch through the Houlton Regional Hospital. Ambulance service would be provided by the Downeast Emergency Medical Service or through the Washington County Regional Communications Center. The development area will be accessible to an ambulance.

Project description

16. The proposed SIIWP would consist of 17 wind turbines, each located within a turbine pad; above and below-ground 34.5 kV electrical transmission and communication ("collector") lines; access roads, two ridgeline/crane path roads, one spur road; a loop road, and three permanent meteorological towers. The 34.5 kV collector line would extend across Route 169, where it would connect with the collector line serving the SWP (reference Amendment B to DP 4788). The proposed SIIWP would not have its own substation, Operations & Maintenance building, and 115 kV transmission line but would use the facilities associated with the SWP. Temporary activities for the construction of the SIIWP would include: office trailers with parking and storage areas; lay-down/storage areas; and a stump dump.

17. The total area to be cleared during construction for the SIIWP would be 75.6 acres, of which 24.4 acres would be temporary, 33 acres would be for the collector line corridor, and 18.2 acres would remain completely cleared. A large percentage of the 18,000 acre leased parcel would not be disturbed by the proposed SIIWP.

    A. Upper Hot Brook Lake is more than 3,500 ft. (0.66 mile) from the nearest proposed turbine. Lower Hot Brook Lake, which is located north of Upper Hot Brook Lake, is 1.6 miles from the nearest proposed turbine (#17). The Jimmey Mountain road is 0.17 mile from Upper Hot Brook Lake at the closest point. The proposed SIIWP would be located 0.2 mile from Route 169, seven miles from Danforth, and 15.3 miles from Springfield, measured from the closest turbine.

    B. *Setbacks.* The turbines, meteorological towers, and temporary trailers and parking area within the loop road would be set back at least 25 ft. from the parcel boundary line; 75 ft. from Route 169 and from the portion of the existing Eight Mile Road used by the public between Route 169 and Route 171, and 100 ft. from stream channels and P-WL1 Subdistricts. In addition, the turbines would be set back distances that would meet the provisions of Title 12, Section 685-B(4-B)(C), in accordance with Public Law 2008 Chapter 661 (see Finding of Fact #32,C).

18. *Turbines.* A total of 17 turbines are proposed for the SIIWP. Six (6) turbines would be along the 4,200 ft. long ridgeline of Owl Mountain at elevations ranging from 640 ft. to 756 ft. Eleven (11) turbines would be on the 9,200 ft. long ridgeline of Jimmey Mountain at elevations ranging from 624 ft. to 907 ft. All 17 proposed turbine sites are within a (M-GN) General Management Subdistrict.

    A. The applicant would install 1.5 MW sle GE turbines. The turbines have a hub height of 262 ft. and rotor diameter of 253 ft, and at the extended tip of the blade, each turbine

would be 389 ft. high. The turbines operate at variable speeds from 11 to 20.4 revolutions per minute, at wind speeds from 3.5 m/s up to 25 m/s. The base of each turbine would be 14.5 ft. in diameter.

B. *Lighting.* The Federal Aviation Administration (FAA) requires that the turbines at each end of a turbine string be lit, and at no more than ½ mile (2,640 ft.) intervals[4]. Lighting may also be added to the meteorological towers. A single slow-pulsing, synchronized red light would be placed on the turbines at the end of each string, and on the highest elevation turbines in each string, for a total of eight turbines to be lit. A high concentration of lights in one area will be avoided. FAA issued a Determination of No Hazard for the proposed SIIWP lighting plan on October 7, 2008.
   (1) The turbines would be painted white for visibility.
   (2) Other than the turbine lighting, the only other permanent turbine lighting proposed is a small motion sensitive entry light at the base of each turbine.
   (3) See Finding of Fact #23,C for other temporary lighting during construction.

C. *Foundations.* A preliminary geotechnical investigation at the site revealed that most of the project is underlain at a shallow depth by bedrock (see Finding of Fact #28). The foundation design proposed is the rock anchor system, which requires the least excavation and blasting. The rock anchor foundations would be 24 feet in diameter, constructed of concrete, and have 2.5 inch metal rod anchors secured approximately 40 ft. deep into the underlying bedrock.

D. *Turbine pads.* With the exception of turbine #11, total clearing for each turbine pad would be a 1.26 acre circle, of which 0.25 acre would remain permanently cleared and the remainder would be re-seeded after construction. The pad for turbine #11 was configured as a triangular shape to avoid wetland impacts, and would be smaller than the circular pads. The total area to be disturbed for the turbine pads would be 17.2 acres, of which 4.3 acres would remain un-vegetated. The turbine pads would be located in areas that are flat or gently sloping, with no more than a five percent (5%) cross-slope, minimizing the amount of cut and fill required.

19. *Roads.* A total of 6.9 miles of road would be constructed or improved for the SIIWP. Of this amount, 3.6 miles would be new road, and 3.3 miles would be upgrades to existing logging roads. Existing roads would be utilized to the extent possible. The new road would consist of 0.59 mile of 16 ft. wide access road, 0.13 mile of spur road, and 2.82 miles of ridgeline/crane path road.

A. *Ridgeline/crane paths and spur road.* Two crane path road segments would be constructed to accommodate crane assembly and movement, one along each ridgeline. The crane path on Owl Mountain would be 5,080 ft (0.96 mile) long and the crane path on Jimmey Mountain would be 9,838 ft (1.86 miles) long. One spur road would be constructed to provide access to turbine #4 on Owl Mountain. The traveled surface of the

[4] U.S. Dept. of Transportation/Federal Aviation Administration; Federal Aviation Technical Note *"Development of Obstruction Lighting Standards for Wind Farms"* (2005); and "Obstruction Marking and Lighting" Advisory Circular AC 70/7460-1K, Chapter 13 (February 2, 2007)

crane paths and the spur road would be 32 feet wide and would not be narrowed or re-vegetated after construction. The proposed crane paths would generally follow the existing topography. The maximum road slope along the Owl Mountain crane path would be 10 percent, while the maximum slope along the Jimmey Mountain crane path would be 11.5 percent.

B. *New access roads*. Approximately 3,125 ft (0.59 mile) of new 16 ft wide access road would be constructed:
   (1) 1,040 ft to access turbines #1 to #6 on Owl Mountain.
   (2) 585 ft to access turbines #7 through #17 on Jimmey Mountain.
   (3) *Loop road*. A 1,500 ft long, 16 ft wide loop road would be constructed at Route 169 across from the Atlas Road, behind the forested buffer at the location of an existing log yard. The loop road would create a turnaround to provide access to the Jimmey Mountain road for trucks traveling from the north, heading south to the site on Route 169. Parking for construction workers' vehicles, temporary trailers, and a storage/lay-down area would be located within the loop (see Finding of Fact #23).

C. *Upgrades of existing roads*. A 1,900 ft (0.36 mile) long segment of the existing Owl Mountain road and 15,700 ft (2.97 miles) long segment of the existing Jimmey Mountain road would be improved.
   (1) Upgrades would include widening to a 16 ft wide traveled surface where the road does not already meet that specification, culvert replacement, surface improvements and compaction, and general grading. Road surface improvements would include stabilizing with blasted rock material generated during construction, and minor re-grading to accommodate turbine transport vehicles. The profile elevation changes along the existing roads would average approximately three feet.
   (2) Variable length and width turn-outs would be added along the access roads to allow two-way vehicle passage: 5 along the Owl Mountain access road, and 10 along the Jimmey Mountain road. Several of the proposed turnouts are at the locations of temporary lay-down areas (see Finding of Fact #23,D).
   (3) The entrance to the Jimmey Mountain road would be widened, including temporary widening of Route 169 to provide for a 150 ft turning radii. After construction, Route 169 would be returned to its original width.

D. *Clearing*. The total area to be cleared for the new roads and for existing road improvements during construction would be 17.8 acres, reduced to 11.3 acres to remain permanently cleared after construction.
   (1) *Crane paths and spur road.* The cleared corridor for the crane paths and spur road would be 60 ft. wide, except in areas where there would be a roadside collector line, in which case the cleared width would be 100 ft. A total of 15.3 acres would be cleared, of which 10.3 acres would remain permanently cleared.
   (2) *New access roads*. A total of 0.9 acre of clearing would be required to construct the new access roads (0.83 acre on Owl Mountain and 0.083 acre on Jimmey Mountain). Of this amount, 0.4 acre would remain permanently cleared for the sections of new access road.

(3) *Existing access roads.* A total of 1.1 acres of new clearing would be required along the existing access roads, of which 0.1 acre would remain permanently cleared. The average width of clearing along the existing roads would be 50 feet. An additional 20 feet would be cleared where the collector line runs adjacent to the road. The areas under the collector would be maintained with shrub vegetation after construction.

(4) *Loop road.* Clearing for the loop road and parking/storage/trailer area, would be 0.5 acre. This area will remain permanently cleared.

E. *Crossings.* The existing roads cross two perennial streams (Hot Brook and Webster Stream), several intermittent streams, and two areas of forested wetland. The existing stream crossing where Hot Brook passes under Route 169 and Jimmey Mountain road would be upgraded with a bottomless concrete bridge that would span from upland to upland and not create an additional wetland impact. Culverts at other existing crossings would be replaced with culverts of the same size and length, if needed. The rock sandwich method of road construction recommended by the State Soil Scientist would be used to maintain existing subsurface hydrology, as needed.

20. *34.5 kV transmission ("collector") line*: A 32,183 ft. long above- and below-ground 34.5 kV collector and communication line will connect the turbines on Jimmey Mountain with the turbines on Owl Mountain, and cross Route 169 to interconnect the SIIWP with the collector line serving the SWP (reference Amendment B to DP 4788).

A. The proposed collector line would start on the south side of Route 169 where it connects to the SWP collector line at pole #206, and would cross over Route 169 to pole #207 on the north side. Starting on the east side of the loop road entrance, the line would run cross county to the south end of the Owl Mountain crane path, and then would generally follow or be directly along the Owl Mountain crane path. The line would then run cross country to connect with the existing Jimmey Mountain road, where it would follow the road to the turbines and meteorological towers #2 and #3 on Jimmey Mountain. The line would also be extended along the access way to meteorological tower #1 near the loop road. The line would be entirely above-ground except where it enters each turbine pad area, where it would be buried at a depth of at least 3 ft.

B. The collector line corridor would be 80 ft. wide and would remain permanently shrub-dominated. A total of 33 acres of forest would be cleared for the collector line corridor, with the tree canopy remaining permanently cleared but the shrub layer maintained. Maintenance cutting would be done every 8 to 10 years to keep the vegetation away from the line.

21. *Meteorological ("met") towers.* Three permanent met towers would be installed: two of the three would replace the temporary towers permitted under DP 4786, and one additional tower would be placed on Jimmey Mountain. The permanent met towers would be lattice-type towers, 80 meters in height, and supported by 18 guy (3 sets of 6) wires anchored by three T-style anchors buried 3 ft deep. Met tower #1 would be located near turbine #1 on Owl Mountain, and would be accessed from the loop road parking area. Met tower #2 would be located near turbine #7, and met tower #3 would be located between turbines #15 and #16 on

Jimmey Mountain. A three-legged cleared area would be required for each tower, for a total of 2.1 acres.

22. *Signs*. All signage within the leased area would be limited to informational signs associated with site activities. An information kiosk may be placed at the intersection of Route 169 and Atlas Road (reference DP 4788, Finding of Fact #18,E). LURC approval will be sought for any sign not meeting the standards of Section 10.25,J,1 of the Commission's Land Use Districts and Standards.

23. *Temporary activities*. Several temporary activities are proposed during construction.

A. *Gravel pits*. The applicant's current calculations indicate there will be an excess of 165 cy of material cut from the roads and turbine pads, but several factors may cause the calculations to be adjusted (see Findings of Fact #26 and #28). If additional fill is needed for construction of the SIIWP, the existing gravel pits located within LSI's parcels[5] would not be expanded beyond 5 acres in size. The existing gravel pits are all located in an M-GN Subdistrict, and are owned by LSI.
   (1) The existing gravel pit in T8 R4 is located approximately 160 ft from the nearest existing logging road; 160 ft from the nearest proposed project road; 480 ft from the nearest flowing water; 1,960 ft from the nearest wetland; and 5,200 ft from the nearest body of standing water.
   (2) The existing gravel pit in T8 R3 is located approximately 100 ft from the nearest existing logging road; 2,690 ft from the nearest proposed project road; 370 ft from the nearest flowing water; 2,440 ft from the nearest wetland; and 9,910 ft from the nearest body of standing water (reference DP 4788, Finding of Fact #29).

B. *Rock crushers*. The bedrock removed from roadway and turbine pad areas would be crushed near the site of removal using a mobile crusher and transported to areas of the project where it would be used as fill. The mobile crusher can be moved using a flat-bed truck, and is approximately 70 feet long. The crusher would be placed more than 100 ft from streams, wetlands, and drainage ways. Containment of secondary spills during refueling would be provided by the use of spill pads or other protective measures (see Finding of Fact #24).

C. *Concrete production*. Concrete for the turbine foundations would not be produced on-site but would be delivered to the development area by a local supplier in Houlton or Lincoln. Because no concrete batching would be performed on-site, no wells would be needed for water to produce the concrete. Water from the wash-down of concrete trucks would be contained and not allowed to flow into waterbodies. Concrete trucks would provide their own wash-down water. Wash-down would occur with each turbine pad, which would then be backfilled.

D. *Lay-down, storage, and parking areas*. A parking and materials storage area would be located at the loop road (see Finding of Fact #19,B(3), and Section F, below). Along the

[5] The Maine Geological Survey report "*Surficial Materials – Stetson Mountain Quadrangle, Maine*" (MGS, Open File No. 01-309) indicates three active borrow pits within three miles of the development area.

roads, fourteen (14) lay-down areas for storage of equipment and parking during construction would be cleared for Jimmey Mountain, and two (2) for Owl Mountain. A total of 5.5 acres would be cleared, all of which would be re-seeded after construction, with 0.5 acre remaining open as a permanent storage area.

E. *Water use during construction.* Water for dust abatement during construction would be supplied by the applicant or its contractors, and will be withdrawn from the public boat launch on Upper Hot Brook Lake, which is located in Danforth. The Town of Danforth has a right-of-way for public use of the boat launch. Water would not be withdrawn from streams or brooks. The total amount needed would be 16,000 gallons per day (4 trips using a truck with a 4,000 gallon tank). During construction, drinking water would be brought in from off-site by the contractors.

F. *Temporary office trailers, parking, and storage area.* During construction, temporary office and storage trailers and a parking area would be located within the proposed loop road across from Atlas Road. The trailers would be set back at least 75 ft from Route 169 and 100 ft from streams, and would be removed within 3 months of the SIIWP becoming operational. Portable toilets would be placed within the lay-down areas throughout the development area during construction, and serviced regularly by a commercial vendor. All portable toilets would be located at least 100 ft from any stream. (The cleared area for the loop road and temporary facilities is included in Finding of Fact #19,D.)

G. *Lighting during construction.* Temporary lighting during installation of the turbines would occur only during tower erection if wind conditions at the time of each turbine erection require nighttime construction. If needed, three trailer-mounted flood light systems per tower would be used. During construction, security lighting at the project entrances would be provided by portable trailer mounted light towers.

24. *Spill Prevention Control and Countermeasures (SPCC) plan.* The applicant submitted a SPCC Plan for the construction activities describing the actions to be undertaken to prevent and control any spills which may occur. The applicant proposes to prepare and submit upon completion of construction an SPCC Plan for the operation of the turbines in accordance with 40 CFR 112 (see Finding of Fact #38,C). Contaminated materials would not be stored on-site for a period longer than that allowed by the MDEP's Bureau of Remediation and Waste Management (90 days) without obtaining the appropriate permit to do so.

25. *Construction schedule.* The total construction time is estimated to be fifty (50) weeks, concluding with removal of temporary erosion control measures upon final site stabilization and re-seeding. The initiation of commercial operation of the SIIWP is anticipated at week thirty-eight (38). Commissioning and testing the turbine generators and electrical interconnections would be conducted prior to commercial operation.

A. *Nighttime construction.* Some nighttime construction and lighting is proposed during the installation of the turbines to optimize favorable wind conditions. Turbine rotor installation is dependant on favorable wind conditions, and construction around the clock provides the greatest opportunity to take advantage of these conditions. No more than

two turbines rotors would be installed at any one time. The proposed lights would be three trailer-mounted portable flood lights per turbine location. Lighting would be limited to the construction area, and nuisance lighting of adjacent areas would be minimized (see Finding of Fact #23,G).

B. *Spring construction during periods of road posting* (see Finding of Fact #40).

C. *Winter construction.* If construction is initiated in May of 2009, then work in the winter (November 1st to April 15th) would be limited the final stages of construction and the testing of the turbines. However, specialized construction erosion control plans have been developed in the event that winter construction becomes necessary. The final winter construction plan is included as notes on the engineered plans.

26. *Cut and fill.* To construct the roads and turbine pads, the total amount of aggregate material to be cut would be 112,662 cy, and the total amount of fill needed would be 112,497 cy, resulting in 165 cy of cut material to be disposed of. The material to be used for fill will largely come from blasted rock produced by ledge removal. However, the cut and fill calculations were based on several assumptions that may change during construction. If so, excess material may need to be disposed of, or additional material may need to be brought to the site. The assumptions include:

A. Usable rock material will be found below 5 ft;
B. Rock anchor turbine foundations can be used;
C. Blasted rock will be re-usable as fill material (see Finding of Fact #28);
D. The surface material stripped for these areas can be stockpiled for re-use during re-vegetation;
E. The majority of the slopes will be 1V:2H;
F. The existing logging roads are in generally good condition; and
G. There will not be a significant increase in the number of rock sandwich road design areas needed.

27. *Blasting Plan.* A blasting plan outlining the controls to be utilized to minimize on-the-ground vibration and air blast was prepared, incorporating controls conforming with Title 38 §490-Z(14)(A)-(H) and requiring blast record keeping consistent with Title 38 § 490-Z(14)(L), as recommended by MDEP (see Finding of Fact #38, A).

Geology, soils, erosion and stormwater control

28. *Geologic reconnaissance and acid rock testing.* A preliminary geologic assessment including acid rock testing was conducted, and the report submitted with the application. The final management/mitigation plan for the SIIWP would be modeled after the approved SWP plan, and submitted to LURC after the geological testing currently being conducted is completed, which is expected to be the end of March. In the interim, the plan approved for the SWP has been submitted to the file (see Finding of Fact #38,B; reference Findings of Fact #39 and #41,B of DP 4794).

A. Acid-base analyses were conducted on rock outcrop samples taken at nine sites (2 on Owl Mountain and 7 on Jimmey Mountain). Areas with the potential to generate acidic runoff were identified, in particular the west flank of Jimmey Mountain. While not excessively high in sulfur (an indicator of the potential to generated acidic runoff), the results of the preliminary testing indicated the need to (1) conduct additional testing of rock taken from geotechnical borings with particular attention to the west flank of Jimmey Mountain, (2) sample surface water to evaluate drainage conditions; and (3) prepare a site-specific mitigation and monitoring plan

B. The geotechnical core sample testing will determine any locations of acid rock with high potential for acid rock drainage that will need to be avoided. If avoidance is not possible, the SWP mitigation and control plan would be followed until the site-specific SIIWP plan is finalized. The final SIIWP plan will be similar to the SWP plan, but the details cannot be finalized until the results of the core sample testing are received. Baseline data for surface water quality for potentially impacted streams, such as Hot Brook and Webster Brook, will be collected in early spring 2009 prior to construction to ensure baseline information is available. Surface water sampling will be conducted during construction in accordance with the mitigation and monitoring plan. Finally, the need for additional monitoring will be determined, based on the results of the geotechnical report.

29. *Soils.* The applicant conducted a Class C Medium Intensity soils survey of the development area. Slopes within the development area range from 0% to 11.5%. The applicant stated that the soils at the site are generally suitable for the proposed use. Some modifications to drainage or slope will be required. On somewhat poorly drained soils, coarse granular fill or upslope drainage curtains may be needed. Well to excessively well-drained outwash soils may be used as a source of fill material.

A. Soils present included:
   (1) Knob Lock – Well to excessively well drained, no water table near surface, blasting or ripping may be needed for deep excavation;
   (2) Masardis and Adams – Somewhat excessively to excessively well-drained, no ground water near the surface;
   (3) Monson – Somewhat excessively drained, no water table near surface, blasting or ripping may be needed for deep excavation;
   (4) Elliotsville – Well-drained, moderately deep, blasting or ripping may be needed for deep excavation, high water table in spring and during rain;
   (5) Chesuncook – Moderately well-drained, very deep, limited by seasonal shallow depth to water table;
   (6) Telos – Somewhat poorly drained, very deep, wetness limitations;
   (7) Mondarda – Poorly drained (wetland); and
   (8) Burnham – Very poorly drained (wetland).

B. No portions of the development area fall within a FEMA mapped floodplain or LURC mapped P-FP Subdistrict. The only portion of the development crossing a stream is the existing Jimmey Mountain road and the proposed adjacent collector line corridor where Hot Brook and Webster Stream are crossed. Utility line poles #251, #252, and #255

would be located along the portion of the Jimmey Mountain road where it borders Webster Brook. The poles would be placed in upland at least 2 feet higher in elevation than the brook. In the event that the poles are placed in an area qualifying as floodplain, they would meet the floodplain development standards.

30. *Storm water runoff control, erosion control, and phosphorous loading.*

A. *Storm water runoff control.* The applicant stated that storm water runoff and phosphorus loading from the development area would be controlled by minimizing the areas to remain permanently unvegetated, re-seeding areas temporarily disturbed during construction, and use of the rock sandwich road design to maintain existing hydrology and minimize the runoff directed to road ditches. Other measures to be employed to control storm water runoff include level spreaders and plunge pools at the outlets of culverts, and out-letting storm water ditches to turnout ditches with level spreaders.

(1) The applicant also proposes to use a "toolbox" approach to implementing the storm water control measures by adjusting in the field the measures as needed, in addition to the measures to be used at locations already identified on the site plans. The applicant would meet with the contractor, the forest operators, and a third party inspector prior to any site clearing or construction occurring.

(2) The crane paths and turbine pads would be primarily constructed with blasted rock material generated by grading operations and then crushed. The crushed rock slopes would not be loamed and seeded or mulched upon project completion because the spread loam material would not adhere to the rock and could create a potential source of siltation in runoff water. Crushed rock slopes allow water to seep into the ground. The areas that would be loamed and seeded or mulched are the gravel and exposed soil areas.

B. *Phosphorus loading evaluation and proposed buffers.* The proposed SIIWP lies partially in the watershed of Upper Hot Brook Lake, and partially in the watershed of Baskahegan and Mattawamkeag Streams (which flow into the Penobscot River). Because the runoff from the SIIWP has the potential to increase the phosphorus loading to Upper Hot Brook Lake, the applicant consulted with MDEP during the design phase of the project. MDEP recommended using forested buffers along 75% all project roads to meet the provisions of the State's phosphorus loading regulations as long as the project does not drain to a small watershed. MDEP also advised that the applicant should check again with MDEP if roads would be super-elevated or on slopes. The applicant has designed the SIIWP to have a 75 ft wide buffer along 81.1% of the access roads and crane paths, which it asserts in combination with the proposed storm water and erosion control measures would allow the SIIWP to meet the State's regulations for phosphorus loading.

(1) Two types of forested buffers are proposed along the crane paths and access roads: (a) on the downhill side of a road, sheet flow from the road and shoulder would go directly into a 55 ft wide forested buffer; and (b) ditch runoff would be diverted to a 20 ft long bermed level lip spreader and then distributed into a buffer. Although buffer widths depend on soil types, the applicant asserted that the widths proposed would meet most soil conditions and the amount of road to be buffered would exceed the amount recommended by MDEP's BMPs for the Storm Water Standards (Chapter

500). The widths of the buffers are based on the requirements detailed in Section 5.2.3, Table 5-6 of the Maine (MDEP) Best Management Practices (BMP) Manual, Volume III.

(2) Except at road or utility line crossings, or where existing road entrances would be improved, no clearing would occur within 75 ft of delineated wetlands and along streams. At the existing Jimmey Mountain road crossing of Hot Brook, a concrete bridge is proposed to avoid direct impact to the stream (see Finding of Fact #19,E).

C. *Erosion and sedimentation control plan (E/S Plan).* The applicant submitted an E/S Plan employing Best Management Practices (BMPs) to minimize soil erosion, including but not limited to, silt fencing, erosion control mix, and rock sandwich road construction. The E/S Plan details BMPs for various soil and environmental conditions, explains the basis for their use, and provides details for their installation. The proposed E/S Plan was reviewed by the Maine State Soil Scientist for adequacy and completeness and is incorporated onto the engineered plans for ease of use during construction (see Finding of Fact #37).

(1) In compliance with Section 10.25,M,4,c of the Commission's Land Use Districts and Standards, at least weekly and after any rainstorm greater than 0.5 inches, erosion control measures would be inspected by a general contractor certified in erosion and control practices by the MDEP. These measures would also be periodically inspected by third party inspector under the direct supervision of a licensed Professional Engineer.

(2) *Re-vegetation.* Topsoil stripped from the areas of new roads and turbine pads would be stockpiled, and then spread and seeded with non-invasive plant species[6] on areas being re-vegetated after construction. Alternatively, some areas will be spread with erosion control mix and allowed to re-vegetate naturally. After October 15th, areas to be re-vegetated will be heavily mulched for winter, and permanent seeding delayed until after April 15th the following spring. Reseeded areas will be inspected at one month, three month and six month intervals after seeding to assure adequate vegetation cover is becoming established. Eroded or poorly vegetated areas would be re-seeded. All areas being re-seeded would continue to be inspected until an 85% vegetative cover has become established.

31. *Third-party inspection program.* Prior to construction, the applicant would retain the services of a qualified third-party inspector to monitor compliance with the LURC permit conditions in regard to erosion and stormwater control measures during construction, and until final site stabilization has been completed. The inspector would be certified in erosion and control practices by the MDEP in accordance with Section 10.25,M,4,a (1) of the Commission's Land Use Districts and Standards and be familiar with LURC's erosion control standards.

A. The selection of the candidate for a third party inspector would be subject to LURC review and approval. The applicant has requested a 30 day period within which LURC would respond. No construction activities would be initiated until a third-party inspector

[6] MDOT's standard "Roadside Mix #2" includes Creeping Red Fescue (*Festuca rubra*), Sheep Fescue (F. ovine), Red Top (*Agrostis gigantea*), White Clover (*Trifolium repens*), and Annual Rye (*Lolium multiflorum*).

has been selected. The applicant would not terminate the services of the third party inspector prior to the completion of construction without first gaining written permission from LURC.

B. The inspector's duties and responsibilities would include but not be limited to: (1) become familiar with LURC's terms, permit conditions, and restrictions for the protection of natural resources within the development area; (2) monitor installation and maintenance of erosion control and stormwater control measures; (3) monitor installation of any stream or wetland crossings; (4) make recommendations to the engineer for additional measures needing to be employed; (5) submit weekly reports to LURC; (6) contact LURC immediately in the event of any non-compliance issues; and (7) monitor final stabilization of the site monthly for a period of one year after the SIIWP becomes operational.

C. During construction, the inspector would inspect the project site at least once per week and before and after any significant rain event (greater than 0.5 inches) in compliance with Section 10.25,M(4)(c) of the Commission's Land Use Districts and Standards. Inspection reports would be submitted to LURC.

PL 2008, Chapter 661; and environmental assessment

32. Because the proposed SIIWP would be a "grid-scale" wind energy development, as defined in Title 35-A, chapter 43-A, § 3451(6), several demonstrations are required: scenic, noise, and shadow flicker impact assessments; public safety related setbacks; and tangible benefits. In accordance with Chapter 661, Section B-13, a permit application for wind energy development must also include a decommissioning plan and assess the effect of the project on avian and bat species (see Findings of Fact #12 and #35, respectively).

A. *Scenic impact assessment.* The applicant conducted a scenic assessment in accordance with Title 35-A, chapter 34-A, § 3452, which requires that an assessment be conducted for any scenic resources of state or national significance (herein after referred to as "scenic resources") located within 3 miles of the project. § 3452(3) states that "the Commission shall consider insignificant the effects of portions of the developments generating facilities located more than eight miles, measured horizontally, from a scenic resource." § 3452(4) additionally provides for the assessment to include any scenic resource located between 3 and 8 miles of the project if the Commission determines it to be necessary.

(1) The applicant voluntarily conducted an assessment for all scenic resources within 8 miles of the project. No qualifying scenic resources are located within 3 miles of the SIIWP. Between 3 and 8 miles, there are two scenic resources:

(a) The Million Dollar View Scenic Byway is located 6.6 miles from Jimmey Mountain, and 7.9 miles from Owl Mountain, with the closest turbine at 6.7 miles. From the Byway, the tops of 11 turbines on Jimmey Mountain would be visible, but due to distance and intervening vegetation would not block or dominate the view. Other overlooks along the Byway are more than 9 miles from the development area.

(b) A property on the National Registry of Historic Places, the Union Hall in Danforth, is within eight miles of the SIIWP, but there would be no view of the turbines from that point.

(2) The scenic assessment indicated that the majority of the land within 8 miles of the SIIWP is privately owned and actively managed forestland. The terrain consists of low rolling hills covered with dense second growth woodlands, open fields, and broad depressions with wetlands. Owl Mountain and Jimmey Mountain are elevated 300 ft and 475 ft, respectively, above the surrounding terrain. Three great ponds and several streams and rivers are located in the general vicinity of the SIIWP.

(3) The applicant's scenic assessment included photos taken at 12 locations, including two from Upper Hot Brook Lake, but a photo-simulation was only done for the Million Dollar View Scenic Byway.

(4) The intervening topography and forest vegetation would provide a partial visual buffer for many of the views of the SIIWP that do not qualify as scenic resources. In addition, an approximately 200 ft vegetative buffer would be retained to screen the view of the development area from Route 169.

B. *Noise assessment.* The applicant conducted a noise assessment in accordance with Title 12, § 685(4-B)(A) (as reflected in Section 10.25,F,2 of the Commission's Land Use Districts and Standards), which requires that wind energy development in the expedited permitting areas of LURC jurisdiction meet the standards of the Maine Board of Environmental Protection's noise rules adopted pursuant to the Site Location of Development Law, Chapter 375.10, Control of Noise.

(1) The applicant's noise assessment demonstrated that the SIIWP would not exceed the BEP noise level limits during construction or operation. The assessment conservatively estimated noise levels at the nearest quiet protected locations due to the proposed SIIWP by including the following approach in the methodology: lakes and ponds were treated as reflective surfaces, no adjustment was made for foliage attenuation, 5 dBA was added to the turbine manufacturer's estimated noise output, and all turbines were treated as operating simultaneously.

(2) The western shore of Upper and Lower Hot Brook Lakes are undeveloped. The nearest dwelling is located on the eastern shore of Upper Hot Brook Lake in the Town of Danforth, at a distance of 6,100 ft (1.15 miles) from the nearest proposed turbine. The nearest public road to a turbine would be Route 169 at a distance of 1,000 ft. The parcel boundary is the township line between T8 R4 NBPP and the Town of Danforth, which runs roughly down the middle of Upper and Lower Hot Brook Lakes, at a distance of 3,270 ft (0.62 mile) from the nearest turbine.

(3) The GE 1.5 sle model turbine proposed for the SIIWP has rotor blades with active pitch control designed to minimize noise emissions (GE Wind Energy, GEA-13550, 11/02 5M).

(4) *Noise assessment results.*

(a) The pre-development ambient noise levels were measured, with the average levels along the western shoreline of Upper Hot Brook Lake being 35 dBA during the daytime (7am to 7 pm) and 30 dBA at night (7pm to 7 am).

(b) The sound produced by the SIIWP during routine operation would be 38 dBA at the nearest dwelling, and 41 dBA at the parcel property boundary line.

(5) MDEP noise regulations (MDEP Chapter 375.10.G.16) apply the hourly sound level limit of 75 dBA at the project property boundary, and 55 dBA daytime/45 dBA nighttime at nearby quiet protected locations where the daytime pre-development ambient noise level is equal to or less than 45 dBA and/or nighttime level is equal to or less than 35 dBA. The nighttime limits at protected locations apply only up to 500 ft from sleeping quarters. At distances over 500 ft or where no sleeping quarters exist, daytime limits apply during all operating hours.

(6) For short duration repetitive or tonal sounds during routine operation, MDEP's rules also add 5 dBA to the observed sound levels when determining compliance; and set maximum limits for the noise generated.

(7) During construction, MDEP's rules exempt noise levels between 7 am to 7 pm or daylight hours, whichever are longer, from regulation. For nighttime construction, the limits for routine operation apply. Any construction conducted for the SIIWP from 7 pm to 7 am is not expected to exceed these limits (see Finding of Fact #25,A). Noise generated by major over-haul maintenance operations is considered by MDEP's noise rules to be construction noise. Noise generated by emergency maintenance and repair is exempt from regulation.

C. *Public safety setbacks.* Title 12, § 685-B(4-B)(C)) (pursuant to Title 35-A, chapter 34-A, § 3455) requires a proposed wind energy generating facility demonstrate that setbacks will be employed adequate to protect public safety: for example, the turbine design meets accepted safety standards, the turbines to be used have over-speed control, and the turbines would be located appropriately.

(1) The GE 1.5 MW sle wind turbines proposed for the SIIWP are National Electric Code compliant, designed to withstand Class IIa winds gusts of 55 meters per second (established by the International Electrotechnical Commission), and certified by Germanischer Lloyd (the leading wind power product certification authority).

(2) The GE 1.5 MW turbines are protected from speed variation using two independent methods of speed control: pitch control to adjust the blades to adapt to the wind speed, and hydraulic braking initiated if the wind speed exceeds 25 meters per second in any 10 minutes.

(3) An industry recommended setback for turbines is 1.5 times the tower height, which would be 584 ft. for the GE 1.5 MW sle turbines. All of the proposed turbines would be located more than 584 ft. from the parcel boundaries and Eight Mile Road (although privately owned, it is used by the public), and at least 1,050 ft. from Route 169. The closest residence is more than one mile from the proposed turbines.

D. *Shadow flicker assessment.* The applicant conducted an assessment of shadow flicker effects due to the SIIWP, in accordance with Title 12, 685-B(4-B)(B).

(1) The applicant conducted an assessment of the predicted shadow flicker effects due to the SIIWP using WindPRO modeling software. Shadow flicker is the effect resulting from the shadows cast by the rotating blades of a turbine on sunny days, and the

effect of shadow flicker is most pronounced during sunrise and sunset on clear days, and on receptors closer than 1,000 ft.[7] from a turbine[8].

(2) The WindPRO model used by the applicant extends the assessed area beyond 1,000 ft to 1,000 meters to demonstrate the limits of any possible impact due to shadow flicker. At distances of 1,000 meters from turbines, shadow flicker is generally unperceivable.

(3) The applicant's assessment purposely overestimated the effects of shadow flicker from the SIIWP by modeling no vegetation between the turbine and the receptor, the turbines always perpendicular to the receptor, and the turbines always operating.

(4) Of the twenty (20) possible receptors analyzed, none showed an impact due to shadow flicker. All possible receptors, including Upper and Lower Hot Brook Lakes, are more than 1,000 ft from the proposed turbine locations. Additionally, many of the shadow flicker hours were predicted to be of very low intensity.

E. *Tangible benefits.* Title 12, § 685-B(4-B)(D) (pursuant to Title 35-A, chapter 34-A, § 3454) requires an applicant for a grid-scale wind energy development provide evidence of tangible benefits to be created. The applicant asserted that significant economic and environmental tangible benefits would result from the proposed SIIWP. The applicant noted that on a large scale, wind energy development will help Maine meet it Regional Greenhouse Gas Initiative commitments and Renewable Energy Portfolio goals, as well as contributing to reduction of air pollution due to greenhouse gas emissions, and leading to a wide range of ecological improvements[9]. With respect to project-specific benefits, the applicant provided the following demonstration:

(1) *Increase employment opportunities.* The applicant asserted that it expects the actual economic spending, hiring of Maine companies, and employment of local residents associated with the SWP will be similar to the tangible benefits that would result from the construction and operation of the SIIWP.

(a) Washington County has a chronically high unemployment rate[10] due to lack of an established employment base, which has resulted in the highest poverty rate[11], and the lowest median household income in Maine[12]. Prior to the current economic down turn, Washington County's per capita income was 28% below the State average and 31% below the State's median income.

(b) The applicant stated that it has been First Wind's practice to hire Maine-based companies for development, engineering, environmental assessment, and construction of its projects. The proposed SIIWP would provide job opportunities for Maine citizens as well as for local residents, including ancillary benefits for services such as food and lodging, concrete supply, and fuel. A significant

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[7] "Shadow flicker is not important at distant sites (for example, greater than 1,000 feet except during the morning and evening when shadows are long." From: National Academy of Sciences report, "*Environmental Impacts of Wind-Energy Projects*", 2007," page 160.

[8] "*Environmental Impacts of Wind Energy Projects*", National Academies Press, 2007, p. 160.

[9] "*An Act to Implement the Recommendations of the Governor's Task Force on Windpower*", Public Law 2008, Chapter 661

[10] In 2006 the Washington County unemployment rate was 7.6%, but Maine's average rate is 4.6%; from ME Dept. of Labor, Civilian Labor Force Estimates, Jan – Nov 2006

[11] 20.9% iu 2000; *Statewide Needs Assessment* by the Maine Community Action Association, 2003

[12] $25,869; 2000 U.S. Census Data

portion of the estimated $60 million cost of the proposed SIIWP is expected to go to Maine residents and companies. For example, of the $65 million spent for the SWP project, approximately $50 million was spent in Maine, both statewide and locally. The applicant counted 99 business statewide, 24 local businesses in the Danforth area, and 17 Maine engineers and consultants either employed or who provided services for the SWP. Approximately 350,000 direct labor hours were spent to complete construction of the SWP (not including the 115 kV transmission line), equating to approximately $10.5 million dollars in fully burdened total construction labor paid directly to Maine workers.

(2) *Benefits to the landowner.* In addition to the above economic benefits described above, LSI, which is a locally owned forest management company, will benefit from the lease payments. These payments will help LSI continue forest management on the leased parcel, which will in turn help continue to employ a large number of local residents for those operations.

(3) *Property taxes and Tax Incremental Financing (TIF) program.* Utility scale wind energy development requires significant capital investments (*e.g.*, from $95 million to $270 million for various Maine projects), resulting in a large increase in the local tax base. For example, First Wind's Mars Hill project paid $0.5 million in taxes to the Town of Mars Hill in 2008.

(a) Host communities to large projects realize significant tangible benefits as a result of the increased tax base, and may select the manner in which those benefits would be realized using a 20-year TIF program. TIF programs can provide long-term stability, predictability, and property tax relief to host communities. For example, a municipality may chose to use the new taxes to reduce local property taxes, and some of the new taxes may be used to fund other local programs and development that otherwise might not be possible. In the unorganized areas of Maine, because the new taxes are paid directly to the State's General Fund, the County acts in the place of the municipality when creating a TIF program. The Washington County Commissioners entered into a TIF agreement for the SWP, and are interested in a TIF agreement for the proposed SIIWP, although the terms of such agreement have not yet been determined (see Finding of Fact #47,A). The infusion of new revenue targeted at stimulating economic development in Washington County is a significant long-term tangible benefit.

(b) For the SWP, the 20-year TIF agreement Evergreen Wind Power V, LLC entered into with the Washington County Commissioners included an average annual payment of $185,000 to Washington County for use in funding economic development projects in the unorganized portions of Washington County. Some of the activities being funded included creating a new Washington County position to support business retention and attraction; establishing a new commercial revolving loan fund to assist business start-up and expansion; planning for a commercial facility for conference/tourism; and evaluating of the need for and location to construct new businesses.

(4) *Energy benefits.*

(a) *Reduced energy price volatility.* The applicant noted that the addition of generating facilities in Maine is expected to increase energy diversity, leading to lower and less volatile electricity prices, in particular when the generation is by

wind power, as described by the Maine Public Utilities Commission (MPUC) (see Finding of Fact #44).

(b) Last year, First Wind's Mars Hill 42 MW wind project produced clean, cost-effective energy equivalent to 260,000 barrels of oil or 70,000 tons of coal, but without the pollution. The proposed 25.5 MW SIIWP is expected to produce comparable results (proportionate to the size of the project).

(5) *Conservation and recreation.* First Wind has also established the Stetson Mountain Fund collaboratively with the Forest Society of Maine, to help support the enhancement and maintenance of access and recreational opportunities in the Baskahegan Stream watershed. A $25,000 donation to the fund is being made on behalf of the SIIWP. Objectives of the fund are to help ensure public water access for traditional recreational uses; provide infrastructure and management in support of public traditional recreational use such as campsites, launch sites, and day use sites; and provide minor support, including leveraging of other funds, for local land acquisition projects.

(6) *Annual report.* The applicant proposes to submit a report annually to the Commission for the first two years of the project's operation describing the project's contribution to Maine's energy and environmental policies. The report will include, but not be limited to, the total megawatt hours of generation during the preceding calendar year and an estimate of the avoided emissions resulting from project operation. Avoided emissions calculations would be based on historical emissions data from the U.S. Environmental Protection Agency and the U.S. Department of Energy's Energy Information Administration data for New England power generation.

34. *Wetland alterations.* No dredge or fill wetland impacts are proposed for the SIIWP. Several existing culverts may be replaced with a culvert of the same size. The proposed new wetland alterations are limited to clearing of P-WL1/2/3 wetlands for the road widening and collector line corridor.

A. The total clearing in P-WL2/3 wetlands includes 2,614 square feet (sf) for the roads and 11,581 sf for the collector line corridor, for a total of 14,195 sf (0.33 acres).

(1) Approximately 0.06 acre of permanent clearing of the tree canopy in P-WL3 wetland would occur at the entrance to the Jimmey Mountain road, and 0.27 acre of P-WL3 wetland clearing would occur for the collector line corridor.

(a) The 0.06 acre of clearing at the entrance to the Jimmey Mountain road for the road widening would include some of the forest canopy within the P-WL1 wetland bordering Hot Brook where the road crosses the stream. A bottomless concrete bridge would be installed at the entrance to the Jimmey Mountain road where Hot Brook is crossed to minimize impacts the stream.

(b) Approximately 0.25 acre of tree clearing for the collector line in P-WL3 wetland will be along the segment of the corridor between Owl Mountain and Jimmey Mountain. Between turbine #1 and Route 169, 0.02 acre of P-WL3 wetland would be cleared along the corridor.

(c) Wetland areas that would require clearing are adjacent to existing roadways or already cleared upland areas. As such, no wetland mats will be necessary.

B. To avoid the filling of the wetlands between Owl Mountain and Jimmey Mountain that would be required to construct a road adequate for the cranes, the applicant proposes to first assemble the cranes for construction of the turbines at Owl Mountain, and then break them down, transport by truck, and re-assemble them to construct the turbines at Jimmey Mountain

35. *Wildlife and habitat assessment.* The applicant asserted that the design and layout of the SIIWP has been developed to minimize and avoid impacts to protected natural resources. The applicant further asserted that the wildlife impact assessments done for the SWP supply an adequate evaluation of pre-construction conditions, and that additional pre-construction wildlife surveys would provide little new data for evaluation of the development area (reference Findings of Fact #37 to #40 of ZP 713; and Findings of Fact #40 to #46 of DP 4877). This assertion was supported by the Maine Department of Inland Fisheries and Wildlife (MDIFW) (see Section A, below). Because consultation by the applicant with MDIFW and MNAP occurred before submittal of the application, any pre-application recommendations made by those agencies are incorporated in this finding. Review comments submitted to LURC by MDIFW are summarized in Finding of Fact #41. Commentary on federally listed species by USFWS is summarized in Finding of Fact #42.

A. *MDIFW perspective on avian and bat pre-construction monitoring conducted for the SWP with respect to the proposed SIIWP.* During the SWP public hearing, MDIFW testified that the pre-construction avian and bat survey data do not suggest significant concerns for birds or bats exist, and they were comfortable moving ahead with the SWP. However they requested that MDIFW be consulted regarding the design of the post-construction monitoring. For the SIIWP, MDIFW also expects that the applicant will consult with its staff during development of the post-construction monitoring protocols. With respect to the SIIWP, like the SWP, MDIFW staff recommended post-construction monitoring. The applicant has proposed a post-construction monitoring plan (see Section G, below).

B. *Wildlife/habitat impact assessment.* The forest type in the development area is upland hardwood and early successional forest, predominantly Beech-Birch Maple Forest (Gawler & Cutki 2005), which is rated as demonstrably secure (S-5) by MNAP and common throughout the state. Timber harvesting has occurred in the development area frequently over generations, including an area of Northern Hardwood Forest.

(1) The region of the state where the SIIWP would be located is predominantly coniferous forest, with deciduous-coniferous mixed forest on the higher upland ridgelines and hilltops, and an abundance of peatlands, marshes, swamps, and bogs in the lowlands. A large network of brooks, stream, and wetlands are present in the region, and these habitats occur between Owl Mountain and Jimmey Mountain, to east of Owl Mountain, and west and southeast of Jimmey Mountain.

(2) The applicant's assessment determined that habitat loss, conversion, or fragmentation; disturbance effects; or collisions with turbines could occur as a result of the SIIWP, but that any adverse impacts to wildlife using the development area or immediate vicinity would not be undue. Permanent conversion of forest to scrub-

shrub habitat would occur along the collector line corridor, potentially resulting in displacement of forest species. However, the development area has already been fragmented by land management roads and altered repeatedly by harvesting, resulting in local wildlife populations being subjected over time to alterations that are similar to the one proposed.

C. *Special natural areas, significant wildlife habitat, and state or federally listed species.* No Significant Wildlife Habitat such as deer wintering area or Inland Waterfowl and Wadingbird Habitat (IWWH) is present in the development area. No Essential Habitat, or rare, threatened or endangered (State rated as S-1 or S-2; or federally listed) plant or animal species are present within the development area, and no records of such species exist.

(1) There are records of Bald Eagle and Yellow Lampmussel outside the development area but in close proximity. The applicant consulted and visited the site with MDIFW staff in July of 2008, and the potential for Bald Eagle and Yellow Lampmussel to be adversely impacted by the SIIWP was determined to be low.

(a) *Yellow Lampmussel.* Although Yellow Lampmussel occurs in Upper Hot Brook Lake at the mouth of Webster Brook, there is no habitat for the Yellow Lampmussel within the development area. Clearing around both Hot Brook and Webster Brook would be minimized to the greatest extent practicable by using t he existing road infrastructure and implementing erosion and sedimentation controls.

(b) *Bald Eagle.* The proposed development area does not contain suitable nesting or hunting habitat for Bald Eagle, and no nest sites have historically occurred there.

(i) The Bald Eagle was formerly listed on the federal list of threatened and endangered species but was officially removed from this list on August 9, 2007. The Bald Eagle is currently listed as Threatened under the State Endangered Species Act, but is expected to be de-listed in 2009. When the Bald Eagle was federally listed as Endangered, MDIFW designated Essential Habitat for the Bald Eagle at sites along the Penobscot River and several other water bodies closer to Owl Mountain and Jimmey Mountain. There are eleven known nesting locations within ten miles of the development area.

(ii) The closest eagle nest to the development area is on Kittery Island in Upper Hot Brook Lake at a distance of 1.3 miles. Although this species is now in the process of being reduced to Threatened status in Maine, MDIFW still recommends considering development impacts within 1,320 ft. of a nest. The proposed development area is located more than 1,320 ft. from the Bald Eagle nest on Kittery Island (also see MDIFW review comments in Finding of Fact #41)

(iii) The applicant consulted the USFWS Guidelines for Management of Bald Eagle, which recommends restricting blasting or other heavy construction with in ½ mile of an eagle's nest. The project is consistent with USFWS's National Bald Eagle Management Guidelines, and no blasting or other heavy construction is proposed within ½ mile of the Bald Eagle nest on Kittery Island.

(4) *Significant Inland Wading Bird and Waterfowl Habitat (IWWH).* A significant amount of land in the eastern region of Maine where the SIIWP would be located is classified by MDIFW as IWWH. There are two IWWHs close to the proposed SIIWP development area: one associated with Bog Brook, at a distance of 1,500 to the north; and the other associated with Hot Brook at a distance of 2,000 ft. to the southeast. The applicant asserted that there have been very few (5% of mortalities in the United States) documented waterfowl or water bird impacts due to wind power projects in spite of flocking behavior and activity during periods that would appear to put these birds at greater risk. No concerns were raised by MDIFW for waterfowl or wading bird mortality due to the proposed SIIWP.

(5) *State-listed plants and natural plant communities.* The applicant conducted a field survey of the development area and consulted with MNAP prior to the submittal of the application. No areas of concern were identified by MNAP.

(a) An enriched area on the west-central portion of Owl Mountain was identified as having the potential to support several state-listed plant species. However, frequent timber harvesting has reduced the potential for these species to be present, and none were found.

(b) One S-3 natural plant community (Eccentric Bog Ecosystem) occurs 0.2 mile west of Atlas Road and south of Route 169 from the proposed development area.

D. *Fisheries.* Due to the likelihood of Hot Brook and Webster Stream supporting brook trout populations, MDIFW conducted a site visit in July of 2008. MDIFW recommended the applicant adhere to MDEP's Best Management Practices for erosion control and storm water runoff for any road construction done in the area of these stream crossings, and that any grading of the road be done so that it minimizes "false ditching". MDIFW also recommended that any cutting of the tree canopy done in the immediate area of the streams be minimized to reduce the potential for stream warming.

E. *Avian monitoring and impact assessment.* The results of the avian monitoring for three of First Wind's projects (Mars Hill, SWP, and Rollins Mountain) in eastern Maine have been generally consistent in terms of passage rates, average flight heights and seasonal flight direction, and percentage of targets occurring below turbine height, indicating a relatively high elevation and broad migration pattern. The north end of the SWP abuts the southern end of the proposed SIIWP development area. Nocturnal radar migration and morning stop-over surveys, diurnal raptor surveys, and acoustic bat surveys were conducted for the SWP. The results summarized below are from the pre-construction studies done for the SWP, and adjusted for the proposed SIIWP as appropriate (reference DP 4788, Finding of Fact #38,B):

(1) *Migration survey results.* Songbirds migrating through the area in the spring and fall would be largely forest species, based on the habitats available. Mean passage rates ranged from 147 (+/- 30) targets per km per hour (t/km/hr) to 476 (+/- 86) t/km/hr. The pre-construction monitoring showed that migrants flying over the general area below the turbine height ranged from 13% to 22%.

(2) *Raptor survey results.* The pre-construction monitoring showed that the passage rate for raptors in the general area was low relative to other sites in the northeast. The area of Maine where the existing SWP and proposed SIIWP are located is not a

known raptor migration corridor. While 63% to 74% of the raptors using this area occurred within the rotor-swept zone, the overall risk of raptor impacts due to the both the SWP and the SIIWP was determined to be low because of the low overall passage rates.

(3) *Impact assessment.* Based on the average avian mortality rate due to impacts with wind turbines in the United States ranging from 0 to 1.83 fatalities per turbine per year (excluding California data), the potential avian mortality due to the SWP was estimated to approximately 70 birds per year, which was considered to be low. The area where the SWP is located is not a "migratory bottleneck". Other wind power facilities sited in similar habitats have had low mortality rates. In response to USFWS' review comments (see Finding of Fact #42), the applicant offered the following:

(a) Migratory birds, which are common throughout Maine, use the airspace in the vicinity of both the Mars Hill project (located approximately 70 miles due north of the proposed SIIWP) and the existing SWP. While migratory birds do occasionally collide with wind turbines, post-construction studies conducted by the applicant over the last two years at Mars Hill have documented relatively low fatality rates relative to other projects in the Eastern United States (*i.e.*, on the order of 2 birds per turbine per year).

(b) The applicant stated that the SIIWP would comply with the recommendations in the USFWS *Bald Eagle Management Guidelines*. The guidelines recommend avoiding blasting within one half mile of an active nest and siting turbines away from nests. The nearest site of possible blasting in the development area is more than one mile from the Bald Eagle nest on Kittery Island, and the nearest turbine would be approximately 7,000 feet from the nest. The applicant also noted it does not know of any Bald Eagle fatalities reported for an operating wind farm in the United States, including wind farms in Maine.

(c) Although the risk of significant avian fatalities is apparently low, the applicant consulted USFWS staff and the USFWS Wind Energy Development Policy, and plans to monitor impacts in consultation with the appropriate regulatory agencies (see Finding of Fact #35(G), #41, and # 42).

F. *Bat monitoring and impact assessment.*

(1) *Survey results.* Bat surveys conducted for the SWP documented several species in the area, with the majority being from the big brown bat guild or the genus *Myotis* (most likely little brown bat), and to a lesser extent in the red bat/eastern pipistrelle group. The latter group more often utilizes habitats that are not near the ridgeline where the SIIWP turbines would be located, such as the wetlands and low elevation edges that occur at the bases of Owl Mountain and Jimmey Mountain.

(2) *Impact assessment.* The bat surveys indicated that while some species using the development area are at risk for collision with wind turbines, the overall use of the ridgeline areas where the turbines would be located is low. The risk of collision in the development area is lower than at more southerly sites in the United States, and any collisions that occur would most likely be common and locally abundant species.

G. *Post-construction avian and bat monitoring plans.* During year one of operation, post-construction avian and bat mortality surveys would be conducted at the SIIWP, including:
   (1) Standardized searches during peak activity periods (spring migration, summer nesting and pup-rearing, late summer swarming, fall migration),
   (2) Searcher efficiency trials,
   (3) Carcass removal trials, and
   (4) Documentation of any fatalities noted outside the search areas.

   During year three would be follow-up monitoring conducted. The scope and timing of the monitoring would be adjusted as needed in consultation with MDIFW. A more detailed protocol will be prepared in consultation with MDIFW between the time construction is initiated and the first spring survey period. After the first full year of monitoring, an annual report would be provided to LURC summarizing the methods used and the results of the monitoring.

H. *Vernal pool habitat buffer impacts.* The development area and surrounding terrain was surveyed for the presence of significant vernal pools (SVP). One SVP (SVP 05cf) and one possible SVP (PVP 02dk) were identified, and the project was designed to avoid and minimize impacts to both pools.
   (1) One 0.28 acre SVP (VP 05cf) was identified within the proposed development area adjacent to the existing Jimmey Mountain road. The 250 ft wide habitat area (including the pool) is 8.17 acres in size. The existing Jimmey Mountain road is located within the habitat area and accounts for 4.23 acres (51.8%) of the habitat area, of which 15.8% is within 100 ft of the pool. Additional clearing for the collector line within the 250 ft wide habitat area would be 2.7%, resulting in 54.5% the habitat within 250 ft of the pool cleared. The collector line corridor would be within the 250 ft wide habitat area, but the only developed area within 100 ft would be the existing road. No additional clearing within 100 ft of the pool is proposed.
   (2) A second 0.16 acre vernal pool (PVP 02dk) found outside the breeding season was identified in the development area. For the purposes of this permit, this pool is treated herein as an SVP until otherwise determined. The 250 ft wide habitat area (including the pool) is 6.9 acres. Existing clearing within 100 ft of the pool accounts for 7.1% of the habitat area, and 21% within 250 ft of the pool. An additional 1.09 acres (15.8%) is proposed to be cleared between 100 ft and 250 ft of the pool for the collector line, but no new clearing is proposed within 100 ft. A total of 36.8% of the habitat within 250 ft of the pool would be cleared, of which 21% is existing clearing. The new impacts to the pool and the habitat within 100 ft of the pool have been avoided, and some of the existing clearing is currently re-vegetating. Other areas will be allowed to re-vegetate, and the new clearing will be on a ridgeline and downward slope, away from the pool. In addition, the proposed collector line route avoids crossing a large P-WL1 wetland associated with Webster Brook and utilizes the existing Jimmey Mountain road to the extent possible.

I. *Mammals.* The development area was assessed for use by large and small mammals based on the types of habitat present and the species known to be associated with these

habitats, as well as incidental observations made during other field surveys, but not on systematic searches. The applicant determined that the removal of beech trees may result in a decrease in forage habitat for black bear, but that the abundance of beech throughout the region would more than adequately mitigate any reduction habitat in the development area. The habitat change due to the clearing for the SIIWP would not constitute an undue adverse impact to mammal habitat (see Sections F and G, above, for discussion of bat monitoring and impact assessment).

36. *Historic and archaeological resources assessment.*

A. The applicant's *Historic Architectural Reconnaissance Survey and Archaeological Survey reports*[13] submitted with the application were reviewed by MHPC (reference Finding of Fact #39 in Zoning Petition ZP 713). A letter from MHPC, dated June 16, 2008 indicated that while there are no known archaeological sites in the development area, a survey for prehistoric sites east of the unnamed road running north-south through the southeast portion of the development area, and for stone outcrops that may have been used as quarries by Native Americans around Jimmey and Owl Mountains, were required. MHPC also requested additional information on possible historic properties (see Finding of Fact #39).

B. The applicant assessed the prehistoric sensitivity of the development area and determined there is low sensitivity for prehistoric archaeological resources.

C. In response to MHPC's request for additional information on possible historic properties, the applicant report included but was not limited to the following:
(1) The barn at 53 Andrews Road, Drew Plantation burned down and was reconstructed.
(2) The historic site at 109 Springfield Road in Danforth is 5 miles from the development area and any view of the SIIWP would be completed blocked by Snow Mountain.

Agency Review Comments

37. *Maine State Soil Scientist.* The State Soil scientist reviewed the application and recommended approval, but advised several minor changes to the engineered plans that should be made prior to sending the plans out to bid. The applicant made the recommended changes to the construction plans. The changes recommended were as follows:

A. *Level spreader.* The level spreader detail should be changed to a rip-rap apron with a semi-circular stone berm.
B. *Erosion control berm.* Composted bark should not be listed as a suitable material to use for erosion control berms.
C. *Rock sandwich.* The details for the rock sandwich road design needed to be corrected. The State Soil Scientist supplied the applicant's engineer with the corrections.
D. *Culverts.* A culvert should be added on Sheet ES-5 near station 131+ 50, and on Sheet ES 7 near station 77+ 50.

[13] The Historic Resources Report was conducted in compliance with Section 106 of the National Historic Preservation Act of 1966, as amended (36 CFR 800).

38. *Maine Department of Environmental Protection (MDEP).* MDEP reviewed the applicant's blasting plan, preliminary geotechnical report, and construction SPCC plan.

    A. *Blasting plan.* MDEP advised that State standards should be used for this project. The blasting plan should include controls on ground vibration and air blast equivalent to those specified at Title 38 §490-Z(14)(A)-(H). Blast record keeping should be consistent with the information required by Title 38 §490-Z(14)(L). In addition, MDEP has blasting standards under the Performance Standards for Quarries, Title 30, § 490-Z(14). Alternatively, the applicant could be required to meet N.F.P.A. 495, Explosive Material Code, 2006 Edition, which is used by the Office of the State Fire Marshal.

    B. *Geotechnical report and acidic rock testing.* The applicant's "Geological Reconnaissance-Preliminary Acid Rock Drainage Evaluation for the Stetson Mountain Extension Wind Power Project" was reviewed by MDEP.
    (1) Final geotechnical data, turbine positions and footing design, and other relevant information should be submitted as soon as it becomes available.
    (2) The applicant's assessment that the potentially acid-producing rock is most likely to be encountered on the western flank of Jimmey Mountain appears to be generally correct, but acid-producing rock may extend through the saddle between Jimmey Mountain and Owl Mountain, and may be encountered during road construction. This area must be tested to determine if the rock will generate acid drainage. MDEP also recommended the applicant conduct additional acid-base accounting testing on core samples from the road and turbine pad areas. A surface water quality baseline for the streams susceptible to drainage impacts should be established, and groundwater seeps in the vicinity of the development area should be tested. Ideally, areas with the potential to generate acid rock drainage should be avoided, especially areas near streams, and any reactive rock encountered should not be re-used for fill.
    (3) MDEP recommended that a management plan be developed for the SIIWP with mitigation and control measures to prevent the generation of acid rock drainage. The potential for acid drainage from re-use of acidic rock can be managed by the methods approved for the SWP.

    C. *SPCC Plan.* Spill control materials must be stored as close as practical to the locations of likely spill, in this case fuel storage and refueling areas. On-site storage of contaminated materials should not exceed 90 days or other period as may be required by the Bureau of Remediation and Waste Management.

39. *Maine Historic Preservation Commission (MHPC).* MHPC reviewed the permit application and the applicant's historic and archaeological reports, including the Public Archaeology Laboratory report received on January 7, 2009, and determined that there will be no historic or archaeological resources adversely affected by the proposed SIIWP, as defined by Section 106 of the National Historic Preservation Act.

40. *Maine Department of Transportation (MDOT).* The MDOT Northern Region offered the following comments. The applicant's responses to MDOT comments are incorporated in Finding of Fact #14,E.

    A. *Spring road posting.* Postings on Route 169 and other State Roads will not allow movement of oversized loads on State roads while they are normally posted. State aid roads such as Route 169 are usually posted in the winter by MDOT. The proposed schedule and transportation route indicate there will be a high potential for the transportation of the turbines, equipment, and materials to the development area to be hindered by road postings. MDOT recommended the applicant prepare a plan for handling periods of road posting (see Section B, below).

    B. *Entrance sight distance and widening of Route 169.* MDOT determined there is currently adequate site distance at the entrance to the Jimmey Mountain road. To conform with MDOT entrance standards, the proposed 150 ft. turning radii for the road entrances that is needed during construction must be cut back after construction is complete. The widening proposed for Route 169 will require a MDOT Road Opening permit and must conform with MDOT standards.

    C. *Transportation of the turbines to the development area.* MDOT advised General Electric, who is responsible for the transportation of the turbines to the development area, and the applicant regarding the transportation routes used from the point of delivery in the U.S. to the development area. Review of the transportation route was provided by MDOT's Northern and Eastern region engineers, the Public Works Directors of Lincoln and Brewer; and the City Engineer of Bangor.

41. *Maine Department of Inland Fisheries and Wildlife (MDIFW).* MDIFW reviewed the application and commented that the applicant has proposed the proper mechanisms to minimize erosion and sedimentation in and around the water resources within the development area. MDIFW recommended minimizing cutting or clearing around Webster Brook and Hot Brook for the collector line corridor. MDIFW did not request additional information regarding potential impacts to fish or fish habitat. Also see Finding of Fact #35 for recommendations made by MDIFW directly to the applicant prior to the application being submitted.

    A. *Yellow Lampmussel.* MDIFW has a record of Yellow Lampmussel (state-listed as threatened) occurring in Upper Hot Brook Lake. There is no record of this species in the tributaries to Upper Hot Brook Lake, but surveys have not been conducted in these streams. During a July 9, 2008 site visit with MDIFW, the applicant's consultant conducted a preliminary aquatic habitat assessment of the Upper Hot Brook Lake shoreline between Webster Brook and Hot Brook. Yellow Lampmussel was not observed, although appropriate habitat was present. However, because there remains the potential for Yellow Lampmussel to occur in these streams (in particular Hot Brook), if any construction would impact the stream bed in Hot Brook, a freshwater mussel survey must be conducted in the area to be impacted. MDIFW concluded that if proper erosion

controls are implemented, no impact to the Yellow Lampmussel occurring in Upper Hot Brook Lake is expected.

B. *Bald Eagle.* MDIFW has documented a Bald Eagle nest on Kittery Island in Upper Hot Brook Lake that was active in the 2008 nesting season. However, MDIFW is now not designating new Bald Eagle nests as Essential Habitat due to the pending delisting of this species from Maine's Threatened Species List. MDIFW recommended that if blasting or heavy construction work is done during the Bald Eagle nesting season from February 1st to August 31st, disturbance to the nesting eagles should be minimized during this time period. MDIFW also recommended consulting the USFWS Bald Eagle Management Guidelines.

C. *Bird and bat studies.* MDIFW noted that First Wind conducted extensive pre-construction surveys for migrating birds and bats on Stetson Mountain for the SWP. During the pre-application consultation for the SIIWP, MDIFW agreed to accept the bird and bat survey results from the SWP as applicable to the SIIWP because of proximity to the SWP and the perceived low risk for birds and bats at that site. MDIFW did not require additional pre-construction bird and bat studies for the SIIWP, but expects continued coordination with the applicant in the development of the final post-construction protocol for bird and bat mortality studies.

D. *Vernal Pools.*
(1) *Survey results.* MDIFW requested clarification on the status of vernal pool VP 02dk, stating that any pools surveyed outside the breeding season should be either treated as defacto SVPs, or additional surveys should be conducted in 2009 to assess their functional wildlife status. MDIFW recommended performance standards and buffering of the SVP's. MDIFW also requested that SVP assessment data forms be sent to MDIFW Bangor for inclusion in the State's vernal pool database.
(2) *Performance standards.* The "Best Development Practices" for conserving pool-breeding amphibians in residential and commercial developments in the northeastern U.S. (Calhoun and Klemens 2002) recommend no development within 100 ft of high value pools, and no more than 25% habitat conversion within 750 ft of high value pools. These guidelines are based on observations from southern New England that suggest a decline and/or loss of pool-breeding amphibian populations following development that departs significantly from these thresholds. MDIFW generally endorses these guidelines as a Best Management Practice for SVPs during all development projects. However, if the "Best Development Practices" cannot be followed for any SVP to be impacted by the SIIWP due to parcel constraints or project purpose, MDIFW recommended at a minimum no disturbance be permitted within the pool basin out to 100 ft from the pool edge, and that no more than 25% habitat conversion be permitted within 100 ft to 250 ft of the pool.

42. *U.S. Fish and Wildlife Service (USFWS).* The USFWS reviewed the application and offered the following comments and recommendations with respect to the federal wildlife laws. There are no federally listed threatened or endangered species in the development area. The development area is outside the Gulf of Maine Distinct Population Segment (DPS) of

Atlantic Salmon. The provisions and requirements of Sections 7, 9, and 10(a)(1)(B) of the Endangered Species Act (ESA) were summarized for reference. The definition of "take" under the ESA and of the term "disturb" under the Bald Eagle and Golden Eagle Protection Act (72 Federal Register, 31332, June 5, 2007) were referenced.

A. *Avian and bat monitoring.* USFWS stated that while wind energy is supported by the U.S. Department of the Interior, wildlife, in particular bats and migratory birds colliding with the turbine blades, can be adversely impacted by these projects. USFWS recommended consulting its policy and guidance on pre- and post- construction monitoring for wind energy development. USFWS noted that MDIFW advised no additional pre-construction bird and bat studies were needed because of the studies already done for the SWP, which did not show an unusually high risk to migratory birds or bats. USFWS concurred with the decision for this particular project, and looks forward to reviewing a more detailed scope of work for post-construction monitoring of the SIIWP.

B. *Bald Eagle.* There is an active Bald Eagle nest on Kittery Island in Upper Hot Brook Lake, approximately 1.3 miles from the closest proposed turbine. Although Bald Eagle was removed from the federal endangered species list on August 9, 2007, it is now protected under the Migratory Bird Treaty Act and the Bald Eagle and Golden Eagle Protection Act. The federal Bald Eagle management guidelines are voluntary and do not address wind energy development. However, wind energy development has the potential to affect this species, either by direct take of resident or transient birds, or by introducing new sources of disturbance. USFWS asserted that the effect of wind energy development on eagles (Bald and Golden) has been poorly studied, and recommended early and frequent consultation with USFWS to avoid take of eagles.

44. *Maine Public Utilities Commission (MPUC).* MPUC limited its comments to the areas of its expertise in this matter, in particular "the general state of the electric system in Maine and New England, the need for new diverse generation resources in the region, the characteristics of wind power as it relates to system stability and reliability, and tangible benefits as they relate to electricity prices." The following are excerpted and summarized from the comments submitted by MPUC:

A. *System reliability and stability.* Despite its intermittent nature, new wind capacity in Maine and New England adds to the reliability of the system. MPUC stated: "The addition of new diverse resources of varying size throughout the region is necessary to moderate [electricity] prices and improve the integrity of the system." "Although system reliability could be jeopardized if a large enough portion of the region's mix consisted of wind power, wind power development in the amounts expected to be developed in the [New England] region would not have a detrimental impact on the integrity of the system and, unless and until that point is reached, wind power development will improve the reliability of system by reducing reliance on natural gas generation."

B. *Tangible benefits.* The applicant's response to MPUC's comments with respect to tangible benefits is incorporated in Finding of Fact #32,E. MPUC commented:

(1) "Maine's Legislature has made the fundamental energy policy determination that wind energy project development such as the [SIIWP will provide] substantial energy and environmental benefits to the citizens of Maine."
(2) MPUC noted that the Maine Wind Energy Act (PL 2008, Chapter 661):
  (a) "Specifies that the [Commission] shall presume the general energy and environmental benefits stated in statute (*i.e.,* reduced reliance on fossil fuels, reduced emissions, and energy security) and make additional findings regarding other tangible benefits."
  (b) "States that the MPUC shall provide review comments at the request of the siting authority" with respect to tangible benefits as they relate to electricity prices.
  (c) "Specifies that the general energy and environmental benefits of a wind project should be assumed and do not constitute tangible benefits for purposes of satisfying the tangible benefit requirement."
(3) MPUC offered the following comments on the applicant's demonstration of tangible benefits:
  (a) "The energy diversity, Regional Greenhouse Gas Initiative, and Renewable Portfolio Standard benefits cited in the application should not be considered by the [Commission] in its consideration of the tangible benefits requirement.
  (b) "The statements made by the applicant regarding price volatility benefits to certain customers and the MPUC's long-term contract solicitation are too vague to constitute a significant tangible benefit."
  (c) MPUC questioned if "a reduction in price volatility by providing fixed priced long-term contracts should constitute a tangible benefit. Such a contract may provide just as much of a benefit to the developer as to the purchaser, because the developer would receive the value of a steady revenue stream."
(4) MPUC suggested the Commission "consider as an electricity market tangible benefit the sale of a significant amount of the output of the project to customers within the area or to the utility under the MPUC's long-term contracting authority at fixed prices projected to below market prices or at a stated discount off of market prices."

45. Maine Natural Areas Program (MNAP). MNAP reviewed their records for the development area and did not identify the presence of any rare botanical features.

Interested parties and request for public hearing

46. On January 21, 2009 the Commission voted to support the staff recommendation (5 to 1, with 1 Commissioner absent) to not hold the public hearing on the proposed SIIWP that was requested by a landowner on Upper Hot Brook Lake. Several other interested parties owning land on the lake expressed opposition to the project but did not specifically request a public hearing. The decision to not hold a public hearing was based on (a) the level of public interest to hold a hearing, and (b) that the hearing would not be likely to provide additional information necessary to make a decision on the proposal that would not otherwise be available through the review of the permit application.

47. *Interested parties in support.* Two local governments, one organization, three businesses, and one landowner expressed support for the SIIWP, noting the economic benefits for the downeast area of Maine in particular.

A. *Washington County Commissioners (WCC).* The WCC asserted that First Wind has been a good steward of the land and people, and that its projects are providing a vital investment for the people of Washington County and Maine. The WCC has had first-hand experience working with First Wind developing a Tax Incremental Funding program for the SWP, and that the agreement now in place has offered positive benefits to Washington County. The WCC anticipates working with First Wind to come to similar terms for the SIIWP, and will provide details of the agreement to LURC for the record. The WCC stated, "Having had the opportunity to share in the commissioning ceremony of the SWP on January 22, 2008, with Governor Baldacci, Representative McLeod and other community leaders, we are firm in our support for this project and would again urge LURC to take swift action in their review and approval of this project."

B. *Sunrise County Economic Council (SCEC).* SCEC provided a letter of support for the proposed SIIWP, stating that it encourages development of clean, renewable energy sources, especially in Maine. SCEC further stated that it has had a very positive experience working with First Wind as the SWP was developed, and have been impressed with First Wind as it injected $50 million into Maine's economy, and created a TIF)program bolstering and supporting Washington County's economic development efforts. SCEC believes the development of a competitive energy market will result in increased business development and a more varied economy.

C. *Lakeville Shores, Inc (LSI).* LSI expressed support for the proposed SIIWP, asserting that a public hearing was not warranted and that this project should be supported because its positive impacts far outweigh negative impacts. LSI is owned by the Haynes family, who have owned land and operated a timber harvesting company in Maine for more than 100 years.

(1) The proposed SIIWP is a continuation of the real-world multiple use approach implemented for the SWP and encouraged in the Commission's Comprehensive Land Use Plan, and will fit harmoniously with existing uses of the land. The proposal would result in benefits to the landowner by increasing the viability of its forest operations business, to the local economy by helping to ensure jobs for local people, and for Maine in terms of power generation using a renewable resource. In addition, LSI asserted that the SIIWP does not present a transmission congestion issue due to its size and integration with the SWP.

(2) LSI stated that the SIIWP will provide significant short-term and long-term economic benefits to the area of Maine it would be located in, and would help stabilize the local economy. Given the current economic recession in Maine and the nation, the jobs and income to be provided by this project are increasingly significant and cannot be ignored.

(3) Tangible benefits to be provided by the SIIWP include: construction and operation related employment, reduced property taxes, purchase of local goods and services, and natural resource conservation.

(4) Based on 77% of the development costs for the SWP being spent in Maine ($50 million of $65 million), the SIIWP would provide $25 million to the State's economy.
(5) LSI did not support holding a public hearing on the proposal for the SIIWP, noting that a public hearing had already been held for the SWP during which the concept of wind power in the area was thoroughly explored. The SIIWP proposal is consistent with the previously approved SWP. A public hearing would not bring new information to the table.

D. *Town of Danforth.* The Manager of the Town of Danforth commented in support of the proposed SIIWP, noting that public reaction to the project appears to be largely positive. The Town Manager also noted that the project is well placed, and would not highly impact a large population of people. While the SWP only resulted in a small decrease in local taxes due to the use of the trailer/lay-down/storage area in Danforth, the town was highly appreciative of the influx of business and traffic during construction. In addition, First Wind has developed and maintained a good relationship with the town, and has kept the Selectmen well informed, recognizing and using Danforth as the closest service center to the project. The Town of Danforth supports the proposal for the SIIWP, looks forward to having a continuing relationship with First Wind, and hopes that this project turns out as well as the SWP.

E. *Machias Savings Bank (MSB).* The MSB commented in support of the proposed SIIWP, stating that several of their customers in the local area (*i.e.*, restaurants, lodging, convenience stores, the construction crews, local landowners, etc) have directly benefited from the SWP. MSB further commented that the activity has helped off-set the effect of the weakness in the national economy.

48. *Interested parties in opposition.* The interested parties expressing opposition to the SIIWP cited their reasons for opposition, asserting that the proposed location of the SIIWP would "not be an appropriate site for an industrial wind farm". The landowner requesting the public hearing also asked that the review of the permit application be postponed until summer until the MPUC makes a determination about continuation with ISO-NE[14], and until many of the people who have camps on Upper and Lower Hot Brook Lakes will be in Maine. Those expressing opposition made the following assertions:

A. *Scenic impacts.* Because the closest turbines would be 1 to 2 miles from several camps on Upper Hot Brook Lake, the scenic character of the area will be adversely impacted. This would in turn adversely affect property values.

B. *Noise and shadow flicker impacts.* An excessive level of noise would be produced by the SIIWP. Upwind turbines, such as those proposed for the SIIWP, may cause disturbing, audible noise and bad health effects due to infrasound and shadow flicker effects.
(1) Water can magnify audible noise and low frequency or infrasound, and the recommended 1½ miles minimum set-back recommended by doctors for wind turbines over land should be increased when open water is involved. In summer,

[14] Report to Maine Public Utility Commission, Docket No. 2008-156, "Investigation of Maine Utilities Continued Participation in ISO-NE", Shanker, R.J., August 19, 2008.

winds from the southwest would blow noise (audible and infrasound) from the SIIWP turbines over Upper and Lower Hot Brook Lakes. Knowledge of the problems associated with infrasound comes from medical research. Two authorities were cited who asserted that medical problems can result from noise/infrasound and vibrations from current, upwind, three-bladed industrial wind turbines, including nausea, vertigo, hypertension and chronic sleep disturbances. One authority advised that "industrial wind turbines should be sited a minimum of 1½ miles away from homes, schools, hospitals, places of business, and anywhere else people regularly congregate."

(2) The interested party further asserted that the proposed SIIWP would be approximately one mile from a lake and could case shadow flicker and sunlight flicker impacts, which could case seizures in those using or living near the lake. Sun flicker would be picked up by and multiplied in the waves. A fisherperson could be caused to fall from his/her boat, or a child or elder sitting on the porch of a camp could have a seizure caused by the wind towers.

C. *Decreased property values and recreational impacts.* The SIIWP would result in decreased property values. The value of a home with 75 acres of land and considerable road frontage located 1,500 ft. from the Mars Hill wind turbines was recently appraised as diminished by 50%. The appraising assessor also stated that other properties near the Mars Hill wind power project were probably diminished in value by 25-35%. The majority of the property that would be devalued by the proposed SIIWP is in the Town of Danforth, which will receive no direct taxes from the applicant. Furthermore, any tax benefit to Danforth from the SIIWP would be overcome by the reduction of property taxes due to devaluation of the property values brought about by wind towers directly in the sunset view, amplified audible and low-frequency sound over water, sun flicker on the waves/water, and red blinking lights at night. In addition, recreational use of Upper and Lower Hot Brook Lakes would be adversely affected for the same reasons.

D. *Alternative analysis.* An alternative site analysis should be conducted. The proposed SIIWP location is not a good site for a wind energy development due to proximity to lakes and the resulting impacts to those using or living near the lake.

E. *Transmission line stability.* The question of transmission line stability was raised, quoting First Wind's Kurt Adams, "More study is needed to calculate how much wind power New England's transmission lines can handle." (BDN 1/15/09, *"If wind doesn't blow, blackouts roll"*). The assertion was made that power transmission for the SIIWP to southern Maine and New England had not yet been approved.

F. *Windpower will not decrease overall greenhouse gas emissions.* Even appropriately placed wind energy development cannot reduce greenhouse gases overall, but instead will increase CO_2 and global warming because of the need to provide back-up power typically supplied by fossil-fuel power generators that would have to be increased to avoid blackouts when the wind is not blowing.

49. *Applicant response to statements made by interested parties in opposition to the SIIWP.*

A. *Location.* The proposed location of the SIIWP is within the wind power expedited area and is consistent with State directives. In addition, the Commission found the adjacent area to be an acceptable location for a D-PD Subdistrict for the SWP.

B. *Sun/shadow flicker concerns.* Shadow flicker effects were modeled by the applicant using the standard software for determining such effects. The results showed that the most pronounced effects would extend up to 1,000 ft away from the turbines. As such, there would be little or no shadow flicker effect within 1,000 ft of the shore of Upper Hot Brook Lake or within 5,000 ft of Lower Hot Brook Lake, with the possible exception of one hour on one day each year when the shadow flicker effect could extend as far as Upper Hot Brook Lake (also see Finding of Fact #32,D for the applicant's demonstration with respect to shadow flicker).

C. *Health issues due to low frequency sound and infrasound.* The applicant responded that low frequency sound can be heard near the bottom of human perception (10 Hz to 200 Hz), and infrasound is below the common limit of human perception (below 20 Hz). Infrasound is always present in the environment to some degree as ambient air turbulence, traffic, aircraft, waves on the seashore, etc. Infrasound can be perceived by humans by non-auditory mechanisms such as vestibular balance system and resonant excitation of body cavities. The applicant asserted that concerns for infrasound due to wind turbines were a result of the old-style downwind-style turbines, which could produce impulsive sounds due to wakes arising from tower structural elements. The turbines proposed for the SIIWP are the modern style upwind turbines. Recent research has shown that infrasound is not a concern for the upwind style turbines (see Finding of Fact #32,B for the applicant's demonstration with respect to noise).

D. *Sound traveling across water.* The applicant cited the BEP's noise regulations as intending to provide adequate protection from noise that could degrade the health and welfare of nearby neighbors [06-096 CMR, chapter 375.10.A], and also includes a conservative nighttime limit of 45 dBA for quiet rural areas. The closest dwelling is 1.2 miles (6,100 ft) away from the proposed turbines. The noise analysis conducted by the applicant reported that sound levels at full operation of the SIIWP would be below the MDEP's nighttime limit of 45 dBA at all receiver points outside the parcel boundaries. The estimated noise levels were modeled conservatively by not factoring in the potential sound attenuation by foliage, by treating the surrounding ponds and lakes as reflective surfaces, and by adding 5 dBA to the manufacturer's specification to account for any uncertainties in the measurements (also see Finding of Fact #32,B for the applicant's demonstration with respect to noise).

E. *Property values.* The applicant cited a 2003 report released by the Renewable Energy Policy Project that looked at 25,000 properties within 5 miles of a commercial wind energy development, and found that property values do not appear to be adversely affected by the presence of a wind energy development. A 2006 study released by the Bard Center for Environmental Policy confirmed this finding. Finally, the applicant

asserted a real estate broker in Mars Hill recently stated since that facility has gone on-line, several new homes have been constructed less than one mile away, and that a 26 acre parcel on the west side of that mountain which sold for $16,000 in 2002 was resold in July of 2007 for $32,000.

F. *Tangible benefits.* While the Town of Danforth is not within the unorganized territories, the SIIWP will benefit the town indirectly from the tax payments that accrue to Washington County. Moreover, the community living in and around Danforth benefited from the SWP, and are expected to realize similar economic benefits from the SIIWP during the construction phase directly due to jobs provided (First Wind has hired locally when possible) and indirectly due to spending on services, etc (*e.g.,* restaurants, lodging, fuel, concrete supply) in the local area. The applicant noted the example of the SWP, where, of the $65 million spent for construction, engineering, and development services, $50 million was spent in Maine (also see Finding of Fact #32,E for the applicant's demonstration with respect to tangible benefits).

50. *Public notice and access to the application.* The public was notified of the filing of the application, the time period for requesting a public hearing, and provided access to the application materials as follows:

A. *Public outreach prior to filing.*
(1) August 27, 2008: First Wind hosted a Tour of the Stetson Wind Project. A postcard was mailed out to 54 parties owning land on Lower and Upper Hot Brook Lake. Seventeen people attended.
(2) September 25, 2008: A public meeting was held at the Danforth Town Office. A poster was displayed at the Danforth Town Office and the following area businesses: The Millyard, Cornerstone Inn and Family Restaurant, Dave's Hardware, Kinney's Garage/Gas Station, Knights Restaurant, and the Yankee Grocery.

B. *Notices of filing and time period for requesting a public hearing.*
(1) November 12, 2008: Notice of Intent to file was published in the Bangor Daily News and in the Houlton Pioneer Times
(2) November 13, 2008: A revised Notice of Intent to File clarifying the time period for requesting a public hearing was mailed to the 54 landowners.
(3) The revised notice was published in the Bangor Daily News on November 15, 2008, and the Houlton Pioneer Times on November 19, 2008.
(4) November 26, 2008. A Notice of Completeness for Processing was mailed to the 54 landowners. Based on the date of accepting the application as complete (November 25, 2008), the deadline for submitting requests for public hearing was December 9, 2008.

C. In addition to being made available for public inspection at the LURC Augusta office, the permit application was placed in the LURC regional offices in East Millinocket and Bangor, the Washington County Commissioners Office in Machias, and placed on LURC's website.

Conclusions

Based on the above Findings, the Commission concludes:

1. The proposal for the SIIWP meets the provisions of Title12, §685,B(2-C), §685 (4) and §685 (4-B), the Commission's criteria for approval of development (including specifically the provisions for approval of wind energy development), and the relevant provisions of PL 2008, Chapter 661 for wind energy development in an area of LURC's jurisdiction designated for expedited permitting. The supporting details are presented in Conclusions #2 through #15, below.

2. The proposed SIIWP would meet the provisions of Public Law 2008, Chapter 661. The proposal for the SIIWP is subject to review for consistency with the provisions of PL 2008, Chapter 661, which was signed into law and became effective on April 18, 2008. The permit application for the SIIWP was accepted for processing after the effective date of Chapter 661 and after the Commission granted approval for its Chapter 10 rules promulgated pursuant to Chapter 661. Chapter 661 amended Title 12, sections 685(B)(2-C), (4) and (4-B), regarding the review and approval of wind energy development.

3. *PL 2008, Chapter 661 (LD 2283 - "An Act to Implement Recommendations of the Governor's Task Force on Wind Power Development").* [Note: See Appendix A for the full text of the relevant sections of PL 2008, Chapter 661 and definitions (defined terms are underlined).]

   A. *Expedited permitting of wind energy development.* PL 2008, Chapter 661 designated certain areas of Maine for expedited permitting of wind energy development (as defined in Title 35-A, §3451(11)), and that such development is a use allowed with a permit in all subdistricts. The proposed SIIWP meets the definition of an expedited, or "grid-scale" wind energy development, as defined in Title 35-A, §3451(4) and §3451(6).
      (1) The proposed SIIWP would be located in T8 R4 NBPP, Washington County, which is included in the area of LURC's jurisdiction designated by Section C-6 of Chapter 661 for expedited permitting of wind energy development.
      (2) Wind energy development, including associated facilities, is a use allowed with a permit in (M-GN) General Management, (P-SL) Shoreland Protection, and (P-WL) Wetland Protection Subdistricts that are located within the areas of LURC's jurisdiction designated for expedited permitting.

   B. Section C-6 of PL 2008 Chapter 661 directed the Commission to "adopt a rule amending its land use districts and standards to provide that grid-scale wind energy development as defined in the Maine Revised Statutes, Title 35-A, §3451 is a use requiring a permit, but not a special exception, in all districts or subdistricts located within the expedited permitting area designated pursuant to this section, subject to permitting by the Maine Land Use Regulation Commission or Department of Environmental Protection in accordance with this Act and other applicable law."[15] On October 1, 2008, the Commission approved the rule change.

[15] Section C-6(4) of PL 2008 Chapter 661 further provided: "*Transition; establishment of expedited permitting area and permitted use prior to rulemaking.* Notwithstanding any other provision of law, prior to the Maine Land Use

C. Section B-13 of Chapter 661 directed MDEP and LURC to jointly specify the following submission requirements for applications for wind energy development in accordance with the provisions of that law and the recommendations of the February 2008 final report of the *Governor's Task Force on Wind Power Development in Maine.* In addition, Title 12, § 685-B(4) and (4-B) establishes the criteria for items (1) through (4):
(1) Effects on scenic character and existing uses related to scenic character;
(2) Noise and shadow flicker effects;
(3) Public-safety related setbacks;
(4) Tangible benefits, including post-construction reporting of tangible benefits realized;
(5) Effects on avian and bat species; and
(6) Decommissioning.

These submission requirements are addressed below in Conclusions #3 through #6.

4. *Evaluation of effects on scenic character [Title 12, § 685-B(4)C and Title 35-A, chapter 34-A, § 3452].* The Commission's criteria for approval for an expedited wind energy development in Title 12, § 685-B(4)(C), pursuant to PL 2008, Chapter 661 states: "In making a determination under this paragraph regarding an expedited wind energy development, as defined in Title 35-A, § 3451, subsection 4, the Commission shall consider the development's effects on scenic character and existing uses related to scenic character in accordance with Title 35-A, § 3452."

A. Title 35-A, chapter 34-A, §3452 states that when "making findings on the effect of an expedited wind energy development on scenic character and existing uses related to scenic character, [the Commission] shall determine"... "whether the development significantly compromises the views from scenic resources of state or national significance (hereinafter referred to as 'scenic resources') such that the development has an unreasonable adverse effect on the scenic character or existing uses related to the scenic character of the [scenic resource]." The determination by the Commission under this section also includes the associated facilities of the expedited wind energy development, unless otherwise requested by an interested party.

B. Title 35-A, chapter 34-A, § 3452(3) further requires that when making a determination on impacts of an expedited wind energy development on scenic character, the Commission shall consider the following:
(1) "The significance of the potentially affected [scenic resource];
(2) The existing character of the surrounding area;
(3) The expectations of the typical viewer;

Regulation Commission's adoption of the rules required by this section, the portion of expedited permitting area located in the State's unorganized and deorganized areas consists of the lands and state waters specified in this section and an expedited wind energy development, as defined in Title 35-A, section 3451, subsection 4, is a use requiring a permit, but not a special exception, subject to permitting by the Maine Land Use Regulation Commission or Department of Environmental Protection in accordance with this Act and other applicable law, in all districts and subdistricts located within the expedited permitting area."

(4) The expedited wind energy development's purpose and the context of the proposed activity;
(5) The extent, nature and duration of the potentially affected public uses of the [scenic resource] and the potential effect of the generating facilities' presence of the public's continued use and enjoyment of the [scenic resource]; and
(6) The scope and scale of the potential effect of views of the generating facilities on the [scenic resource], including but not limited to issues related to the number and extent of the turbines visible from the [scenic resource], the distance from the [scenic resource], and the effect of prominent features of the development on the landscape."

C. Title 35-A, § 3452(3) and (4) also states that "a finding by [the Commission] that the generating facilities are a highly visible feature in the landscape is not a solely sufficient basis for determination that an expedited wind energy development has an unreasonable adverse effect on the scenic character and existing uses related to scenic character of a [scenic resource]." The effects of portions of the developments facilities located more than 8 miles from a [scenic resource] shall be considered to be insignificant. A visual assessment is not generally required for the portions of the wind energy development located from 3 to 8 miles from [scenic resources], but may be required if it is requested by an interested party and determined to be necessary by [the Commission]."

D. *Project assessment.* The applicant conducted a scenic assessment in accordance with Title 35-A, chapter 34-A, § 3452 of scenic resources of state or national significance (Title 35-A, § 3451(9)) within 8 miles of the proposed SIIWP.
(1) There are no scenic resources of state or national significance located within 3 miles of the proposed SIIWP.
(2) Within 8 miles of the proposed turbine locations, there are two viewpoints designated by Chapter 661 as scenic resources of state or national significance.
(a) The view of the SIIWP along the Million Dollar View Scenic Byway would be at a distance of 6.7 miles where the tops of eleven turbines would be visible. At this distance, the turbines would not block or interfere with the view and would not significantly alter the scenic character of the area.
(b) The Union Hall in Danforth, which is on the National Register of Historic Places, is located 5 miles from the closest turbine site. However, the SIIWP would not be visible from this location. MHPC determined that there would not be an impact to this historic resource (see Finding of Fact #39).
(3) Neither Upper nor Lower Hot Brook Lake is rated in LURC's "Wildland Lakes Assessment" as having outstanding or significant scenic resources, and as such are not scenic resources of state or national significance.
(4) The visual impact to any scenic resources of state or national significance located from 3 miles to 8 miles from the proposed turbine sites would not be significant due to distance and the intermittent and partial nature of the views due to the intervening topography. Due to the limited nature of the views of the SIIWP and distance, the proposed turbines would not have a significant affect on the public's continued use and enjoyment of the scenic resources of state or national significance located within 8 miles of the project.

5. Chapter 661 also amended LURC's statute, Title 12, § 685-B(4-B) to require that wind energy development meet the MDEP's noise control rules, be designed to avoid undue adverse shadow flicker effects, be constructed with setbacks to protect public safety, and provide significant tangible benefits. The proposal for the SIIWP meets the criteria of Title 12, § 685-B(4-B).

   A. *Noise [Title 12, § 685-B(4-B)A].* The applicant conducted a noise analysis to determine the expected noise levels to be produced by routine operation of the SIIWP, and compared them with MDEP's noise standards (reference Title 38, chapter 3, subchapter 1, article 6).

      (1) The MDEP's rules regarding noise levels state that the noise level during operation must be no more than 45 dBA at the nearest quiet protected location (in this case, the camps on Upper Hot Brook Lake), and 75 dBA at the project parcel boundary. The predicted sound level of the SIIWP during full operation at the nearest quiet protected location was estimated to be 38 dBA, which is below the MDEP limit of 45 dBA. At the project's parcel boundary the predicted sound level would be 41 dBA, which is considerably lower than the MDEP limit of 75 dBA. In estimating the predicted noise levels, the applicant conservatively added 5dBA to the predicted levels, calculated for sound traveling across a reflective surface (in this case the lake surface), and did not factor in a mitigating effect due to foliage.

      (2) The applicant also monitored pre-construction ambient sounds.

      (3) The MDEP's noise regulations exempt noise produced during construction between 7 am and 7 pm. For the SIIWP, most construction would occur between 7 am and 7 pm, except during periods of rotor installation when nighttime work may be necessary. Any construction activities taking place from 7 pm to 7 am must not exceed the limits set for routine operation.

      (4) The Commission concludes that the applicant's pre- construction sound monitoring indicates that the sound produced by the SIIWP during construction and operation of the generating facility would meet the provisions of MDEP's noise standards. The Commission also concludes that the applicant has provided sufficient evidence that any infrasound produced by the SIIWP would not be likely to cause an adverse health effect on the people living on or using Upper and Lower Hot Brook Lakes because of the type of turbine to be used and distance.

      (5) However, post-construction sound monitoring must be conducted to assure that the sound level estimates accurately represent the actual sound levels during operation at the nearest quiet protected locations. The applicant must prepare and submit to LURC staff for review and approval a proposal for such sound monitoring prior to the SIIWP becoming operational. The results of the sound monitoring must be reported to the LURC staff quarterly for the first year of operation, after which time the results will be reviewed by LURC staff to determine if any mitigation of sound is necessary, and whether the monitoring must be continued.

      (6) The Commission also concludes that during routine operation, at the parcel boundaries the sound level must not exceed 75 dBA, and at the nearest protected location must not exceed 45 dBA, except as noted below. If the sound level at the parcel boundaries during operation exceeds 75 dBA, or at the nearest quiet protected location exceeds 45 dBA, the applicant must propose remedial measures for review

and approval. All sound produced by the proposed SIIWP during routine operation must meet the provisions of MDEP's rules for the "Control of Noise, Sound Level Limits" (reference MDEP 06-096, Chapter 375.10.C) (see Appendix A, attached).

(7) The Commission further concludes that during construction, from 7 am to 7 pm, sound levels must meet the provisions of MDEP's rules for the "Control of Noise, Sound Level Limits". From 7 pm to 7 am (nighttime) during construction, sound levels must not exceed 75 dBA at the parcel boundaries and 45 dBA at the nearest quiet protected location, except as needed for safety signals, warning devices, emergency pressure relief values, other emergency activities, and traffic on roadways (reference MDEP 06-096, Chapter 375.10.C) (see Appendix A, attached).

B. *Shadow flicker [Title 12, § 685-B(4-B)B].* The applicant modeled the shadow flicker effects expected to be produced by the proposed SIIWP using an industry standard methodology, the WindPro software. The assessment mapped the extent of shadow flicker effects, showing that all receptors are located more than 1,000 meters from the closest turbine, and are not likely to be adversely affected. The distance of 1,000 meters has been established as the distance beyond which shadow flicker typically does not cause an effect. The assessment showed that the maximum extent for shadow flicker effects due to the SIIWP would not reach either Upper or Lower Hot Brook Lake. The Commission concludes that the applicant has demonstrated SIIWP was designed to avoid undue adverse shadow flicker effects in accordance with § 685-B(4-B)B.

C. *Public safety related setbacks [Title 12, § 685-B(4-B)C].* To meet the provisions of Title 12, § 685-B(4-B)C, the turbines must be set back from the property (*i.e.* the "parcel") boundary a distance sufficient to provide for public safety. All of the proposed turbines would be set back more than 1.5 times the turbine height from the parcel boundary and from the portion of the Jimmey Mountain road (aka Eight Mile Road) connecting Route 169 to Route 171. LURC and MDEP's windpower permitting guidance document (see Appendix A, item D, attached) recommends a setback of 1.5 the turbine height, which is also an industry standard. In the case of the proposed SIIWP, 1.5 times the turbine height would be 584 ft, based on a maximum turbine height of 389 ft. at the upward extended tip of the blade. The Commission concludes the setbacks for the proposed turbines are adequate to protect public safety.

(1) The land surrounding the portion of the parcel where the turbines would be located is used primarily for forest management and for primitive recreation such as hunting. As such, there is a low potential for public safety concerns at this site.

(2) The applicant submitted design specifications showing that the GE 1.5 MW sle turbines to be used for the SIIWP include over-speed control to shut down the turbines when wind speeds are very high. High winds can put undue stress on the tower and blades. In rare instances where earlier turbine designs lacking such controls were used, high winds caused a turbine to fall over.

D. *Tangible benefits, Title 12, § 685-B(4-B)D and Title 35-A, § 3454].* Title 12, § 685-B(4-B)D requires that an expedited (*i.e.,* "grid-scale") wind energy development provide significant tangle benefits. Tangible benefits are defined as including "environmental or economic improvements attributable to the construction, operation, and maintenance of a

wind energy development, including but not limited to: construction related employment, local purchase of materials, employment in operations and maintenance, reduced property taxes, reduced electrical rates, and natural resource conservation" (reference Appendix A of this document, for the full definition). In addition, Chapter 661 also revised the Commission's criteria for approval of development in Title 12, § 685-B(4), as follows (emphasis added): "The burden is upon the applicant to demonstrate by substantial evidence that the criteria for approval are satisfied, and that the public's health, safety and general welfare will be adequately protected. Except as otherwise provided in Title 35-A, § 3454, the Commission shall permit the applicant and other parties to provide evidence on the economic benefits of the proposal as well as the impact of the proposal on energy resources."

(1) The applicant submitted evidence showing that the proposed SIIWP would provide significant tangible benefits to the State of Maine and to the area in which it would be located. Citing the examples of First Wind's Mars Hill and SWP projects, the economic benefits from the jobs created during the planning, design, and construction stages of those projects by using primarily Maine companies proved to be significant. In the case of the SWP, of $65 million spent on construction, engineering and development, $50 million was spent in Maine. The applicant further stated that it is its practice to use Maine companies, and provided a list of the Maine companies that have already benefited from First Wind's projects. The Commission concludes that comparable tangible benefits to the people of the State, in particular the host community, would result from the SIIWP.

(2) The property taxes, whether paid entirely to the State General Fund, or in part realized by Washington County through a Tax Incremental Funding (TIF) program, will also be significant. For First Wind's Mars Hill project, the taxes in 2008 were $0.5 million.

(3) In the case of the SWP, the TIF program established with Washington County has been extremely successful and both the applicant and the County Commissioners are planning to pursue a similar arrangement for the proposed SIIWP. The County Commissioners, the Town of Danforth, the Sunrise County Economic Council, and the Machias Savings Bank stated that the benefits of the TIF program have been significant, and that the SWP has also provided other significant economic benefits in the form of jobs and services. While anecdotal evidence was presented by interested parties that property values of land surrounding Upper and Lower Hot Brook Lakes may decrease, similar evidence was provided by the applicant that the SIIWP may not have an undue adverse effect on property values.

(4) The Commission concludes that the SIIWP will provide significant economic benefits to the area in which it is located as well as to Washington County, and the people of Maine, similar to the benefits provided by the Mars Hill project and the SWP. The applicant has met the burden of proof that significant tangible benefits would be provided to the host community and the people of Maine by the SIIWP.

(5) The Commission also concludes that the applicant must provide a report to the Commission annually for the first two years of operation on the project's contribution to the State's economic, environmental and energy policies. The applicant's annual reports must include, but not be limited to, the total megawatt hours of generation during the year, calculation of avoided emissions resulting from operation of the

project, companies used during construction, the number of Maine residents hired, total dollars spent in Maine during construction, the progress of any TIF program established, and property taxes to be paid to the State.

6. *Avian and bat monitoring [Chapter 661, Section B-13, subsection 4].* The applicant did not conduct separate pre-construction avian and bat monitoring for the SIIWP because avian and bat monitoring was conducted for the SWP in accordance with the protocol recommended by MDIFW, and the SWP is immediately adjacent to the proposed SIIWP. The applicant has proposed a post-construction monitoring plan for the SIIWP, and plans to consultation with MDIFW and USFWS to assure that those agencies' concerns are addressed.

   A. The pre-construction avian and bat monitoring conducted by First Wind for the SWP established that the operation of that generating facility is expected to have a low potential to cause an undue level of avian or bat mortality. Because the proposed SIIWP would be located directly adjacent to the SWP, and is within the same area assessed by the SWP pre-construction surveys, both MDIFW and USFWS concurred with the applicant's assertion that the SWP pre-construction monitoring provides sufficient information to assess the potential for avian and bat mortality presented by the SIIWP. However, as recommended by MDIFW and USFWS, the applicant must monitor the SIIWP site for avian and bat mortality during operation, and report to LURC staff, MDFIW, and USFWS the results of such monitoring annually for review.

   B. With respect to the potential for impacts to Bald Eagle, the development area does not contain habitat likely to support state or federally listed animal species. However, an active Bald Eagle nest is located on Kittery Island in Upper Hot Brook Lake, 1.3 miles from the development area. MDIFW and USFWS provided review comments with respect to Bald Eagle (see Findings of Fact #41 and #42).
      (1) *Federal.* Bald Eagle was federally de-listed in 2007 and its status is now Threatened" rather than "Endangered". As such, the Bald Eagle is now protected under the federal Migratory Bird Act and the Golden Eagle and Bald Eagle Protection Act rather than the Endangered Species Act. USFWS advised that the SIIWP take into consideration the federal guidelines for management of Bald Eagle when siting, constructing and operating the SIIWP. In response, the applicant stated it has consulted the USFWS Bald Eagle Management Guidelines and has consulted with USFWS staff.
      (2) *State.* MDIFW recommended that blasting or heavy construction work for the roads and turbines should be minimized during the nesting season period from February 1st to August 31st, and that the USFWS Bald Eagle Management Guidelines should be consulted. MDIFW further recommended that no disturbance occur within 1,320 ft. of the eagle's nest. No part of the proposed SIIWP would be located within 1,320 ft. of the nest, and the closest blasting or heavy construction work would be approximately one mile from the nest, with the closest turbine being 7,000 ft from the nest.

   C. Neither MDIFW nor USFWS expressed a specific concern for an undue adverse impact to wading bird and waterfowl as a result of the SIIWP. USFWS offered a general

statement noting that all wind power development has the potential to adversely impact birds and bats.

D. *Avian and bat mortality monitoring.* The post-construction avian and bat monitoring and reporting proposed for the SWP was reviewed by the MDIFW. During its deliberations of Zoning Petition ZP 713, the Commission found the plan to be acceptable, but concluded that there should be continued coordination with MDIFW regarding the avian and bat mortality monitoring and that an annual report must be submitted to the Commission for review. Recognizing that the post-construction monitoring for the SIIWP will be conducted in conjunction with the SWP monitoring, the same conclusions apply. The applicant should consult more often than annually with MDIFW and LURC staff on the avian and bat impacts to determine if remedial measures are needed. After the first three years of post-construction monitoring, LURC staff and MDIFW may review the cumulative results to determine if changes in the level of monitoring are necessary.

7. *Decommissioning [Chapter 661, section B-13, subsection 6].* The applicant submitted a decommissioning plan for the proposed SIIWP, including a general mechanism for financing. The plan demonstrates current financial capacity and future financial capacity that would be unaffected by the applicant's future financial condition to fully fund the decommissioning costs. Specifically, the applicant submitted a detailed decommissioning plan, a plan to provide for funds to cover the costs of the decommissioning including a periodic review and update of the amount in the decommissioning fund, and a time period and provisions regarding contacting the Commission if the project has ceased to generate electricity. The proposed plan is similar to the plan approved for the SWP, except that the applicant has prepared a more detailed description of the decommissioning, which eliminates the need for a permit condition to require a detailed plan to be submitted to the Commission within 60 days of it being notified the project has ceased to produce electricity as it was for the SWP. The decommissioning plan proposed by the applicant is appropriate and sufficient for this project at this time, given the uncertainty of whether decommissioning will eventually be necessary, and if so, the 15 to 20 year period until such decisions would need to be made.

8. The proposal meets the criteria for approval of development in Title 12, § 685-B(4). Specifically:

   A. "Financial and technical capacity" (see Conclusion #9,A, below);

   B. "Loading, parking, and circulation of traffic in, on, and from the site, and the project will not will not cause congestion or unsafe conditions on existing or proposed transportation arteries or methods" (see Conclusion #9,B, below);

   C. "In making a determination under this paragraph regarding an expedited wind energy development, as defined in Title 35-A, § 3451, subsection 4, the Commission shall consider the development's effects on scenic character and existing uses related to scenic character in accordance with Title 35-A, § 3452" (see Conclusion #4, above);

D. "The proposal will not cause unreasonable soil erosion or reduction in the capacity of the land to absorb and hold water and suitable soils are available for a sewage disposal system if sewage is to be disposed on-site; and" (see Conclusion #9,E, below);

E. "The proposal is otherwise in conformance with [Title 12, chapter 206-A], and the regulations, standards, and plans adopted pursuant thereto."

"The burden is upon the applicant to demonstrate by substantial evidence that the criteria for approval are satisfied, and that the public's health, safety and general welfare will be adequately protected. Except as otherwise provided in Title 35-A, § 3454, the Commission shall permit the applicant and other parties to provide evidence on the economic benefits of the proposal as well as the impact of the proposal on energy resources" (see Conclusion #5,D, above).

9. The proposal meets the standards of the relevant sections of §10.25 of the Commission's Land Use Districts and Standards. Specifically:

A. *Section 10.25,C - Financial and technical capacity.*
(1) The applicant demonstrated adequate financial capacity to construct and operate the proposed SIIWP by submitting evidence of a commitment to fund the project from First Wind in the form of a letter from the company president stating that funding would be provided for the development and operation of the project. The applicant also supplied supporting evidence of the company's assets as of July 2008 (see Conclusion #7 above).
(2) The applicant demonstrated adequate technical capacity to construct and operate the proposed SIIWP by supplying summaries and resumes for its key personnel and consultants that show the appropriate background and experience. In addition, the parent company, First Wind, has experience in developing and siting other wind energy developments in Maine.

B. *Section 10.25,D – Vehicle circulation, access, and parking.* The proposed parking, access routes, and circulation of traffic associated with the development area meet the provisions for avoiding congestion and safeguarding against hazards along existing roadways and within the development area, provided the applicant obtains all necessary permits from the MDOT, MBMV, and Washington County, such as road opening and entrance permits, and abides by the terms of those permits, and adheres to all road posting requirements or obtains exemptions. The applicant is responsible to assure that there is adequate site distance for construction vehicles leaving or entering the site onto public roads, and that the heavy equipment coming to and leaving the site does not cause an unsafe traffic condition or congestion. Safe traffic conditions must be maintained by the use of informational signs, clearing to ensure site distance if needed, or other measures as recommended by MDOT.

C. *Section 10.25,E,2 and 3 – Natural and historic features*
(1) *Natural features* (see Conclusion #6, above, for a discussion of avian and bat monitoring, including the Bald Eagle). The proposed SIIWP would have a low

potential to cause an undue adverse impact to natural features in the development area. The habitat and species present in the development area are common in Maine, and any impacts to habitat that would occur as a result of the SIIWP would not be undue. In addition, the applicant has assessed, and made provisions to avoid or minimize impacts to any State or federally listed animal species known to be living near, but not within, the development area that potentially could be affected by the project. The Commission concludes that to the extent possible, the project has been designed to avoid or minimize impacts to sensitive areas and natural features and resources.

(a) Because the development area has already been fragmented by land management roads and impacted by on-going timber harvesting, the SIIWP would not constitute a significant increase in the level of habitat disturbance at the development area in the long-term.

(b) The applicant and MNAP found that there are no federally listed or State listed S1 or S2 plants or natural communities within the development area

(c) *Yellow Lampmussel.* If carried out according to the specifications on the engineered plans (adjusted as prescribed by the State Soil Scientist); additional erosion control measures are employed at specific potentially sensitive sites to assure protection of the Yellow Lampmussel habitat; and a pre-construction site-specific survey is conducted in any stream area containing Yellow Lampmussel habitat to be affected (with mitigation proposed and carried out if the species is present prior to construction), the proposed project would have a low potential to cause an undue adverse impact to this species.

(d) *Vernal pools.* The applicant's proposal for limiting the amount of disturbance of the 250 ft wide habitat area surrounding the one verified significant vernal pool and the other possible significant vernal pool is consistent with recommendations made by MDIFW with respect to not impacting the pool or the habitat within 100 ft of the pool. MDIFW's recommendation that no more than 25% of the habitat within 250 ft of the pool be disturbed would not be met, but because the road is an existing disturbance, the extent of disturbance has been minimized to the extent possible, and the area proposed to be disturbed for the utility line corridor would remain vegetated with shrub vegetation, there would not be an undue adverse impact to these pools (see Findings of Fact #35,H and #41,D). The possible significant vernal pool (PVP 02dk) should be surveyed in the spring of 2009 to establish if it is significant. Lacking such assessment, this vernal pool must continue to be treated as significant.

(2) *Historic and archaeological resources.* The archaeological and historic reports submitted by the applicant for the development area showed that no resources would be disturbed by the project. MHPC reviewed the reports and concurred that no disturbance would take place and that no historic or archaeological resources would be impacted. Based on the survey work completed by the applicant and the review by MHPC, the Commission concludes that the proposed SIIWP will not have an undue adverse impact on historic or archaeological resources.

D. *Section 10.25,F,2 - Lighting.* The lighting proposed by the applicant would meet the provisions of Section 10.25,F,2 of the Commission's Land Use Districts and Standards.

(1) The turbine lighting plan has been reviewed and approved by the FAA. The Commission concludes that the FAA required lighting plan is necessary for aviation safety, that the plan takes into account the lessening of potential for avian impacts, and that the amount of lighting to be used has been minimized to the extent possible. All recommendations made by FAA must be followed.

(2) The applicant proposes external lighting at the base of each turbine at the maintenance entrance that would be motion sensitive or manually controlled. Lighting that is activated by motion sensors is exempt from the Commission's lighting standards under Section 10.25, F,2,a through d. If the applicant installs manually controlled exterior lighting, it must be full cut-off, be designed, located, installed and directed so as to illuminate only the target area, and be turned off after business hours.

(3) Some nighttime lighting is proposed during construction because tower installation (in particular the rotor installation) is dependant on favorable wind conditions. The lights proposed for nighttime work would be three trailer-mounted portable flood lights per turbine location, with no more than two turbines being erected at any one time. The Commission concludes that nighttime lighting may be necessary to construct the turbines, but that the periods of nighttime lighting must be no longer than necessary to take advantage of favorable weather conditions. The lighting must be limited to the construction area so that nuisance lighting of adjacent areas would be minimized.

(4) The proposed temporary security lighting at the site entrance at the junction of Route 169 and the Jimmey Mountain road is necessary, given the nature of the project and the need to post security personnel during construction. This lighting must be limited to the area immediately surrounding the entrance, and must be directed downward. In addition, any lighting used for the temporary trailers and parking area within the loop road must comply with Section 10.25,F,2 of the Commission's Land Use Districts and Standards.

E. *Section 10.25,G - Soil suitability.* The applicant conducted a Class C Medium Intensity soils survey throughout the development area, which showed that the soils in the development area are suitable for the proposed development.

F. *Section 10.25,H - Solid waste disposal.* The applicant has made adequate provision for disposal for site-generated construction debris and solid waste. The general contractor will handle the solid waste removal during construction. Waste concrete material must either be used for fill for the road and turbine pads or removed from the site, and concrete truck wash-down must be contained within each turbine pad and not allowed to flow into waterbodies. Any stumps created by clearing must be ground and used on-site in erosion control mix, buried in place within roads or turbine pads, or disposed of at the proposed one acre stump dump. After construction, any solid waste generated by the SIIWP must be disposed of at the SWP O&M building or otherwise disposed of in accordance with Maine's Solid Waste Disposal laws.

G. *Section 10.25, K – Phosphorus control.* The applicant consulted MDEP concerning the control of phosphorous loading within the two watersheds receiving runoff from the project. MDEP advised the applicant that the State's phosphorous loading regulations

could generally be met through the use of vegetated buffers along 75% of the project roads, and the applicant subsequently proposed to treat 80% of the roads with buffers. The applicant must use forested buffers that would meet the MDEP's Best Management Practices (BMPs) for the General Stormwater Standards pursuant to the State's Stormwater Management Rules (Chapter 500) along at least 75% of all project roads, and must use a 75 ft wide forested buffer around all P-WL1 wetlands, including streams. In addition, to assure that State's phosphorus loading guidelines are being met, prior to construction the applicant should consult with MDEP regarding buffers along specific features such as where the roads would be super-elevated or located along slopes. The proposed buffers, employed in conjunction with the MDEP's BMPs for the General Stormwater Standards and consultation with MDEP as needed will adequately control phosphorus runoff from this site.

H. *Section 10.25,M – Erosion/sedimentation and stormwater control plan (E/S Plan).* The applicant has made adequate provision for controlling erosion and sedimentation, and stormwater leaving the development area. The applicant developed an E/S Plan which identifies BMPs to minimize and control soil erosion, including but not limited to silt fencing, erosion control mix, "rock sandwich" road design, and buffers. The detailed plans for these measures includes specifications identifying appropriate BMPs for various soil and environmental conditions, explains the basis for their use, and provides details for their installation. The BMPs are located on the engineered plans for the project, which allows them to be easily accessed by the contractor during construction.

(1) The "rock sandwich" road design, as recommended by the Maine State Soil Scientist, must be used to minimize the impacts to the subsurface hydrology in areas where there are groundwater seeps or other hydrologic conditions that warrant its application. The applicant made several adjustments to the E/S Plan that were identified by the Maine State Soil Scientist. A copy of the revised engineered plans must be submitted to LURC staff prior to sending them out for bid (see Finding of Fact #37).

(2) The various erosion control and engineering design measures to be employed, as shown on the engineered plans, and adjusted as needed during construction using the "toolbox" approach, in conjunction with on-site recommendations made by a licensed engineer familiar with the project, will adequately protect the water quality of surface waters within and near the site. However, because of the sensitivity of the habitat in Hot Brook and Upper Hot Brook Lake in certain areas likely to support the protected Yellow Lampmussel, the applicant must employ additional erosion and sedimentation control measures in any portion of the development area where runoff is likely to affect such habitat.

(3) *Acid drainage.* The applicant has made adequate provision to monitor and mitigate any acidic runoff from the use of the crushed sulfidic rock by testing the bedrock before using it as fill; testing the water quality of receiving streams and wetlands, and seepages; using non-acidic material to the extent possible; and providing for measures to be employed that would adequate control the runoff. When the geotechnical testing has been completed and the final acid rock management and mitigation plan for the SIIWP competed, within 30 days of completion the report must be submitted to LURC staff for review and approval. Prior to finalization of a site-specific plan for

the SIIWP, the applicant must employ the plan approved for the SWP for testing, managing and mitigating acid rock within the development area (see Findings of Fact #28 and #38,B).

(4) *Third-party inspection.* In accordance with Section 10.25,M,4,a of the Commission's Land Use Districts and Standards, third party on-site inspections of erosion and storm water control measures, and any remedial measures taken, must be implemented when the ground is frozen, saturated, or the area disturbed by the project would be one acre or more. The applicant submitted a proposed third-party inspection plan that meets the requirements of Section 10.25,M,4 of the Commission's Land Use Districts and Standards (see Finding of Fact #31). The name of the individual or firm selected by the applicant for third-party inspection must be submitted to LURC staff for review and approval.

(5) *Re-vegetation monitoring.* To assure that re-vegetation of the site has been completed as proposed, on-site inspections of re-vegetation and remedial measures taken must be recorded and reported to LURC staff bi-annually for the first year of operation, and annually thereafter until all disturbed areas have achieved 85% vegetation cover, with the exception of roads, parking areas, and open portions of the turbine pads. Any substantial changes to the re-vegetation plans as proposed must be submitted to LURC staff for review and approval.

(6) All monitoring of post-construction erosion/sedimentation and storm water control measures, and subsequent reporting to LURC staff, are the responsibility of the applicant. All monitoring and inspection reports must be kept on-site for a three year period after the facility becomes operational. Once the areas of exposed soils at the site are 85% re-vegetated, excluding roads and other areas that have been identified to remain unvegetated, the applicant must re-assess the project to assure that additional monitoring and reporting are not necessary, and report its determinations to LURC staff for review and approval.

I. *Section 10.25,P – Wetland alterations.* The applicant delineated all wetlands within the development area, and designed the proposed SIIWP to avoid filling of wetlands. In particular, the existing segment of the Jimmey Mountain road between Owl Mountain and Jimmey Mountain would not be expanded to the 32 ft. width needed to accommodate moving the cranes between the two turbine areas in part because of an abundance of wetlands along this segment of the existing road. Instead, the applicant has proposed to break down the crane and move it by truck between the two turbine areas.

(1) The definition of "alteration" includes removal of vegetation (reference Section 10.02(6) of the Commission's Land Use Districts and Standards) in the context of "removing or displacing soil, sand, vegetation or other material", and also explains that the term "alteration" may not include an activity disturbing very little soil. What constitutes an "alteration" for the purposes of the wetland alteration standards refers to the complete removal of vegetation, but not to clearing where the lower layers of vegetation remains but soil has not been disturbed. The wetland impacts proposed by the applicant within the development area would be limited to clearing of the higher shrub and tree layers of vegetation within the collector line corridor (0.31 acre), and as needed to accommodate the widening of the entrance to the Jimmey Mountain road at Route 169 (0.02 acre). All of the vegetation would not be removed within the

affected wetland areas. After construction, shrub vegetation would be maintained along the collector line corridor and in the cleared wetland area next to the Jimmey Mountain road. The clearing within wetland areas proposed by the applicant does not constitute an alteration of a wetland as long as tree stumps, and shrub and herbaceous vegetation layers are not removed.

(2) Any alterations of wetlands, including but not limited to filling, complete removal of vegetation, the use of temporary mats, or other activity that would result in more than minimal soil disturbance that is found to be necessary during construction will require LURC staff review to determine if a permit is required and if so, approval in accordance with Section 10.25,P of the Commission's Land Use Districts and Standards.

10. The proposal meets the minimum dimensional requirements of Section 10.26 of the Commission's Land Use Districts and Standards.

A. *Section 10.26,D – Minimum setbacks.* With the exception of roads and utility lines, all proposed permanent structures must meet the minimum setback requirements from standing and flowing bodies of water in Section 10.26,D,2 of the Commission's Land Use Districts and Standards, which require commercial structures to be setback at least 100 ft from the normal high water mark (nhwm) of a minor flowing water, a standing body of water less than 10 acres in size, and the upland edge of a P-WL1 wetland; and at least 150 ft from the nhwm of a major flowing water and a standing body of water 10 acres or more in size. A 100 ft stream and P-WL1 wetland setback must be maintained to assure vegetated buffers are not compromised, except as needed to meet legal requirements for the collector transmission line corridor. Conclusion #5,C, above, addresses the public safety related setbacks for wind turbines required under Title 12, § 685-B(4-B)C. Conclusion #11 addresses setbacks for the proposed temporary structures.

B. *Section 10.26,F - Dimensional requirements, maximum building height.* The proposed turbines have a hub height of 262 feet and rotor diameter of 253 feet. At the extended tip of the blade, each turbine would be 389 feet high, which exceeds the Commission's maximum building height of 100 ft as provided for commercial or industrial buildings in Section 10.26,F,1,b. However, although the turbine base is 14.5 feet across, due to the height, the turbines are essentially structures that contain no floor area (such as chimneys, towers, ventilators and spires). The Commission may allow such structures which exceed the height limit of 100 ft with a permit.

11. *Temporary trailers, parking, and lay-down/storage areas.*

A. The proposed temporary trailers, parking area, and lay-down/storage area proposed within the loop road are uses allowed with a permit within an M-GN Subdistrict because they are a necessary part of the construction process for the proposed wind energy development, and as such are a part of the associated facilities for a wind energy development, as defined in Title 35-A, chapter 34-A, § 3451(1). Locating these activities near Route 169 within the loop road, which has was previously partly cleared for forest management activities, would minimize the total amount of clearing required for the

project and would not cause an undue adverse impact. The traffic flow for workers' vehicles leaving and entering the site has been evaluated and will be properly accommodated.

B. *Road setbacks.* The parking area and trailers must be set back at least 75 ft. from Route 169 and form the Owl Mountain and Jimmey Mountain roads. Because the loop road would function as a driveway, no specific setback for the trailers and parking area within it applies, but both must be set back from the loop road traveled surface a sufficient distance to provide safe conditions. The locations of other on-site parking areas in the turnouts and other lay-down areas to be used during construction may be adjusted as needed, except that vehicles should not be located in a manner that will pose a threat to traffic flow.

12. The proposal will meet the provisions of the relevant sections of Section 10.27 of the Commission's Land Use Districts and Standards.

A. *Section 10.27,B – Clearing.* The proposed clearing would meet the provisions of Section 10.27,B of the Commission's Land Use Districts and Standards. The majority of the area to be temporarily cleared for construction would be re-vegetated, with only 18.2 acres remaining permanently cleared of vegetation. No clearing is proposed within 100 ft of a lake or 75 ft of a P-WL1 wetland. A 75 ft wide vegetated buffer must be maintained along all minor flowing waters, except where breached by the road or collector line crossings. Vegetation within 100 ft of a stream where the collector line crosses must be maintained to the extent possible within the legal provisions[16] of clearing in utility line corridors to maintain stream shading.

B. *Section 10.27,C - Mineral extraction areas, and excess material disposal areas.* The applicant identified two existing gravel pits that may be used for fill material for the SIIWP, if needed.

(1) Although current cut and fill calculations indicate a relatively small amount of excess fill to be disposed of, the preliminary results of the acidic rock testing suggest that some of the cut material may not be suitable for re-use as fill. If additional gravel for fill is needed, acidity testing must be conducted to determine its suitability for use as fill in the roads and turbine pads areas. In addition, if further acidic rock testing indicates the need to dispose of cut material not suitable for re-use as fill, then there will be a need to identify additional disposal areas.

(2) The two identified gravel pits are located on land owned by LSI are within 3 miles of the development area, are less than 5 acres in size, and are located in an M-GN Subdistrict. If use of an existing gravel pit for construction of the SIIWP would cause it to exceed 5 acres, an amendment to this permit or separate LURC permit must be sought, as applicable. Extraction from the gravel pits must be in conducted in conformance with the provisions of Sections 10.22,A,3 and 10.27,C of the Commission's Land Use Districts and Standards.

[16] ISO New England Operating Procedure No. 3. Transmission Outage Scheduling- Appendix C- ISO New England Right of Way Vegetation Management Standard. Effective February 1, 2005. Revision No. 1.

C. *Section 10.27,D – Roads and water crossings.* The proposed roads would meet the provisions of Section 10.27,D, including setbacks from water bodies, road banks, drainage ditches, and crossings. The applicant has consulted with the State Soil Scientist on road design and water crossings for this project.

(1) Existing culverts would be replaced with culverts of the same size, and although no new stream or wetland crossings are proposed, new culverts would be added for stormwater runoff management if needed. The rock sandwich road design prescribed by the State Soil Scientist would be used to maintain subsurface hydrology. Water crossings by roads are a use allowed without a permit subject to standards in an M-GN Subdistrict, P-SL2 Subdistrict, and P-WL Subdistrict.

(2) During construction, the traveled surface of the proposed crane paths and spur road would be 32 feet wide to accommodate movement of the cranes. The applicant has not proposed to reduce the width of these road segments after construction because they would not cause an undue adverse scenic impact. Furthermore, previous experience with the ridgeline road at the SWP site showed that the road surface becomes compacted during construction, resulting in the spread loam potentially contributing to sedimentation in runoff water, and poor potential for re-vegetation. As such, the better option in this case is to construct the 32 ft wide road surface and shoulder using blasted rock that will not create a sedimentation problem.

(3) Both the existing Owl Mountain road and Jimmey Mountain road would be improved to be 16 ft wide where those roads do not already meet that specification. In addition, two segments of new 16 ft wide access road would be added. All 16 ft wide roads would remain at that width after construction. Turnouts are planned along the 16 ft wide road sections to accommodate two- way traffic. The roads would have a maximum finished grade of 12%.

D. *Section 10.27,F – Filling and grading.* The proposed filling and grading would meet the provisions of Section 10.27,F of the Commission's Land Use Districts and Standards. The primary areas the applicant has proposed to grade of the ridgelines of Owl Mountain and Jimmey Mountain to construct SIIWP are the turbine pads; access, crane path and spur road; and the temporary trailer/storage/lay-down areas. The proposed areas to be filled and graded must be set back at least 100 ft from all flowing and standing waters, except where needed for road crossings.

E. *Section 10.27,J – Signs.* The Commission concludes that the signage proposed by the applicant would conform with Section 10.27,J,2 of the Commission's Land Use Districts and Standards, and would not have undue adverse impacts upon resources and uses in the area. All proposed signage would be located within the development area and would be limited to informational signs associated with site activities, such as traffic control or directional signs. Section 10.27,J,1(e) of the Commission's Land Use Districts and Standards provides that information signs on a site do not require a permit. Any informational sign remaining on-site after construction not visible from a public road must be no more than 12 sf in size, except that directional signs visible from a public road must not exceed 4 sf in size. The informational kiosk that may be requested in the future at the Route 169/Atlas Road intersection would require a LURC permit.

13. *SPCC Plan.* The Commission concludes that the SPCC plan submitted by the applicant for construction activities is acceptable. However, the applicant must submit for review and approval an SPCC plan to be used during operation prior to the SIIWP becoming operational.

14. *Blasting plan.* The MDEP reviewed the applicant's proposal with respect to blasting and recommended that a blasting plan incorporating certain provisions needed for consistency with Maine's laws for such plans be prepared. The applicant responded by preparing a Blasting Plan consistent with MDEP's recommendations. Therefore, the Commission concludes that the Blasting Plan submitted by the applicant for construction activities is acceptable.

15. *Engineered plans.* The engineered plans submitted by the applicant dated October 29, 2008, revised in accordance with recommendations made by the State Soil Scientist and in response to MDIFW with respect to habitat areas, are the plans approved herein. The plans sent out to bid must incorporate the changes recommended by the State Soil Scientist. The as-built engineered plans must be submitted to LURC staff upon completion of construction.

16. *Site public access and shared use of the parcel.* The parcel is owned by LSI, and leased to the applicant, granting the right to access the site, to develop the SIIWP, and to improve the existing roads. Project roads within the parcel will be maintained by the applicant. Land management activities, including logging road construction and maintenance within the parcel, will be the responsibility of LSI under the terms of the lease agreement. LSI controls access to the parcel, including snowmobile access, although the applicant may limit access to the turbine areas for security reasons.

Conditions

Therefore, the Commission **APPROVES** Development Permit DP 4818 submitted by Stetson Wind II, LLC for a 17 turbine wind energy development located in T8 R4 NBPP, Washington County, subject to the findings of fact contained herein and the following conditions:

1. The Standard Conditions for Development, ver. 10/90.

2. Only those uses and structures approved herein are granted approval. Any changes to the SIIWP are subject to review and approval by the Commission or the LURC Director, as applicable.

   A. The continued use of the parcel for forest management activities outside the development area by landowner LSI is subject to the relevant provisions of the Commission's Land Use Districts and Standards and the State's regulations for forest management activities.

   B. In accordance with Section 10.06,A of the Commission's Land Use Districts and Standards, "the description of permitted uses herein does not authorize any person to unlawfully trespass, infringe upon or injure the property of another, and does not relieve any person of the necessity of complying with other applicable laws and regulations."

3. The permittee is responsible for all activities that were proposed as a result of consultation with state and federal agencies, and any recommendations agreed to, as reflected in the record, including, but not limited to, the Maine State Soil Scientist, MDEP, MDOT and MBMV, MDIFW, and USFWS.

4. *Benefits report.* The permittee shall submit to the Commission annually for the first two years of operation on the project's contribution to the State's economic, environmental and energy policies, including but not limited to, the total megawatt hours of generation during the year, calculation of avoided emissions resulting from operation of the project, companies used during construction, the number of Maine residents hired, total dollars spent in Maine, the progress of any TIF program established, and the amount of property taxes paid to the State.

5. The following structures are granted approval herein:

   A. *Turbines.* Seventeen (17) wind energy generating turbines: six (6) on Owl Mountain and eleven (11) on Jimmey Mountain.

   B. *Roads and crossings.*
      (1) A 0.96 mile long crane path and 0.13 spur road on Owl Mountain with a 32 ft wide traveled surface;
      (2) A 1.86 mile long crane path on Jimmey Mountain with a 32 ft wide traveled surface;
      (3) Two new access roads, one 1,040 ft long providing access to Owl Mountain, and the other 585 ft long providing access to Jimmey Mountain; with a 16 ft wide traveled surface;
      (4) Upgrades to the existing Owl Mountain (0.36 mile) and Jimmey Mountain (2.97 miles) roads to provide a 16 ft wide traveled surface;
      (5) Widening of the entrance to the Jimmey Mountain road, and Route 169;
      (6) Fifteen (15) turn-outs along the access roads to accommodate two-way traffic;
      (7) All project roads must have a maximum finished grade of no more than 12%;
      (8) A 1,500 ft long loop road with a traveled surface 16 ft. wide to provide a turnaround for heavy equipment and a driveway for temporary trailers and parking area during construction;
      (9) A bottomless concrete bridge to replace the existing culvert where the Jimmey Mountain road crosses Hot Brook; and
      (10) Replacement culverts meeting at a minimum the provisions of Section 10.27,D of the Commission's Land Use Districts and Standards.

   C. *34.5 kV collector and communication line.*
      (1) The line approved herein starts at pole #206 on the south side of Route 169 where it connects to the line serving the SWP, and ends at turbine #17 on Jimmey Mountain;
      (2) Where the line is run cross-country, the corridor width must be no more than 80 ft, and where the line in run along a road the corridor width must be no more that 40 ft;
      (3) Consisting of 40 ft high single wooden poles; and
      (4) When the line is placed underground along the roadside or in a turbine pad, it must be buried at least 3 feet deep.

(5) Shrub vegetation must be maintained in the collector line corridors, in particular along streams for shading and within 250 ft of significant vernal pools (except for road surfaces and shoulders).

D. *Three (3) meteorological ("met") towers with access ways.*
(1) The "met" towers approved herein are the lattice-type towers, supported by 3 sets of 6 anchored guy wires;
(2) The "met' tower guy wires must have bird diverters and wildlife entanglement protectors.
(3) Met tower #1 includes an access way that starts at the loop road.

6. The following temporary structures and activities are granted approval during construction:

A. Trailers and a parking/storage area may be located within the loop road, but must be removed from the site within 3 months of the SIIWP becoming operational;

B. Portable toilets must be located no closer to a stream or lake than 100 feet;

C. Temporary widening of Route 169 at the entrance to the Jimmey Mountain road in compliance with MDOT standards;

D. Fourteen (14) lay-down and storage areas;

E. Stump dump (see Condition #10,A, below);

F. If excess fill disposal areas are found to be necessary, the permittee shall identify and submit the proposed areas to be used to LURC staff for review and approval;

G. Mobile rock crushers;

H. Water withdrawal for the purposes of dust abatement from Upper Hot Brook Lake must be limited to 20,000 gallons of water per day. Surface water withdrawal for any purpose must not exceed the thresholds defining non-consumptive use and for reporting in Title 38, chapter 3, § 470-A and § 470-B (see Appendix A, section E, attached). Water must not be withdrawn from a stream or brook. The waterbody access point must either be a public access point or the permittee shall obtain written approval from the landowner; and

I. Potable water must be brought from off-site unless approval is granted by the Maine Department of Health and Human Services Drinking Water Program to use the SWP well.

7. *Setbacks*. With the exception of roads, utility line crossings and the associated utility poles, all temporary and permanent structures must be set back at least 150 feet from Upper Hot Brook Lake, 100 feet from minor flowing waters and P-WL1 wetlands, 75 feet from the traveled surface of Route 169, and 25 feet from the parcel boundaries.

A. Because the proposed loop road will function as a driveway during construction of the SIIWP, the temporary trailers and parking areas within the loop road may be placed as needed, provided that a safe distance is maintained between the traveled surface and the parking area and the structures. Temporary parking areas within the turn-out areas must be located a safe distance from the traveled surfaces of the Jimmey Mountain and Owl Mountain roads.

B. All graded and filled areas, including but not limited to, turn-outs and lay-down/storage areas, must be set back at least 150 feet from all great ponds, 100 feet from all streams, and 75 feet from all P-WL1 wetlands.

C. All turbines must be set back at least 584 feet from the parcel boundaries, Route 169, and the portion of the Jimmey Mountain road providing through access for the public to Route 171.

8. *Traffic flow.* The permittee shall provide for safe traffic conditions and prevent congestion due to heavy equipment and construction vehicles leaving or entering the site onto public roads by providing for adequate site distances, using of informational signs, or other provisions recommended by MDOT. The permittee shall obtain all Road Opening, road posting exemption, or other permits required from MDOT or MBMV.

A. A Road Opening permit must be obtained from MDOT for the widening of Route 169, and the widening must conform with MDOT standards. After construction is complete, Route 169 must conform with MDOT standards.

9. *Noise.*

A. Noise produced by the SIIWP during routine operation must comply with MDEP's sound level limits, 06-096, Chapter 375.10,C. At the parcel boundary, during routine operation the noise level produced by SIIWP must not exceed 75 dBA. The noise level produced by the SIIWP during routine operation at the nearest quiet protected location, as defined under Chapter 375.10,C, must not exceed 45 dBA at locations within 500 feet of living and sleeping quarters during the hours 7:00 p.m. to 7:00 a.m., 55 dBA at protected locations beyond 500 feet from sleeping and living quarters, and 55 dBA at locations within 500 feet of sleeping and living quarters between the hours 7:00 a.m. to 7:00 p.m.

B. Noise associated with nighttime construction is subject to the limits set forth in Section A (above), except as needed for safety signals, warning devices, emergency pressure relief values, other emergency activities, and traffic on roadways. Noise due to construction activities during daylight hours or 7:00 a.m. to 7:00 p.m., whichever is longer, is not subject to the limits of Chapter 375.10,C. Noise levels during other construction hours must meet the limits of MDEP's sound level limits (Chapter 375.10,C).

C. Prior to operation of the wind energy facility, the permittee shall submitted to LURC staff for review and approval a plan to monitor the noise levels produced by the wind energy

facility during operation. The proposed plan must be for a minimum of one year, and must include thresholds that would dictate if additional monitoring would be required, a proposal for reporting dBC as well as dBA levels; and must be designed to ensure compliance with MDEP's sound level limits in Chapter 375.10,C.

D. If the results of the noise monitoring show that the sound levels exceed the limitations of Chapter 375.10,C, the permittee shall prepare and submit appropriate remedial measures for LURC staff review and approval.

10. *Lighting.* With the exception of FAA required lighting of the turbines and meteorological towers, all lighting must meet the provisions of Section 10.25,F,2 of the Commission's Land Use Districts and Standards.

A. Lighting installed at the entrance door at the base of a turbine must be motion controlled or full cut-off, except for incandescent lights less than 160 watts or other lights less than 60 watts.

B. Temporary security lighting consisting of portable trailer mounted light towers to be used at the entrance to the development area at the junction of Route 169 and the Jimmey Mountain road during construction must be limited to only that which is necessary for security purposes. This lighting must be limited to the area immediately surrounding the entrance, and must be directed downward.

C. Lights used for nighttime work must be limited to three trailer-mounted portable flood lights per turbine location, with no more than two turbine construction areas illuminated at any one time. Nighttime lighting must be limited to the construction area and lighting of adjacent areas must be miminized.

D. Any lighting used for the temporary trailers and parking area within the loop road must comply with Section 10.25,F,2 of the Commission's Land Use Districts and Standards.

11. *Erosion/sedimentation and stormwater control; buffers.*

A. *Buffers.* At least 75% of the project roads must have forested buffer that will meet the provisions of MDEP's BMPs for the Stormwater General Standards (Chapter 500). A 75 foot wide forested buffer must be maintained around all P-WL1 wetlands, except in the areas of road and utility line crossings as proposed (see Finding of Fact #19,D and E).

B. *Third party inspection.* The duties and responsibilities of the third-party inspector shall be as proposed (see Finding of Fact #31). Third-party on-site inspections of erosion and storm water control measures, and any remedial measures taken, must be implemented when the ground is frozen, saturated, or the area disturbed by the project would be one acre or more. The name of the individual or firm selected by the permittee for third-party inspection must be submitted to LURC staff for review and approval. The permittee must not terminate the services of the third party inspector prior to the completion of construction without first gaining written permission from LURC staff.

C. *Culverts and rock sandwich road design.* The rock sandwich road design must be employed as proposed to maintain subsurface and surface hydrology where seepages and wetlands occur, except that existing culverted stream crossings and drainage swales may continue to be culverted.

D. *Winter construction.* Winter construction, including construction under frozen or saturated conditions, must be conducted as proposed in the erosion/sedimentation control plan noted on the engineered plans.

E. *Road grading.* Any road grading done during construction, or after construction on the project roads being maintained by the permittee, must be done in a manner that will minimize "false ditching".

F. *Removal of tree canopy near streams.* Any removal of the tree canopy adjacent to a stream must be minimized in accordance with recommendations made by MDIFW, through consultation with MDIFW staff, to reduce the potential for stream warming.

G. *Protection of Yellow Lampmussel habitat.* Additional erosion/sedimentation control measures must be employed as necessary to protect habitat likely to support Yellow Lampmussel from sedimentation. A fresh-water mussel survey must be conducted in any portion of a stream containing Yellow Lampmussel habitat likely to be affected, with mitigation proposed and carried out prior to construction if the species is present.

H. The permittee shall use the "toolbox" approach to implementing the erosion/sedimentation and stormwater control measures by making adjustments in the field as needed. A licensed engineer familiar with the project must be present on-site to advise the contractor of any changes needed.

I. The permittee shall meet with the contractor, the forest operators, and a third party inspector prior to any site clearing or construction occurring.

J. Gravel or exposed soil areas must be mulched, loamed, and seeded as proposed (see Finding of Fact #30), except that slopes consisting entirely of crushed rock may not be mulched, loamed, and seeded upon project completion if no exposed soil is present.

K. *Post-construction environmental monitoring.* The permittee shall submit on-site inspection reports of re-vegetation and remedial measures taken bi-annually for the first year of operation, and annually thereafter until all disturbed areas have an 85% vegetation cover with the exception of roads, parking areas, walkways, and open portions of the turbine pads. Once the areas being re-seeded are 85% re-vegetated, the project must be assessed by the permittee and the third party inspector to assure that no additional measures need to be taken and that no additional monitoring and reporting will be necessary. Any substantial changes to the re-vegetation plans must be submitted to LURC staff for review and approval.

L. All erosion and stormwater control monitoring and inspection reports must be kept on-site for a three-year period after the facility becomes operational.

12. *Acid rock management plan.* The permittee shall submit to LURC staff the SIIWP management plan for handling acidic bedrock for review and approval within 30 days of the completion of the geotechnical report. Prior to approval of the SIIWP plan, the permittee shall implement the provisions and monitoring of the plan approved for the SWP. The permittee shall report to LURC staff upon completion of construction the locations where the management measures were employed and why. All inspection reports must be kept on-site, and be made available for submittal to LURC staff upon request.

A. If acid rock testing results in the need to dispose of excess cut materials, the permittee shall contact LURC staff to discuss the proposed disposal areas to determine if a permit amendment will be necessary.

B. If additional fill material is found to be necessary, the permittee shall test the source material prior to use to determine its potential for creating acid drainage.

13. *Solid waste disposal.*

A. *Stump dump.* All stumps produced during construction must be buried in place, ground and incorporated into erosion control mix to be used for erosion control on-site, or disposed of at a stump dump located within the leased parcel. The stump dump must not exceed one acre in size, must be located with an (M-GN) General Management Subdistrict, and the location of the stump dump must be reviewed and approved by LURC staff prior to use. All stumps must be covered with soil and the surface stabilized once construction is complete.

B. Wash-down of concrete trucks must be done on-site such that the runoff water is contained within the turbine pads and covered when the pads are back-filled. Water for the truck wash-down must be brought to the site by the concrete supplier.

C. Waste concrete material must either be used for fill for the road and turbine pads or removed from the site.

D. All construction debris must be disposed of in accordance with Maine's Solid Waste Disposal Laws.

14. *Mineral excavation.*

A. If used for the SIIWP, the permittee shall monitor the size of any of the mineral excavation sites (*i.e.* gravel pits) within the leased parcel used for this project. If any pit would be expanded to larger than five acres in size, the permittee shall notify LURC staff and the owner of the gravel pit, LSI, so that the appropriate permit review can be conducted. Any gravel extraction must meet the relevant provisions of Section 10.27,C of the Commission's Land Use Districts and Standards.

B. The permittee shall notify LURC staff if the on-site mineral excavation site would continue to be used for road maintenance after construction to determine if additional review and approval will be required.

15. *Wetlands and vernal pools.*

A. *Wetlands.*

(1) Any direct stream impacts must be limited to the road crossings for replacement of the existing culvert with a bottomless concrete bridge where the Jimmey Mountain road crosses Hot Brook or replacement of other existing culverts. The concrete bridge crossing Hot Brook must be constructed such that no fill is placed below the normal high water mark of the stream. Erosion and sedimentation control measures must be employed during the bridge construction to prevent sedimentation to the stream.

(2) Removal of vegetation in the identified wetland areas must be limited to removal of the tree and upper shrub layers, with vegetation up to 4 feet tall retained. Cut tree stumps must not be removed in wetland areas.

(3) The removal of vegetation in the identified wetland areas must be limited to a total of 0.33 acres in the areas proposed (see Finding of Fact #34).

(4) All clearing of vegetation in wetland areas must be done in a manner that will not disturb the wetland soils.

(5) All wetland alterations impacts other than those described herein must be submitted to LURC staff for review and approval, in accordance with Section 10.25,P of the Commission's Land Use Districts and Standards.

B. *Vernal pools.*

(1) No new clearing or construction is permitted within 100 ft of vernal pool SVP 05cf. No more than an additional 2.7% of the habitat between 100 ft and 250 ft of the pool may be cleared for the collector line corridor. The vegetation within the collector line corridor must be maintained as provided in Condition #4,C.

(2) The permittee shall survey the possible significant vernal pool PVP 02dk during the spring of 2009 to determine if the pool is significant. If the pool is significant, then no additional clearing is permitted within 100 ft of the pool, and no more than an additional 15.8% of the habitat area between 100 ft and 250 ft may be cleared. The vegetation within the collector line corridor must be maintained as provided in Condition #5,C

16. *Post-construction avian and bat monitoring.*

A. Prior to the SIIWP becoming operational, the permittee shall prepare a detailed post-construction avian and bat mortality monitoring plan in consultation with MDIFW and USFWS, and shall submit the plan to LURC staff for review and approval.

B. Starting with year one after the SIIWP becomes operational, the permittee shall submit an annual report of the post-construction avian and bat mortality monitoring to LURC staff,

MDIFW, and USFWS for review. The permittee shall consult with LURC staff and MDIFW quarterly and upon request, and with USFWS as needed, on the avian and bat impacts to determine if changes to the monitoring plan are warranted, or if remedial measures are needed. After the first three years of post-construction monitoring, LURC staff, in consultation with MDIFW and USFWS, may review the cumulative results to determine if changes to the level of monitoring are warranted.

C. The construction activities associated with the SIIWP must not cause disturbance within 1,320 ft. of the Bald Eagle nest on Kittery Island. The permittee shall consult with MDIFW and USFWS during construction with respect to blasting or use of heavy equipment ½ mile or closer to the nest occurring between February 1st and August 31st.

17. *Decommissioning.*

A. If the SIIWP has not generated electricity for a period of 12 months, the permittee must initiate decommissioning of the SIIWP. However, the permittee retains the right to provide reasonable evidence to the Commission's satisfaction that the project has not been abandoned and should not be decommissioned.

B. If it is determined to be necessary that the SIIWP be decommissioned, the permittee shall decommission, or provide for the decommissioning of, the SIIWP in accordance with the submitted decommissioning plan, or amended plan reviewed and approved by LURC staff.

C. The November 2008 decommissioning plan anticipates an estimated cost of decommissioning of $374,000 (minus salvage value). On or before December 31st of the first year of operation the permittee shall secure an irrevocable standby letter of credit or other comparable financial instrument, in favor of the State of Maine Land Use Regulation Commission. The financial instrument proposed to be used shall be submitted to LURC staff 30 days prior to December 31st review and approval.

D. The permittee shall initially secure the approved financial instrument in an amount no less than $27,000. The amount of the instrument shall increase each year thereafter by at least an additional $27,000 per year until the end of year seven, at which time the amount shall be no less than $189,000.

E. Prior to December 31st of year 15, the permittee shall secure the approved financial instrument in the full amount of the estimated cost of decommissioning, such amount to be submitted at a reasonable time prior to December 31st for LURC staff review and approval.

18. *Miscellaneous.*

A. *Blasting Plan.* The permittee shall comply with the "Blasting Plan for Stetson II", dated January 19, 2009.

B. *SPCC Plan.* The permittee shall submit a Spill Prevention Control and Countermeasures Plan to be used during operation of the SIIWP upon completion of construction. Spill control materials must be stored as close as practical to the locations of likely spills. On-site storage of contaminated materials must not exceed 90 days.

C. *Signs.* Any information or directional signs remaining on-site after construction not visible from a public road must be no more than 12 square feet in size. Information or directional signs visible from a public road must not exceed 4 square feet in size.

D. *As-built engineered plans.* The revised engineered plans, incorporating the changes recommended by the State Soil Scientist and in response to MDIFW regarding vernal pools, are approved for construction within the terms of this permit. A copy of the revised plans must be submitted to LURC staff prior to sending them out for bid. Any changes to the engineered plans must be discussed with LURC staff to determine if a permit amendment will be required. The final, as-built engineered plans must be submitted to LURC staff upon completion of construction.

E. *Other permits.* The permittee shall submit a summary of all other state, federal and local permits obtained for this project for the file.

F. *Drinking water.* The permittee shall provide potable water during construction from an approved off-site drinking water source. If the existing well serving the SWP Operations & Maintenance facility is to be used as a drinking water source during construction of the SIIWP, the permittee must consult with the Maine Department of Health and Human Services' Drinking Water Program and obtain all necessary permits.

In accordance with Title 5, § 11002, and Maine Rules of Civil Procedure 80C, this decision by the Commission may be appealed to Superior Court within 30 days after receipt of notice of the decision by a party to this proceeding, or within 40 days from the date of the decision by any other aggrieved person.

DONE AND DATED AT BANGOR, MAINE THIS 4th DAY OF MARCH, 2009.

By: Catherine M Carroll
Catherine M. Carroll, Director

APPENDIX A
Review Criteria

A. Public Law 2008, Chapter 661

Sec. A-7. 35-A M.R.S.A., c. 34-A is enacted to read:

CHAPTER 34-A: EXPEDITED PERMITTING OF GRID-SCALE WIND ENERGY DEVELOPMENT

§3451. Definitions

As used in this chapter, unless the context otherwise indicates, the following terms have the following meanings.

1. *Associated facilities.* "Associated facilities" means elements of a wind energy development other than its generating facilities that are necessary to the proper operation and maintenance of the wind energy development, including but not limited to buildings, access roads, generator lead lines and substations.

2. *Department.* "Department" means the Department of Environmental Protection.

3. *Expedited permitting area.* "Expedited permitting area" means:
   A. The organized areas of the State in their entirety, but not including waters subject to tidal influence, so that the edge of the area that is subject to tidal action during the highest tide level for the year in which an activity is proposed as identified in tide tables published by the United States Department of Commerce, National Oceanic and Atmospheric Administration, National Ocean Service defines the boundary of the expedited permitting area on lands abutting waters subject to tidal influence; and
   B. Specific places within the State's unorganized and de-organized areas, as defined by Title 12, §682, subsection 1, that are identified by rule by the Maine Land Use Regulation Commission in accordance with this chapter.

4. *Expedited wind energy development.* "Expedited wind energy development" means a grid-scale wind energy development that is proposed for location within an expedited permitting area.

5. *Generating facilities.* "Generating facilities" means wind turbines and towers and transmission lines, not including generator lead lines, that are immediately associated with the wind turbines.

6. *Grid-scale wind energy development.* "Grid-scale wind energy development" means a wind energy development that is of a size that would qualify as a development of state or regional significance that may substantially affect the environment as defined under Title 38, §482, subsection 2, paragraph A or paragraph C.

7. *Host community.* "Host community" means a municipality, township or plantation in which the generating facilities of an expedited wind energy development are located.

8. *Primary siting authority.* "Primary siting authority" means:
   A. The department, in the case of an expedited wind energy development subject to the department's jurisdiction pursuant to Title 38, chapter 3, subchapter 1, article 6, including, but not limited to, a development subject to the department's jurisdiction pursuant to Title 38, §488, subsection 9; or
   B. The Maine Land Use Regulation Commission, in the case of an expedited wind energy development subject to the Maine Land Use Regulation Commission's jurisdiction pursuant to Title 12, chapter 206-A.

9. *Scenic resource of state or national significance.* "Scenic resource of state or national significance" means an area or place owned by the public or to which the public has a legal right of access that is:
   A. A national natural landmark, federally designated wilderness area or other comparable outstanding natural and cultural feature, such as the Orono Bog or Meddybemps Heath;
   B. A property listed on the National Register of Historic Places pursuant to the National Historic Preservation Act of 1966, as amended, including, but not limited to, the Rockland Breakwater Light and Fort Knox;
   C. A national or state park;
   D. A great pond that is:
      (1) One of the 66 great ponds located in the State's organized area identified as having outstanding or significant scenic quality in the "Maine's Finest Lakes" study published by the Executive Department, State Planning Office in October 1989; or
      (2) One of the 280 great ponds in the State's unorganized or deorganized areas 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 1987;
   E. A segment of a scenic river or stream identified as having unique or outstanding scenic attributes listed in Appendix G of the "Maine Rivers Study" published by the Department of Conservation in 1982;
   F. A scenic viewpoint located on state public reserved land or on a trail that is used exclusively for pedestrian use, such as the Appalachian Trail, that the Department of Conservation designates by rule adopted in accordance with §3457;
   G. A scenic turnout constructed by the Department of Transportation pursuant to Title 23, §954 on a public road that has been designated by the Commissioner of Transportation pursuant to Title 23, §4206, subsection 1, paragraph G as a scenic highway; or
   H. Scenic viewpoints located in the coastal area, as defined by Title 38, §1802, subsection 1, that are ranked as having state or national significance in terms of scenic quality in:

(1) One of the scenic inventories prepared for and published by the Executive Department, State Planning Office: "Method for Coastal Scenic Landscape Assessment with Field Results for Kittery to Scarborough and Cape Elizabeth to South Thomaston," Dominie, et al., October 1987; "Scenic Inventory Mainland Sites of Penobscot Bay," Dewan and Associates, et al., August 1990; or "Scenic Inventory: Islesboro, Vinalhaven, North Haven and Associated Offshore Islands," Dewan and Associates, June 1992; or

(2) A scenic inventory developed by or prepared for the Executive Department, State Planning Office in accordance with §3457.

10. *Tangible benefits.* "Tangible benefits" means environmental or economic improvements attributable to the construction, operation and maintenance of an expedited wind energy development, including but not limited to: construction-related employment; local purchase of materials; employment in operations and maintenance; reduced property taxes; reduced electrical rates; natural resource conservation; performance of construction, operations and maintenance activities by trained, qualified and licensed workers in accordance with Title 32, chapter 17 and other applicable laws; or other comparable benefits, with particular attention to assurance of such benefits to the host community to the extent practicable and affected neighboring communities.

11. *Wind energy development.* "Wind energy development" means a development that uses a windmill or wind turbine to convert wind energy to electrical energy for sale or use by a person other than the generator. A wind energy development includes generating facilities and associated facilities.

§3452. Determination of effect on scenic character and related existing uses

1. *Application of standard.* In making findings regarding the effect of an expedited wind energy development on scenic character and existing uses related to scenic character pursuant to Title 12, §685-B, subsection 4 or Title 38, §484, subsection 3 or §480-D, the primary siting authority 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 of the scenic resource of state or national significance. 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 either Title 12, §685-B, subsection 4, paragraph C or Title 38, §484, subsection 3.

2. *Exception; certain associated facilities.* The primary siting authority shall evaluate the effect of associated facilities of a wind energy development in terms of potential effects on scenic character and existing uses related to scenic character in accordance with Title 12, §685-B, subsection 4, paragraph C or Title 38, §484, subsection 3, in the manner provided for development other than wind energy development, if the primary siting authority determines that application of the standard in subsection 1 to the development

may result in unreasonable adverse effects due to the scope, scale, location or other characteristics of the associated facilities. An interested party may submit information regarding this determination to the primary siting authority for its consideration. The primary siting authority shall make a determination pursuant to this subsection within 30 days of its acceptance of the application as complete for processing.

3. *Evaluation criteria.* In making its determination pursuant to subsection 1, and in determining whether an applicant for an expedited wind energy development must provide a visual impact assessment in accordance with subsection 4, the primary siting authority shall consider:

   A. The significance of the potentially affected scenic resource of state or national significance;
   B. The existing character of the surrounding area;
   C. The expectations of the typical viewer;
   D. The expedited wind energy development's purpose and the context of the proposed activity;
   E. The extent, nature and duration of potentially affected public uses of the scenic resource of state or national significance and the potential effect of the generating facilities' presence on the public's continued use and enjoyment of the scenic resource of state or national significance; and
   F. The scope and scale of the potential effect of views of the generating facilities on the scenic resource of state or national significance, including but not limited to issues related to the number and extent of turbines visible from the scenic resource of state or national significance, the distance from the scenic resource of state or national significance and the effect of prominent features of the development on the landscape.

   A finding by the primary siting authority that the development's generating facilities are a highly visible feature in the landscape is not a 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 primary siting authority 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.

4. *Visual impact assessment; rebuttable presumption.* An applicant for an expedited wind energy development shall provide the primary siting authority with a visual impact assessment of the development that addresses the evaluation criteria in subsection 3 if the primary siting authority determines such an assessment is necessary in accordance with subsection 3. There is a rebuttable presumption that a visual impact assessment is not required for those portions of the development's generating facilities that are located more than 3 miles, measured horizontally, from a scenic resource of state or national significance. The primary siting authority may require a visual impact assessment for portions of the development's generating facilities located more than 3 miles and up to 8

miles from a scenic resource of state or national significance if it finds there is substantial evidence that a visual impact assessment is needed to determine if there is the potential for significant adverse effects on the scenic resource of state or national significance. Information intended to rebut the presumption must be submitted to the primary siting authority by any interested person within 30 days of acceptance of the application as complete for processing. The primary siting authority shall determine if the presumption is rebutted based on a preponderance of evidence in the record.

§3454. Determination of tangible benefits

In making findings pursuant to Title 12, §685-B, subsection 4 or Title 38, section 484, subsection 3, the primary siting authority shall presume that an expedited wind energy development provides energy and emissions-related benefits described in §3402 and shall make additional findings regarding other tangible benefits provided by the development. The Department of Labor, the Executive Department, State Planning Office and the Public Utilities Commission shall provide review comments if requested by the primary siting authority.

§3455. Determination of public safety-related setbacks

In making findings pursuant to Title 12, §685-B, subsection 4 or Title 38, §484, subsection 3 on whether a wind energy development must be constructed with setbacks adequate to protect public safety, the primary siting authority must consider the recommendation of a professional, licensed civil engineer as well as any applicable setback recommended by a manufacturer of the generating facilities. The primary siting authority may require submission of this information as part of the application.

Sec. B-13. *Submission requirements.* No later than September 1, 2008, the Department of Environmental Protection and the Maine Land Use Regulation Commission shall, jointly and to the extent not already addressed in existing agency guidance, specify the submission requirements for the following matters for applications for wind energy development, including, but not limited to, expedited wind energy development as defined in the Maine Revised Statutes, Title 35-A, §3451, subsection 4, in accordance with the recommendations of the February 2008 final report of the Governor's Task Force on Wind Power Development in Maine created by Executive Order issued on May 8, 2007, and the provisions of this Act, as applicable:

1. Effects on scenic character and existing uses related to scenic character;

2. Tangible benefits, including post-construction reporting of tangible benefits realized;

3. Noise and shadow flicker effects;

4. Effects on avian and bat species;

5. Public safety-related setbacks; and

6. Decommissioning plans, including demonstration of current and future financial capacity that would be unaffected by the applicant's future financial condition to fully fund any necessary decommissioning costs commensurate with the project's scale, location and other relevant considerations, including, but not limited to, those associated with site restoration and turbine removal.

Sec. C-2. 12 M.R.S.A. §685-B, sub-§2-C is enacted to read:

"Expedited wind energy development; determination deadline. The Commission shall consider any wind energy development in the expedited permitting area under Title 35-A, chapter 34-A a use requiring a permit, but not a special exception, within the affected districts or subdistricts and shall render its determination on an application for such a development within 185 days after the commission determines that the application is complete, except that the Commission shall render such a decision within 270 days if it holds a hearing on the application. The chair of the Public Utilities Commission or the chair's designee shall serve as a nonvoting member of the Commission and may participate fully but is not required to attend hearings when the commission considers an application for an expedited wind energy development as defined in Title 35-A, §3451. The chair's participation on the Commission pursuant to this subsection does not affect the ability of the Public Utilities Commission to submit information into the record of the Commission's proceedings."

Sec. C-4. 12 M.R.S.A. §685-B, sub-§4(C) is enacted to read:

1. Pursuant to §685,B(4) of the Commission's statute, the Commission shall approve no application, unless:

   A. Adequate technical and financial provision has been made for complying with the requirements of the State's air and water pollution control and other environmental laws, and those standards and regulations adopted with respect thereto, including without limitation the minimum lot size laws, §4807 to 4807-G, the site location of development laws, Title 38, §481 to §490, and the natural resource protection laws, Title 38, §480-A to §480-Z, and adequate provision has been made for solid waste and sewage disposal, for controlling of offensive odors and for the securing and maintenance of sufficient healthful water supplies;

   B. Adequate provision has been made for loading, parking and circulation of land, air and water traffic, in, on and from the site, and for assurance that the proposal will not cause congestion or unsafe conditions with respect to existing or proposed transportation arteries or methods;

   C. Adequate provision has been made for fitting the proposal harmoniously into the existing natural environment in order to assure there will be no undue adverse effect on existing uses, scenic character and natural and historic resources in the area likely to be affected by the proposal. In making a determination under this paragraph regarding development to facilitate withdrawal of groundwater, the Commission shall

consider the effects of the proposed withdrawal on waters of the State, as defined by Title 38, § 361-A, subsection 7; water-related natural resources; and existing uses, including, but not limited to, public or private wells, within the anticipated zone of contribution to the withdrawal. In making findings under this paragraph, the Commission shall consider both the direct effects of the proposed withdrawal and its effects in combination with existing water withdrawals. In making a determination under this paragraph regarding an expedited wind energy development, as defined in Title 35-A, §3451, subsection 4, the commission shall consider the development's effects on scenic character and existing uses related to scenic character in accordance with Title 35-A, §3452 (emphasis added);

D. The proposal will not cause unreasonable soil erosion or reduction in the capacity of the land to absorb and hold water and suitable soils are available for a sewage disposal system if sewage is to be disposed on-site; and

E. The proposal is otherwise in conformance with this chapter and the regulations, standards and plans adopted pursuant thereto.

The burden is upon the applicant to demonstrate by substantial evidence that the criteria for approval are satisfied, and that the public's health, safety and general welfare will be adequately protected. Except as otherwise provided in Title 35-A, §3454, the commission shall permit the applicant and other parties to provide evidence on the economic benefits of the proposal as well as the impact of the proposal on energy resources.

Sec. C-4. 12 M.R.S.A. §685-B, sub-§4-B is enacted to read:

Special provisions; wind energy development. In the case of a wind energy development, as defined in Title 35-A, §3451, subsection 11, with a generating capacity greater than 100 kilowatts, the developer must demonstrate, in addition to requirements under subsection 4, that the proposed generating facilities, as defined in Title 35-A, §3451, subsection 5:

1. Will meet the requirements of the Board of Environmental Protection's noise control rules adopted pursuant to Title 38, chapter 3, subchapter 1, article 6;

2. Will be designed and sited to avoid undue adverse shadow flicker effects;

3. Will be constructed with setbacks adequate to protect public safety, as provided in Title 35-A, §3455. In making findings pursuant to this paragraph, the commission shall consider the recommendation of a professional, licensed civil engineer as well as any applicable setback recommended by a manufacturer of the generating facilities; and

4. Will provide significant tangible benefits, as defined in Title 35-A, § 3451, subsection 10, within the State, as provided in Title 35-A, §3454, if the development is an expedited wind energy development, as defined in Title 35-A, §3451, subsection 4.

Sec. C-6 (4). Transition; establishment of expedited permitting area and permitted use prior to rulemaking.

Notwithstanding any other provision of law, prior to the Maine Land Use Regulation Commission's adoption of the rules required by this section, the portion of expedited permitting area located in the State's unorganized and de-organized areas consists of the lands and state waters specified in this section and an expedited wind energy development, as defined in Title 35-A, §3451, subsection 4, is a use requiring a permit, but not a special exception, subject to permitting by the Maine Land Use Regulation Commission or Department of Environmental Protection in accordance with this Act and other applicable law, in all districts and subdistricts located within the expedited permitting area.

No later than September 1, 2008, the Maine Land Use Regulation Commission shall adopt a rule amending its land use districts and standards to provide that grid-scale wind energy development as defined in the Maine Revised Statutes, Title 35-A, §3451 is a use requiring a permit, but not a special exception, in all districts or subdistricts located within the expedited permitting area designated pursuant to this section, subject to permitting by the Maine Land Use Regulation Commission or Department of Environmental Protection in accordance with this Act and other applicable law.

Rules adopted by the Maine Land Use Regulation Commission pursuant to this section are routine technical rules as defined in Title 5, chapter 375, subchapter 2-A.

B. The Commission's Land Use Districts and Standards

1. Pursuant to Section 10.06 of the Commission's Land Use Districts and Standards, the following shall apply to all uses in all subdistricts, except as otherwise provided:

   The description of permitted uses herein does not authorize any person to unlawfully trespass, infringe upon or injure the property of another, and does not relieve any person of the necessity of complying with other applicable laws and regulations.

2. Section 10.25 of the Commission's Land Use Districts and Standards

   A. *Section 10.25,C: Technical and Financial Capacity.* The standards set forth below must be met for all subdivisions and commercial, industrial, and other non-residential development.

      (1) The applicant shall retain qualified consultants, contractors and staff to design and construct proposed improvements, structures, and facilities in accordance with approved plans. In determining the applicant's technical ability, the Commission shall consider the size and scope of the proposed development, the applicant's previous experience, the experience and training of the applicant's consultants and contractors, and the existence of violations or previous approvals granted to the applicant.

      (2) The applicant shall have adequate financial resources to construct the proposed improvements, structures, and facilities and meet the criteria of all state and federal laws and the standards of these rules. In determining the applicant's financial

capacity, the Commission shall consider the cost of the proposed subdivision or development, the amount and strength of commitment by the financing entity, and, when appropriate, evidence of sufficient resources available directly from the applicant to finance the subdivision or development.

B. *Section 10.25,D: Vehicle circulation, access and parking.*

(1) General circulation: Provision shall be made for vehicular access to and within the project premises in such a manner as to avoid traffic congestion and safeguard against hazards to traffic and pedestrians along existing roadways and within the project area. Development shall be located and designed so that the roadways and intersections in the vicinity of the development will be able to safely and efficiently handle the traffic attributable to the development in its fully operational stage.

(2) Access management: Access onto any roadway shall comply with all applicable Maine Department of Transportation safety standards. For subdivisions and commercial, industrial and other non-residential development, the following standards also apply:

(a) The number and width of entrances and exits onto any roadway shall be limited to that necessary for safe entering and exiting.

(b) Access shall be designed such that vehicles may exit the premises without backing onto any public roadway or shoulder.

(c) Shared access shall be implemented wherever practicable.

(d) Access between the roadway and the property shall intersect the roadway at an angle as near to 90 degrees as site conditions allow, but in no case less than 60 degrees, and shall have a curb radius of between 10 feet and 15 feet, with a preferred radius of 10 feet.

(e) The Commission may require a traffic impact study of roadways and intersections in the vicinity of the proposed project site if the proposed development has the potential of generating significant amounts of traffic or if traffic safety or capacity deficiencies exist in the vicinity of the project site.

C. *Section 10.25,E,2 and 3: Natural and Historic Features.*

(2) *Natural Features.*

If any portion of a subdivision or commercial, industrial or other non-residential project site includes critically imperiled (S1) or imperiled (S2) natural communities or plant species, the applicant shall demonstrate that there will be no undue adverse impact on the community and species the site supports and indicate appropriate measures for the preservation of the values that qualify the site for such designation.

(3) *Historic Features.*

"If any portion of a subdivision or commercial, industrial or other non-residential project site includes an archaeologically sensitive area or a structure listed in the National Register of Historic Places, or is considered by the Maine Historic Preservation Commission or other pertinent authority as likely to contain a significant archaeological site or structure, the applicant shall conduct an archaeological surveys or submit information on the structure, as requested by the appropriate authority. If a significant archaeological site or structure is located in the project area, the applicant

shall demonstrate that there will be no undue adverse impact to the archaeological site or structure, either by project design, physical or legal protection, or by appropriate archaeological excavation or mitigation."

D. *Section 10.25,F,2: Lighting.*

(2) Lighting standards for exterior light levels, glare reduction, and energy conservation.

(a) All residential, commercial and industrial building exterior lighting fixtures will be full cut-off, except for incandescent lights of less than 160 watts, or any other light less than 60 watts. Full cut-off fixtures are those that project no more than 2.5% of light above the horizontal plane of the luminary's lowest part. Figure 10.25,F-1 illustrates a cut-off fixture as defined by the Illuminating Engineering Society of North America (IESNA).

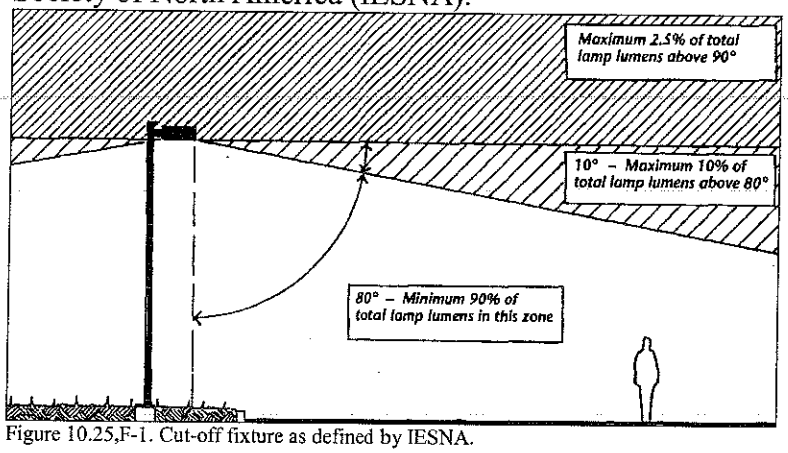

Figure 10.25,F-1. Cut-off fixture as defined by IESNA.

(b) All exterior lighting shall be designed, located, installed and directed in such a manner as to illuminate only the target area, to the extent practicable. No activity shall produce a strong, dazzling light or reflection of that light beyond lot lines onto neighboring properties, onto any water bodies with a significant or outstanding scenic resource rating, or onto any roadway so as to impair the vision of the driver of any vehicle upon that roadway or to create nuisance conditions.

(c) For commercial, industrial and other non-residential development, all non-essential lighting shall be turned off after business hours, leaving only the minimal necessary lighting for site security. The term "non-essential" applies, without limitation, to display, aesthetic and parking lighting.

(e) The following activities are exempt from the lighting standards of Section 10.25,F,2,a through d:

(i) Roadway and airport lighting;

(ii) Temporary fair, event, or civic uses;

(iii) Emergency lighting, provided it is temporary and is discontinued upon termination of the work;

(iv) Lighting that is activated by motion-sensors; and

(1) Lighting that was in place on April 1, 2004.

E. *Section 10.25,G: Soil Suitability.* The standards set forth below must be met for all subdivisions and commercial, industrial and other non-residential development.

(1) Soil types shall be determined by a site-specific soil survey, according to the "Guidelines for Maine Certified Soil Scientists for Soil Identification and Mapping" (Maine Association of Professional Soil Scientists, 2004). The soil survey class shall be determined as follows, unless the Commission finds that a lower or higher intensity soil survey class is needed:

(c) For new commercial, industrial and other non-residential development, a Class A high intensity soil survey shall be used to identify soils within any proposed disturbed area. A Class C soil survey may be used to identify soils elsewhere within the project area.

The Commission may waive one or more of the provisions of a Class A or B high intensity soil survey, including but not limited to the contour mapping requirement, where such provision is considered by the Commission unnecessary for its review.

(2) Determination of soil suitability shall be based on the Natural Resources Conservation Service's soils potential ratings for low density development. Soils with a low or very low development potential rating shall not be developed unless the Commission determines that adequate corrective measures will be used to overcome those limitations that resulted in a low or very low rating.

F. *Section 10.25,H: Solid Waste Disposal.* The standards set forth below must be met for all subdivisions and commercial, industrial and other non-residential development.

(1) Provision shall be made for the regular collection and disposal of site-generated solid wastes at a state-approved landfill or transfer station.

(2) Provision shall be made for the legal disposal of all construction debris, stumps, brush, wood wastes, asphalt and pavement products.

G. *Section 10.25,L: Phosphorous Control.*

(1) The standards set forth below must be met for:

(b) Commercial, industrial or other non-residential development that creates a disturbed area of one acre or more within the direct watershed of a body of standing water 10 acres or greater in size.

(2) General Standards.

(a) Provision shall be made to limit the export of phosphorus from the site following completion of the development or subdivision so that the project will not exceed the allowable per-acre phosphorus allocation for the water body, determined by the Commission according to "Phosphorus Control in Lake Watersheds: A Technical Guide for Evaluating New Development" (Maine Department of Environmental Protection, 1992), and hereafter cited as the Phosphorus Control Guide.

(b) The phosphorus impact of a proposed subdivision or development on a water body shall be calculated using the Standard Method for Calculating Phosphorus Export, according to the procedures in the Phosphorus Control Guide.

(3) Design and Maintenance Standards.

(a) Phosphorus control measures and their maintenance shall meet the design criteria contained in the Phosphorus Control Guide.

H. *Section 10.25,M: Erosion and Sedimentation (E/S) Control Plan.* The standards set forth below must be met for all development that involves filling, grading, excavation or other similar activities which result in un-stabilized soil conditions.

(1) General Standards.

(a) Soil disturbance shall be kept to a practicable minimum. Development shall be accomplished in such a manner that the smallest area of soil is exposed for the shortest amount of time possible. Operations that result in soil disturbance shall be avoided or minimized in sensitive areas such as slopes exceeding 15% and areas that drain directly into water bodies, drainage systems, water crossings, or wetlands. If soil disturbance is unavoidable, it shall occur only if best management practices or other soil stabilization practices equally effective in overcoming the limitations of the site are implemented.

(b) Whenever sedimentation is caused by stripping of vegetation, re-grading, or other construction-related activities, sediment shall be removed from runoff water before it leaves the site so that sediment does not enter water bodies, drainage systems, water crossings, wetlands, or adjacent properties.

(c) Soil disturbance shall be avoided or minimized when the ground is frozen or saturated. If soil disturbance during such times is unavoidable, additional measures shall be implemented to effectively stabilize disturbed areas, in accordance with an approved erosion and sedimentation control plan.

(2) Design Standards.

(a) Permanent and temporary erosion and sedimentation control measures shall meet the standards and specifications of the "Maine Erosion and Sediment Control BMP Manual" (Department of Environmental Protection, March 2003) or other equally effective practices. Areas of disturbed soil shall be stabilized according to the "Guidelines for Vegetative Stabilization" (Appendix B of this chapter) or by alternative measures that are equally effective in stabilizing disturbed areas.

(b) Clearing and construction activities, except those necessary to establish sedimentation control devices, shall not begin until all sedimentation control devices have been installed and stabilized.

(c) Existing catch basins and culverts on or adjacent to the site shall be protected from sediment by the use of hay bale check dams, silt fences or other effective sedimentation control measures.

(d) If streams will be crossed, special measures shall be undertaken to protect the stream, as set forth in Section 10.27,D.

(e) Topsoil shall not be removed from the site except for that necessary for the construction of roads, parking areas, building excavations and other construction-related activities. Topsoil shall be stockpiled at least 100 feet from any water body.

(f) Effective, temporary stabilization of all disturbed and stockpiled soil shall be completed at the end of each workday.

(g) Permanent soil stabilization shall be completed within one week of inactivity or completion of construction.

(h) All temporary sedimentation and erosion control measures shall be removed after construction activity has ceased and a cover of healthy vegetation has established itself or other appropriate permanent control measures have been implemented.

(3) Erosion and Sedimentation Control Plan.

(a) For development that occurs when the ground is frozen or saturated or that creates a disturbed area of one acre or more, the applicant must submit an erosion and sedimentation control plan for Commission approval in accordance with the requirements of Section 10.25,M,3,b,(2).

(b) A Commission approved erosion and sedimentation control plan in conformance with these standards shall be implemented throughout the course of the project, including site preparation, construction, cleanup, and final site stabilization. The erosion and sedimentation control plan shall include the following:

(i) For activities that create a disturbed area of less than one acre:

- A drawing illustrating general land cover, general slope and other important natural features such as drainage ditches and water bodies.
- A sequence of construction of the development site, including clearing, grading, construction, and landscaping.
- A general description of all temporary and permanent control measures.
- Provisions for the continued maintenance of all control devices or measures.

(ii) For activities that create a disturbed area of one acre or more:

- A site plan identifying vegetation type and location, slopes, and other natural features such as streams, gullies, berms, and drainage ditches. Depending on the type of disturbance and the size and location of the disturbed area, the Commission may require a high intensity soil survey covering all or portions of the disturbed area.
- A sequence of construction of the development site, including stripping and clearing; rough grading; construction of utilities, infrastructure, and buildings; and final grading and landscaping. Sequencing shall identify the expected date on which clearing will begin, the estimated duration of exposure of cleared areas, areas of clearing, installation of temporary erosion and sediment control measures, and establishment of permanent vegetation.
- A detailed description of all temporary and permanent erosion and sedimentation control measures, including, without limitation, seeding mixtures and rates, types of sod, method of seedbed preparation, expected seeding dates, type and rate of lime and fertilizer application, and kind and quantity of mulching for both temporary and permanent vegetative control measures.
- Provisions for the continued maintenance and inspection of erosion and sedimentation control devices or measures, including estimates of the cost of maintenance and plans for meeting those expenses, and inspection schedules.

(4) Inspection.

(a) For subdivisions and commercial, industrial or other non-residential development that occurs when the ground is frozen or saturated or that creates a disturbed area

of one acre or more, provision shall be made for the inspection of project facilities, in accordance with Section 10.25,M,4,a,(1) or (2) below:

(i) The applicant shall hire a contractor certified in erosion control practices by the Maine Department of Environmental Protection to install all control measures and conduct follow-up inspections; or

(ii) The applicant shall hire a Maine Registered Professional Engineer to conduct follow-up inspections.

(b) The purpose of such inspections shall be to determine the effectiveness of the erosion and sedimentation control plan and the need for additional control measures.

(c) Inspections shall be conducted in accordance with a Commission approved erosion and sedimentation control plan and the following requirements.

(i) Inspections shall be conducted at least once a week and after each rainfall event accumulating more than ½ inch of precipitation, until all permanent control measures have been effectively implemented. Inspections shall also be conducted (a) at the start of construction or land-disturbing activity, (b) during the installation of sedimentation and erosion control measures, and (c) at the completion of final grading or close of the construction season.

(ii) All inspections shall be documented in writing and made available to the Commission upon request. Such documentation shall be retained by the applicant for at least six months after all permanent control measures have been effectively implemented.

(d) Notwithstanding Section 10.25,M,4,a, development may be exempt from inspection if the Commission finds that an alternative, equally effective method will be used to determine the overall effectiveness of the erosion and sedimentation control measures.

I. *Wetland alterations.*

(1) *Section 10.25,P: Standards for Wetland Alterations.* The following requirements apply to wetland alterations for Uses Requiring a Permit and Special Exceptions in Section 10.23,N,3. Except as hereinafter provided, wetland alterations not in conformance with the standards of this section are prohibited.

(2) *(P-WL) Wetland Protection Subdistrict.*

- Section 10.23,N,3,b(4) - Uses allowed without a permit subject to standards: Filling, grading, draining, dredging or otherwise altering less than 4,300 square feet of a P-WL2 or P-WL3 subdistrict;
- Section 10.23,N,3,c(4) - Uses requiring a permit: Filling, grading, and dredging, other than for riprap associated with water crossings and except as provided for in Section 10.23,N,3,b;

(3) *Definition of "Alteration" – Section 10.02(6).*

Dredging; bulldozing; removing or displacing soil, sand, vegetation or other materials; draining or dewatering; filling; or any construction, repair or alteration of any permanent structure. On a case-by-case basis and as determined by the Commission, the term "alteration" may not include:

- An activity disturbing very little soil such as installing a fence post or planting shrubs by hand;

- The addition of a minor feature to an existing structure such as a bench or hand rail; and
- The construction, repair or alteration of a small structure with minimal impact such as a nesting box, pasture fence, or staff gauge.

J. Section 10.26 of the Commission's Land Use Districts and Standards (see Section A, §3455. Determination of public safety-related setbacks, above, for setbacks for wind turbines)

(1) *Section 10.26,D: Minimum Setbacks.*
The minimum setbacks for multi-family dwellings and commercial, industrial, and other non-residential principal and accessory structures are:
(a) 100 feet from the nearest shoreline of a flowing water draining less than 50 square miles, a body of standing water less than 10 acres in size, or a tidal water, and from the upland edge of wetlands designated as P-WL1 subdistricts;
(b) 150 feet from the nearest shoreline of a flowing water draining 50 square miles or more and a body of standing water 10 acres or greater in size;
(c) 75 feet from the traveled portion of the nearest roadway except as provided for in Section 10.26,D,2,d below;

(2) *Section 10.26,F,2: Maximum Building Height.*
(a) Except as provided for in Section 10.26,F,2 and 4 below, the maximum building height shall be:
(1) 100 feet for commercial, industrial, and other non-residential uses involving one or more buildings.
(b) Features of buildings which contain no floor area such as chimneys, towers, ventilators and spires may exceed these maximum heights with the Commission's approval.

C. Maine Department of Environmental Protection, Site Location of Development: Control of Noise, Sound Level Limits (06-096, Chapter 375)

(1) *Chapter 375.10.C(1)(a)(i) and (v). Sound From Routine Operation of Developments.*
(a) Except as noted in subsections (b) and (c) below, 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:
(i) At any property line of the development or contiguous property owned by the developer, whichever is farther from the proposed development's regulated sound sources:

75 dBA at any time of day.

(v) 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").

For the purpose of determining whether a protected location has a daytime or nighttime pre-development ambient hourly sound level equal to or less than 45 dBA or 35 dBA, respectively, the developer may make sound level measurements in accordance with the procedures in subsection H or may estimate the sound-level based upon the population density and proximity to local highways. If the resident population within a circle of 3,000 feet radius around a protected location is greater than 300 persons, or the hourly sound level from highway traffic at a protected location is predicted to be greater than 45 dBA in the daytime or 35 dBA at night (as appropriate for the anticipated operating schedule of the development), then the developer may estimate the daytime or nighttime pre-development ambient hourly sound level to be greater than 45 dBA or 35 dBA, respectively.

(2) *Chapter 375.10.C(1)(e)(i).* When routine operation of a development produces short duration repetitive sound, the following limits shall apply:

(i) For short duration repetitive sounds, 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 the above sound level limits.

(3) *Chapter 375.10.C(2). Sound From Construction of Developments.*

(a) The sound from construction activities between 7:00 p.m. and 7:00 a.m. is subject to the following limits:

(i) Sound from nighttime construction activities shall be subject to the nighttime routine operation sound level limits contained in subsections 1(a) and 1(b).

(ii) If construction activities are conducted concurrently with routine operation, then the combined total of construction and routine operation sound shall be subject to the nighttime routine operation sound level limits contained in subsections 1(a) and 1(b).

(iii)Higher levels of nighttime construction sound are permitted when a duly issued permit authorizing nighttime construction sound in excess of these limits has been granted by:

1. The local municipality when the duration of the nighttime construction activity is less than or equal to 90 days,

2. The local municipality and the Board when the duration of the nighttime construction activity is greater than 90 days.

(b) Sound from construction activities between 7:00 a.m. and 7:00 p.m. shall not exceed the following limits at any protected location:

Duration of Activity	Hourly Sound Level Limit
12 hours	87 dBA
8 hours	90 dBA
6 hours	92 dBA
4 hours	95 dBA
3 hours	97 dBA
2 hours	100 dBA
1 hour or less	105 dBA

(c) All equipment used in construction on development sites shall comply with applicable federal noise regulations and shall include environmental noise control devices in proper working condition, as originally provided with the equipment by its manufacturer.

(4) *Chapter 375.10.C(3). Sound From Maintenance Activities.*

(a) Sound from routine, ongoing maintenance activities shall be considered part of the routine operation of the development and the combined total of the routine maintenance and operation sound shall be subject to the routine operation sound level limits contained in subsection 1.

(b) Sound from occasional, major, scheduled overhaul activities shall be subject to the construction sound level limits contained in subsection 2. If overhaul activities are conducted concurrently with routine operation and/or construction activities, the combined total of the overhaul, routine operation and construction sound shall be subject to the construction sound level limits contained in subsection 2.

D. LURC windpower permitting checklist (also in MDEP Site Law windpower permit application guidance), Appendix B, item #5

5. *Public safety related setbacks:* Provide documentation in the form of a site plan and a certificate of design provided by the manufacturer of the generating facility that document that the proposed wind energy development has been designed to conform to applicable industry standards and that the proposed wind energy development will not present an unreasonable safety hazard to adjacent properties or adjacent property uses. Documentation provided by the applicant must include, but is not limited to, the following:

A. *Design Safety Certification*: Evidence that the turbine design meets acceptable safety standards; such evidence may include submission of certificates of design compliance

obtained by the equipment manufacturers from Underwriters Laboratories, Det Norske Veritas, Germanishcer Llloyd Wind Energies, or other similar certifying organizations.

B. *Over-speed Control*: Evidence from the manufacturer or other licensed civil engineer describing the design and function of over-speed control (i.e. aerodynamic over-speed controls such as variable pitch and mechanical brakes) and related safety mechanisms that are part of the turbine design.

C. *Public Safety-related Setback*: Evidence that the wind turbines have been sited with appropriate safety related setbacks from adjacent properties and adjacent existing uses; including a site plan and applicable documentation as necessary to show that the proposed wind generation facility turbines have been sited in such a manner as to provide a minimum set back from the nearest property line, roads, other structures, etc. The setback distance must be measured to the center of the wind turbine base.

For turbine property boundary line setbacks less than 1.5 times the tower height, the applicant may obtain a waiver from the adjacent landowner; or may submit evidence (*i.e.* operating protocols, safety programs, recommendation of a licensed professional engineer with appropriate expertise and experience with wind turbines, or relevant manufacturer recommendations) that the setback proposed is appropriate.

E. Title 38: Waters and Navigation, Chapter 3: Protection and Improvement of Waters (PL 2001, C. 619, §1)

§470-A. Definitions

As used in this article, unless the context otherwise indicates, the following terms have the following meanings.

1. *Non-consumptive use*. "Non-consumptive use" means any use of water that results in the water being discharged back into the same water source within 1/4 mile upstream or downstream from the point of withdrawal such that the difference between the volume withdrawn and the volume returned is no more than the threshold amount per day. This also includes withdrawals from groundwater that are discharged to a subsurface system or to a hydraulically connected surface water body such that no more than the threshold amount is consumed.
2. *Water source*. "Water source" means any river, stream or brook as defined in section 480-B, any lake or pond classified GPA pursuant to section 465-A or groundwater located anywhere in the State.
3. *Water withdrawal; withdrawal of water*. "Water withdrawal" or "withdrawal of water" means the removal, diversion or taking of water from a water source. All withdrawals of water from a particular water source that are made or controlled by a single person are considered to be a single withdrawal of water.

§470-B. Threshold volumes for reporting.

Except as otherwise provided in this article, a person making a water withdrawal in excess of the threshold volumes established in this section shall file a water withdrawal report in accordance with section 470-D covering the 12 months ending on the previous September 30th. The threshold volumes for reporting are as follows.

2. *Withdrawals from GPA lake or pond or certain groundwater sources.* The threshold volume for reporting on withdrawals from a Class GPA lake or pond or groundwater within 500 feet of the lake or pond is determined from the following table:

Lake area in acres	gallons/ week
< 10	30,000
10-30	100,000
31-100	300,000
101-300	1,000,000
301-1000	3,000,000
1001-3000	10,000,000
3001-10,000	30,000,000

STATE OF MAINE
DEPARTMENT OF CONSERVATION
22 STATE HOUSE STATION
AUGUSTA, MAINE
04333-0022

STANDARD CONDITIONS OF APPROVAL FOR ALL DEVELOPMENT PERMITS

1. The permit certificate must be posted in a visible location on your property during development of the site and construction of all structures approved by this permit.

2. This permit is dependent upon and limited to the proposal as set forth in the application and supporting documents, except as modified by the Commission in granting this permit. Any variation therefrom is subject to the prior review and approval of the Maine Land Use Regulation Commission. Any variation from the application or the conditions of approval undertaken without approval of the Commission constitutes a violation of Land Use Regulation Commission law.

3. Construction activities permitted in this permit must be begun within two (2) years of date of issue and completed within five (5) years from date of issuance of this permit. If such construction activities are not begun and completed within this time limitation, this permit shall lapse and no activities shall then occur unless and until a new permit has been granted by the Commission.

4. The recipient of this permit ("permittee") shall secure and comply with all applicable licenses, permits, and authorizations of all federal, state and local agencies including, but not limited to, natural resources protection and air and water pollution control regulations and the Subsurface Wastewater Disposal Rules of the Maine Department of Environmental Protection and the Maine Department of Human Services.

5. Setbacks of all structures, including accessory structures, from waterbodies, roads and property boundary lines must be as specified in conditions of the permit approval.

6. In the event the permittee should sell or lease this property, the buyer or lessee shall be provided a copy of the approved permit and advised of the conditions of approval. The new owner or lessee must contact the Land Use Regulation Commission to have the permit transferred into his/her name and to reflect any changes proposed from the original application and permit approval.

7. The scenic character and healthful condition of the area covered under this permit must be maintained. The area must be kept free of litter, trash, junk cars and other vehicles, and any other materials that may constitute a hazardous or nuisance condition.

8. The permittee shall not advertise Land Use Regulation Commission approval without first obtaining Commission approval for such advertising. Any such advertising shall refer to this permit only if it also notes that the permit is subject to conditions of approval.

9. Once construction is complete, the permittee shall notify the Commission that all requirements and conditions of approval have been met. The permittee shall submit all information requested by the Commission demonstrating compliance with the terms of the application and the conditions of approval. Following notification of completion, the Commission's staff may arrange and conduct a compliance inspection.