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**CHECKLIST AND GUIDANCE FOR
LAND USE REGULATION COMMISSION (LURC)
WIND ENERGY DEVELOPMENT PERMIT APPLICATIONS**

- ❖ Table 1.1 (Section A-1) presents the Exhibits required for a “grid-scale” wind energy development in the areas of LURC jurisdiction designated for expedited permitting in accordance with PL 2008, Chapter 661.
- ❖ Table 1.2 (Section A-2) presents the Exhibits required for wind energy development smaller than “grid-scale” but larger than 100 kW in size in the areas of LURC jurisdiction designated for expedited permitting in accordance with PL 2008, Chapter 661. [Note: For wind energy development permit applications smaller than 100 kW, please contact LURC staff to discuss the required submittals.]
- ❖ Table 2 (Section B) presents the general Exhibits to be submitted for all wind energy development permit applications in the expedited permitting area in accordance with LURC’s rules.
- ❖ The definitions of “grid-scale” wind energy development”, “expedited wind energy development”, “wind energy development”, and other relevant terms can be found in Appendix A of this guidance document.
- ❖ Additional guidance for the materials to be submitted can be found in Appendix B of this document (as specified under the various exhibits listed below).

[Reference PL 2008, Chapter 661 (LD 2283, signed into law April 18, 2008)]

[Reference 12 M..R..S.A., §685-B(4) and §10.24 of the Commission’s Land Use Districts and Standards]

§10.21 to §10.23 of the Commission’s Land Use Districts and Standards indicate that wind energy development located in the designated expedited permitting areas is a use allowed with a permit in all subdistricts. The land use standards contained in §10.25 to §10.27 apply to wind energy development, except where superseded by the provisions of 12 M.R.S.A., §685-B(4) [as reflected in §10.24] and PL 2008, Chapter 661.

Enclosed with this checklist:

- Appendix F to Chapter 10 of the Commission’s Land Use Districts and Standards
 - _ Figure F-1: Map showing the designated expedited permitting areas for wind energy development
- Standard LURC application forms
 - _ Application for a LURC Permit
 - _ Supplement S-2 (for non-residential development)
 - _ Supplement S-3 (for wetland alterations)

The following Exhibits in Table 1.1 or 1.2, as applicable, and Table 2 must be attached to the completed and signed standard LURC permit application forms. Any information requested in the standard LURC permit application form, and the S-2 and S-3 supplements that cannot be entered onto those forms directly should be incorporated into the Exhibits required in this checklist. If information requested by the standard application forms is inconsistent with the Exhibits described here, this checklist supersedes the standard forms.

Table 1.1: Section A-1 - Exhibits required for a permit application for “grid-scale” wind energy development” in the areas of LURC jurisdiction designated for expedited permitting [in accordance with PL 2008 Chapter 661]

(*) Designates that the application may be deemed complete for processing prior to submittal of this Exhibit.

✓	Exhibit	Instructions and guidance (additional guidance can be found in Appendix B)
	1a. Scenic character evaluation	<p>i) Provide an evaluation of the effect of the project on scenic character if <u>scenic resources of state or national significance</u> are located within 3 miles of the development area, unless otherwise determined by the Commission (see items #1a(ii) and #1b, below). To determine if a scenic evaluation must be submitted, the Commission shall consider for scenic resources of state or national significance:</p> <ul style="list-style-type: none"> • Significance of the affected scenic resource • Existing character of the surrounding area • Expectations of the typical viewer • Project purpose and context • Extent, nature, and duration of the potentially affected public uses of the scenic resource and the potential effect of the generating facility’s presence on the publics’ continued use and enjoyment of the scenic resource. <p>ii) To determine the effects on scenic character and existing uses related to scenic character, the scenic evaluation must include:</p> <ul style="list-style-type: none"> • Locations and descriptions of scenic resources of state or national significance within 3 miles of the development area. • (*) The locations and descriptions of scenic resources of state or national significance from 3 miles to 8 miles of the development area, if the Commission finds there is substantial evidence that the pertinent resource is significant and there is a potential for a significant adverse effect. For this to be considered, Interested Parties must submit such information to the Commission within 30 days of accepting the application as complete for processing. • The effect of the project on the affected scenic resources of state or national significance with respect to the five criteria listed in item (i), above. <p>iii) The term “<u>scenic resources of state or national significance</u>” is defined in 35-A M.R.S.A., §3451(9) (see Appendix A, item #6)</p> <p>iv) See Appendix B, item #1 (Attachment H from the “<i>Report of the Governor’s Task Force on Wind Power Development</i>”), which is included in this packet for reference.</p>

	<p>(*) 1b. Exception - Scenic character of associated facilities</p>	<p>i) If the Commission determines it is required (see (ii) and (iii), below), the applicant must submit a scenic evaluation of the effect of the <u>associated facilities</u> (reference Appendix A, item #1) of a <u>wind energy development</u> in consideration of the criteria contained in §10.25,E,1 of the Commission’s <i>Land Use Districts and Standards</i>.</p> <p>ii) [The Commission] “shall evaluate the effect of associated facilities of a <u>wind energy development</u> on scenic character and existing uses related to scenic character in accordance with Title 12, §685-B,4,C in the manner provided for development other than <u>wind energy development</u>, if the primary siting authority determines that application of the standard in §3452, subsection 1 to the development may result in unreasonable adverse effects due to the scope, scale, location, or other characteristics of the associated facilities.”</p> <p>iii) “An Interested Party may submit information regarding this determination to [the Commission] for consideration. [The Commission] shall make a determination pursuant to this subsection within 30 days of its acceptance of the application as complete for processing.”</p>
	<p>2. Shadow flicker evaluation</p>	<p>i) Provide a detailed model of the wind energy development that demonstrates the project has been designed and sited to avoid unreasonable adverse shadow flicker effects. The shadow flicker model must utilize WindPro software, or other modeling software as approved by the Commission.</p> <p>ii) See Appendix B, item #2 (Attachment I from the “<i>Report of the Governor’s Task Force on Wind Power Development</i>”) and item #3 for additional discussion of shadow flicker effects. Both are included in this packet for reference.</p>
	<p>3. Avian and bat monitoring</p>	<p>i) Unless otherwise determined by the Maine Department of Inland Fisheries and Wildlife, provide the results of pre-construction monitoring, an assessment of the monitoring results, and a post-construction monitoring plan to demonstrate the effects of the project on avian and bat species using the development area.</p> <p>ii) The specific monitoring requirements for each project will be determined through pre-application consultation with LURC and MDIFW staff, and USFWS as needed.</p> <p>iii) For detailed guidance, see Appendix B, item #4 (Attachment H from the “<i>Report of the Governor’s Task Force on Wind Power Development</i>”), included in this packet for reference.</p>
	<p>4. Noise evaluation</p>	<p>i) Provide an evaluation of the noise to be generated by the operation of the <u>wind energy development</u> to demonstrate that the project will meet the provisions of the Board of Environmental Protection’s noise control rules as contained in 38 M.R.S.A., chapter 3, subchapter 1, article 6.</p>

		<p>ii) See Appendix B, item #2 (Attachment I from the “<i>Report of the Governor’s Task Force on Wind Power Development</i>”), included in this packet for reference.</p>
	<p>5. Public safety related setbacks</p>	<p>i) Provide materials and information to demonstrate that the project [turbines] will be “constructed with setbacks adequate to protect public safety”, as provided in 35-A M.R.S.A., §3455. “The “recommendations of a professional, licensed civil engineer, as well as any applicable setback recommended by a manufacture of the generating facility will be considered”</p> <p>ii) See Appendix B, item #5 for materials to be included in the public safety demonstration.</p> <p>iii) See Table 2, Section B, Exhibit 13,c for setbacks for structures other than the turbines.</p>
	<p>6. Tangible benefits</p>	<p>i) Provide materials and information to demonstrate that the project will provide significant “<u>tangible benefits</u>”, as defined in 35-A M.R.S.A., §3451(10), within the State, as provided in 35-A M.R.S.A., §3454. In making findings regarding tangible benefits, the Commission presumes that an expedited wind energy development will provide the energy and emissions-related benefits described in 35-A M.R.S., §3402. However, the Commission must make additional findings regarding other tangible benefits provided by the development.</p> <p>ii) See Appendix A, item #8 for the definition of “tangible benefits”.</p> <p>iii) See Appendix B, item #6, for the DEP policy document on tangible benefits.</p> <p>iv) The applicant may provide evidence on the environmental or economic benefits of the proposal, as well as the proposal’s impact on energy resources [12 M.R.S.A., Section 685-B(4)].</p> <p>v) Provide a narrative description of the tangible benefits that the proposed wind energy development is expected to bring to the region, with particular attention to the benefits to the <u>host community</u> and the surrounding area.</p> <p>vi) The demonstration of tangible benefits does not include projects being done for other required mitigation, such as for wetland impacts. Information about mitigation for wetland impacts would be included in Section B, Exhibit B-15d.</p> <p>vii) Examples of activities that may constitute a tangible benefit include, but are not limited to:</p> <ul style="list-style-type: none"> • <i>Natural resource conservation</i> - Applicants are encouraged to consider conservation of land, including monetary contributions to conservation projects, to demonstrate evidence of tangible benefits. Lands near the project site, or with characteristics similar to the project site, are generally preferred. Include if natural resource agencies were consulted when selecting the conservation area and/or if a natural resource assessment of the area was completed.

		<ul style="list-style-type: none"> • <i>Direct job creation</i> – For both the period of construction and during operation, submit an estimate of direct temporary and permanent jobs associated with the project; and a statement describing plans to hire Maine companies and/or to hire and train local residents. • <i>Indirect benefits</i> - Submit an assessment of jobs to be created indirectly, local services to be used, and materials to be purchased locally. • <i>Direct economic benefits</i> – An estimate of the direct economic benefits of the project including spending on goods and services. • <i>Indirect economic benefits</i> – An estimate of the indirect economic benefits of the project resulting from construction and operation of the project, including any plans to offer long-term fixed rate contracts to Maine businesses and facilities. • <i>Recreation</i> – A description of any plans for coordination with recreationalists for use of the land where the project would be located. • <i>Other tangible benefits</i> - Projects, endowments, etc.
	7. Decommissioning	<p>i) Provide a “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.” [See PL 2008, Sec. B-13]</p> <p>ii) Include the structures that would be removed, how the area would be restored, who would fund the activity, how and when LURC would be notified of the decommissioning, and when a final detailed plan would be prepared.</p> <p>iii) See Appendix B, item #7 for guidance on decommissioning plans for wind energy generating facilities, including financing.</p>

Table 1.2: Section A-2 - Required Exhibits for wind energy development projects smaller than “grid-scale” but at least 100 kW, to be located in the areas of LURC jurisdiction designated for expedited permitting

(*) Designates the application may be deemed complete for processing prior to submittal of this Exhibit.

✓	Exhibit	Instructions and guidance
	1a. Scenic character evaluation	i) Provide an evaluation of the effect of the project on scenic character if <u>scenic resources of state or national significance</u> are located within 3 miles of the development area, unless otherwise determined by the Commission. To determine if a scenic evaluation must be submitted, the Commission shall consider for <u>scenic resources of state or national significance</u> : <ul style="list-style-type: none"> • Significance of the affected scenic resource • Existing character of the surrounding area • Expectations of the typical viewer • Project purpose and context • Extent, nature, and duration of the potentially affected public uses of the scenic resource and the potential effect of the generating facility’s presence on the publics’ continued use and enjoyment of the scenic resource. ii) To determine the effects on scenic character and existing uses related to scenic character, the scenic evaluation must include: <ul style="list-style-type: none"> • Locations and descriptions of “scenic resources of state or national significance” within 3 miles of the development area. • Evaluation of the effect of the project on these resources in accordance with the criteria listed in item (a), above. iii) “ <u>Scenic resources of state or national significance</u> ” is defined in 35-A M.R.S.A., §3451(9) (see Appendix A) iv) See Appendix B, item #1 - Attachment H from the “ <i>Report of the Governor’s Task Force on Wind Power Development</i> ”, which is included in this packet for reference.
	(*) 1b. Exception Scenic character of <u>associated facilities</u>	i) [The Commission] “shall evaluate the effect of <u>associated facilities</u> of a <u>wind energy development</u> on scenic character and existing uses related to scenic character in accordance with Title 12, §685-B,4,C in the manner provided for development other than <u>wind energy development</u> , if the primary siting authority determines that application of the standard in §3452, subsection 1 to the

		<p>development may result in unreasonable adverse effects due to the scope, scale, location, or other characteristics of the <u>associated facilities</u>.”</p> <p>ii) “An Interested Party may submit information regarding this determination to [the Commission] for consideration. [The Commission] shall make a determination pursuant to this subsection within 30 days of its acceptance of the application as complete for processing.”</p>
	2. Shadow flicker evaluation	<p>i) Provide a detailed model of the <u>wind energy development</u> that demonstrates the project has been designed and sited to avoid undue adverse shadow flicker effects. The shadow flicker model shall utilize WindPro software, or other modeling software approved by the Commission.</p> <p>ii) See Appendix B, item #2 (Attachment I from the “<i>Report of the Governor’s Task Force on Wind Power Development</i>”), and item #3 for additional discussion of shadow flicker effects. Both are included in this packet for reference.</p>
	3. Avian and bat monitoring	<p>i) Unless otherwise determined by the Maine Department of Inland Fisheries and Wildlife (MDIFW), provide the results of pre-construction monitoring, an assessment of the monitoring results, and a post-construction monitoring plan to demonstrate the effects of the project on avian and bat species using the development area.</p> <p>ii) The specific monitoring requirements for each project will be determined through pre-application consultation with LURC and MDIFW staff, and U.S. Fish and Wildlife Service as needed.</p> <p>iii) For detailed guidance, see Appendix B, item #4 (Attachment H from the “<i>Report of the Governor’s Task Force on Wind Power Development</i>”), included in this packet for reference.</p>
	4. Noise evaluation	<p>i) Provide an evaluation of the noise to be generated by the operation of the <u>wind energy development</u> to demonstrate that the project will meet the provisions of the Board of Environmental Protection’s noise control rules as contained in 38 M.R.S.A., chapter 3, subchapter 1, article 6.</p> <p>ii) See Appendix B, item #2 (Attachment I from the “<i>Report of the Governor’s Task Force on Wind Power Development</i>”), included in this packet for reference.</p>
	5. Public safety	<p>i) Demonstrate that the project will be “constructed with setbacks adequate to protect public safety”, as provided in 35-A M.R.S.A., §3455. The “recommendations of a professional, licensed civil engineer, as well as any applicable setback recommended by a manufacture of the generating facility” will be considered.</p>

		ii) See Appendix B, item #5 for materials to be included in the public safety demonstration. iii) See Table 2, Section B, Exhibit 13,c for setbacks for structures other than the turbines.
	6. Decommissioning	i) Provide a “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.” [See PL 2008, Sec. B-13] ii) Include the structures that would be removed, how the area would be restored, who would fund the activity, how and when LURC would be notified of the decommissioning, and when a final detailed plan would be prepared. iii) See Appendix B, item #7 for guidance on decommissioning plans for wind energy generating facilities, including financing.

Table 2: Section B – General Information		
General reference - 12 M.R.S.A., §685-B,4; Sections 10.24, 10.25, 10.26, and 10.27 of the Commission’s <u>Land Use Districts and Standards</u> ; Chapters 1 and 4 of LURC’s rules (specific citations are noted in the table) (*) = The application may be deemed complete for processing prior to this exhibit being submitted		
✓	Exhibit	Instructions and guidance
	1. Applicant information	a) Name, mailing address, phone number(s), FAX number, and email address(es) b) Attached completed <u>and signed</u> “Application for a LURC Permit” form, and completed S-2 and S-3 supplements c) Complete and sign agent authorization section, if applicable d) Submit application fee, and processing fee if the project meets the provisions of LURC’s statute [reference Chapter 1, Section 1.04; 12 M.R.S.A., §685-F] e) Include Maine Certification of Corporate Good Standing if the applicant is a corporation
	2. Project location	a) Township(s) and county(s) where project would be located (including all project components); map, plan and lot number(s); book and page numbers; and project coordinates b) Lot size, road and water body frontage

		c) Site map with project location clearly designated
3. Subdistricts		<p>a) List all subdistricts that would be affected by all temporary and permanent activities</p> <p>b) Attach site map(s) showing project location within these subdistricts</p> <p>c) Would any part of the project be located adjacent to a lake? [reference §10.25,A]</p> <p>d) Would any part of the project be located within a development subdistrict in a prospectively zoned area? [reference §10.25,B]</p> <p>e) Would any part of the project be located in a FEMA flood zone? [reference §10.25,T]</p> <p>f) Provide the elevations in the project area, including the elevation of the turbines. In particular, show the parts of the project to be located above 2,700 feet in elevation.</p>
4. Public notice of filing [reference Chapter 4, §4.04(4)]		<p>a) Copy of public notice of filing</p> <p>b) Names and addresses of people receiving the notice</p> <p>c) Newspaper(s) and date(s) notice was published</p> <p>d) Dates and locations of any public information meetings held, including pre-application meetings</p> <p>e) Copies of any press release, dates of publication, and newspaper(s) in which it was published</p>
5. Demonstration of title, right, or interest (TRI)		<p>a) Provide documentation of TRI for all parcels to be developed; state if ownership fee, lease, easement, or other [reference Chapter 4, §4.03(3); and 12 M.R.S.A., §685-B(2)(D)]</p> <p>b) If parcel is leased, include lease lot number</p>
6. Site access		<p>a) Will site access be provided by existing public or private roads? Lists the names of the roads to be used. If private, include TRI in Exhibit B-5. If existing access roads are to be improved, then supply detail in Exhibit B-13.</p> <p>b) Evaluation of vehicular circulation, access and parking; include a traffic study if needed, and site distance evaluation [reference §10.25,D]</p> <p>c) New access roads to be constructed for the project are included in Exhibit B-13,c, below.</p> <p>d) Will the access roads be open to the public after construction?</p>
7. Land division history		<p>a) Trace the land division history of the lot where the development is proposed from the parent lot, over the past 20 years, to determine if the new lot formation constitutes a subdivision. [reference §10.25,Q]</p> <p>b) List transaction type and date, lot size</p>

	8. Existing uses and structures	<p>a) Describe all existing structures on the parcel to be developed, and all uses of that parcel, including uses of the area immediately surrounding the development area. Would any existing structures be used for the project? If so, consult staff to determine if additional information is needed.</p> <p>b) <i>Uses</i>. For example, logging, recreation, residential development, commercial development, gravel pits, etc</p> <p>c) <i>Structures</i>. For example, dwellings, commercial buildings, parking areas, etc.</p>
	9. Financial and technical capacity	Provide evidence of financial capacity for project development. (For decommissioning, see Exhibit A-7, above) [reference §10.25,C]
	10. Services	<p>a) How will services be provided for the development? Include electrical power supply, fire, police, and emergency medical services in this section.</p> <p>b) Solid waste disposal is addressed in Exhibit B-13, e.</p> <p>c) Waste water disposal is addressed in Exhibit B-13,c.</p>
	11. Construction schedule/work plan	<p>a) Include the proposed construction schedule from the date the permit is issued through the post-construction monitoring period.</p> <p>b) If winter or early spring construction is proposed, the work plan and erosion control plan (Exhibit B-14,b) must detail the special provisions for work under frozen conditions, saturated conditions, and/or in high mountain areas (<i>i.e.</i> above 2,700 ft in elevation).</p> <p>c) Specify the proposed in-stream work window.</p> <p>d) Include a reporting/notification/site inspection process to coordinate with LURC staff during construction of the project.</p>
	12. Estimated development costs	Provide the cost of the development, but not including the cost of the land [reference Chapter 1, §1.02(B)]. (For decommissioning financing, see Exhibit A-7, above.)
	13. Project description	<p>a) Provide a summary of all temporary and permanent project components (see Exhibit B-15,d for wetland impacts).</p> <p>b) Provide engineered plans prepared by a Maine Registered Professional Engineer showing project components and site layout. The number of copies of the plans to be submitted will be determined on a case-by-case basis.</p>

		<p><i>c) Permanent activities.</i></p> <ul style="list-style-type: none"> • Turbines: Number, size (height, diameter) and capacity; foundation types; turbine and crane pads dimensions; color and lighting (in accordance with FAA plan) • New and upgraded roads: Provide alignment sheets showing road locations, crossings, travel surface widths and shoulders during and after construction, and erosion/storm water control measures. Include the total road length, maximum road slope, if the road would be paved or gravel, and the party responsible for post-construction maintenance • Transmission lines: Provide alignment sheets showing locations of above- and below-ground transmission and communication lines and corridor widths. The information should include pole types and heights (provide typical diagram), detail for stream crossings and buffers, and a vegetation management plan. • Substation(s): On the site plan show the total size of the substation area, sizes of building(s), parking areas, lighting, access, signage. • Meteorological towers: Provide the locations and number of towers proposed, tower type and height, foundation and guy wires, access, lighting (in accordance with FAA plan). • Operations & Maintenance (O&M) facility: Include a description of, and engineered drawing/site plan(s) showing all proposed features at the O&M facility site (buildings, parking area, access, storage areas, setbacks and visual screening, wastewater disposal (include HHE-200 form), water source, lighting, erosion/stormwater control measures). If the parking area would be larger than 1 acre, include a landscaping plan. Provide documentation that a water supply is available at this site, and that the soils are suitable (see Exhibit B-14, below). Would any of the activities exceed the standards in §10.27? [reference §10.25, D,G,H,I, and J] • Signs: State the locations and types of signs to be used. Would the standards of §10.27,J be exceeded? • Setbacks: Provide the setbacks for all structures from property lines, roads, and water bodies in accordance with §10.26,D (except as noted under “Public Safety” for the turbines above in Exhibit A-5), and for roads and utility lines. • Setbacks of roads from water bodies: Would the setbacks in §10.27,D be exceeded? • Other minimum dimensional requirements: Would the standards of §10.26 be met? • Fill material disposal areas: Would the standards of §10.27,F be exceeded? • Stump dump locations, or other disposal of stumps [reference §10.25,H] • Other: _____
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		<p>d) <i>Temporary activities.</i></p> <ul style="list-style-type: none">• Lay-down and storage areas: Size and location• Office and storage trailers: Location, setbacks, wastewater disposal, other services needed• Concrete batch plant (or other option): Site location and size, concrete wash down, handling and storage of materials and additives, amounts of water to be used and source)• Gravel pits (if needed): Size, location, use after construction, heavy equipment needed. Will the proposal exceed the standards of §10.27,C?• Rock crushers and storage areas• Temporary crossings and mats in wetlands (Also see Exhibit B-15(d), below)• Informational signs [reference §10.27,J]• Control of fugitive emissions (dust) [reference §10.25,O]• Other: _____ <p>e) <i>Disposal of solid waste other than stumps (see item (c), above).</i> Demonstrate the provisions to be made for disposal of construction debris and any solid waste generated after construction [reference §10.25,H]</p> <p>f) <i>Spill Prevention, Control and Countermeasures Plan (SPCC).</i> Include SPCC plans to be used during construction and for the post-construction activities and facilities. Describe how large any petroleum product storage tanks will be, and where would they be located, and containment that will be used.</p> <p>g) <i>Geotechnical Evaluation.</i> If already conducted, provide the results of the geotechnical evaluation. If not conducted, then provide a description of the proposed geotechnical work, and the schedule for completing that work.</p> <ul style="list-style-type: none">• Would any portion of the proposed geotechnical evaluation exceed the standards of §10.27,C,1?• Does the proposed activity meet the definition of a Level A mineral extraction? [reference §10.02(87)]• Would any of the geotechnical work be done in areas above 2,700 feet in elevation?• Attach an Acidic Rock Testing and Management Plan, if needed. <p>h) <i>Blasting Plan.</i></p> <p>i) <i>Cuts and fills.</i> Provide a table showing cut and fill estimations. The estimates provided should take into consideration bulking factor. Explain how excess fill would be disposed of, or what sources of additional fill would be used, if needed.</p> <p>j) <i>Clearing.</i> Provide a table summarizing areas to be cleared, including square footage for both</p>
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		<p>temporary and permanent impacts; include areas that will be affected by timber harvesting during clearing such as skid trails and log yards. For maintaining forested buffers, also indicate distances from cleared areas to roads, property lines, waterbodies, and wetlands. Would any portion of the project exceed the standards in §10.27,B ?</p>
	<p>14. Soils mapping, erosion control and storm water management</p>	<p>a) Provide soils mapping for all areas to be developed. Site-specific soils surveys must be Class A high intensity for areas to be disturbed, and Class B for all other areas, unless otherwise agreed to by the State Soil Scientist. This Exhibit must also include, at a minimum, slopes in the development area; a description of the soil units at the site, including drainage class; and an evaluation of the suitability of the soils for the proposed development. [reference §10.25,G]</p> <p>b) See Appendix B, item #8 for additional guidance on mapping soils for linear projects</p> <p>c) <i>E/S/Stormwater Control Plan</i>. [reference §10.25,M]</p> <ul style="list-style-type: none"> • A description of all permanent and temporary measures to be used, and show the measures on site plans; • How work areas and stockpiles will be stabilized; • Detail the special provisions for work under frozen conditions, saturated conditions, and/or in high mountain areas (<i>i.e.</i> above 2,700 ft. in elevation); • Third-party inspection program; and • Post-construction inspection and maintenance. <p>d) <i>Phosphorus export</i>. For projects located within the direct watershed of a body of standing water 10 acres or greater in size. [reference §10.25,L]</p> <p>e) <i>Re-vegetation plan</i>. Provide a re-vegetation plan for all areas to be restored after construction, including measures and materials to be used, and post-construction monitoring. [reference §10.27,B]</p>
	<p>15. Environmental assessment</p>	<p>a) <i>Avian and bat monitoring</i>. Provide the results of pre-construction avian and bat monitoring over a minimum of two seasons (<i>i.e.</i> spring and fall) unless otherwise agreed to by MDIFW; an evaluation of the results; and a post-construction monitoring and reporting schedule [reference Exhibit A-3, above, and Appendix B, item #1)]</p> <p>b) <i>Wildlife and habitat</i>. Provide an assessment of the impacts to wildlife in the project area, including habitat fragmentation. Include a description of any mitigation for impacts proposed. Vernal pools are addressed in Section B-15,d, below.</p> <p>c) <i>RT&E plant and animal species and natural plant communities</i>. Provide known stations for all species federally listed as threatened or endangered; and for species and naturally communities that</p>

		<p>are State ranked S1, S2, or S3. Provide an evaluation of the impacts to S1 or S2 species or communities, and describe how such impacts will be minimized and/or mitigated [reference §10.25,E,2,a]. Also include measures proposed to avoid or mitigate impacts S3 species or communities, if any.</p> <p>d) <i>Wetland alterations</i>. [reference §10.23,N, and §10.25,P]</p> <ul style="list-style-type: none"> • Show the delineated boundaries of wetlands in the project areas on the site plans. Provide a table(s) identifying each impact area by wetland type (P-WL1, 2, or 3) and by alteration type (temporary or permanent, clearing, fill, etc); • Include all Exhibits required by the S-3 supplement; and • Provide the locations of significant and non-significant vernal pools, documentation of how the pools were identified as significant; the impacts proposed; and proposed buffers, protection or mitigation. <p>e) <i>Scenic</i>. See Section A, Exhibits 1-A and 1-B(*)</p> <ul style="list-style-type: none"> • Apply the standards in §10.25,E,1 if an exception for associated facilities claimed by an Interested Party is granted by the Commission. <p>f) <i>Shadow flicker</i>. See Sections A-1 or A-2, Exhibit 2</p> <p>g) <i>Noise</i>. See Sections A-1 or A-2, Exhibit 4</p> <p>h) <i>Historic features</i>. Conduct archaeological surveys if requested by MHPC; include plan for resources discovered during construction if studies suggest it is needed [reference §10.25,E,2,b].</p>
	<p>16. Other permits required (*)</p>	<p>Submit the names of other permits, approvals, and consultations required for the development, and the status of each (include a copy if the permit/approval has been obtained), as applicable, including but not limited to:</p> <ul style="list-style-type: none"> • U.S. Army Corps of Engineers Section 404 permit • MFS Forest Operations Notification • Federal Aviation Administration approved lighting plan • U.S. Department of Defense (Navy) • System Impact Study by CMP and ISO-NE • FEMA Elevation Certificate • MDEP Notice of Intent to File a NPDES Stormwater General Permit • MDEP permit for portion of the development within an organized town • Any permit required by an organized town • MDOT road opening or entrance permits • DHHS/DEH approvals (waste water disposal area, public drinking water source)

APPENDIX A DEFINITIONS

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. [See 35-A M.R.S.A., § 3451(1)]
2. 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." [See 34-A M.R.S.A., §3451(4)]
3. Generating facilities. "Generating facilities" means wind turbines and towers and transmission lines, not including generator lead lines, which are immediately associated with the wind turbines. [See 35-A M.R.S.A., § 3451(5)]
4. "Grid-scale" wind energy development. "Grid-scale" wind energy development means 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 [See 34-A M.R.S., §3451(6), reference 38 M.R.S. §482, subsection 2, paragraph A or C], which is defined in 35-A M.R.S., §482, subsections 2 and 6,B, as any federal, state, municipal, quasi-municipal, educational, charitable, residential, commercial or industrial development that:
 - Occupies a land or water area in excess of 20 acres; or
 - Is a structure (defined as "buildings, parking lots, roads, paved areas, wharves or areas to be stripped or graded and not to be revegetated that cause a total project to occupy a ground area in excess of 3 acres. Stripped or graded areas that are not revegetated within a calendar year are included in calculating the 3-acre threshold.
5. Host community. "Host community" means a municipality, township or plantation in which the generating facilities of an expedited wind energy development are located. [See 35-A M.R.S.A., § 3451(7)]
6. Scenic resources of state or national significance. "Scenic resources 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 section 3457;
- G. A scenic turnout constructed by the Department of Transportation pursuant to Title 23, section 954 on a public road that has been designated by the Commissioner of Transportation pursuant to Title 23, section 4206, subsection 1, paragraph G as a scenic highway; or
- H. Scenic viewpoints located in the coastal area, as defined by Title 38, section 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 section 3457.

[See 35-A M.R.S.A., § 3451(9)]

- 8. 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. [See 35-A M.R.S.A., § 3451(10)]
- 9. 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. [See 34-A M.R.S.A., § 3451(11)]

APPENDIX B

Excerpts from the “*Report of the Governor’s Task Force on Wind Power Development (2-14-2008)*” and Additional Guidance

1. Attachment M. Approach to Scenic Impacts [From the “*Report of the Governor’s Task Force on Wind Power Development (2-14-2008)*”]

38 M.R.S.A. § 484(3) of the Site Law requires a developer to demonstrate that it has made “adequate provision for fitting the development harmoniously into the existing natural environment” and that the development not unreasonably adversely affect “existing uses, [and] scenic character.” The Task Force recommends that, within the expedited area and for scenic considerations only, the requirement for fitting wind power projects harmoniously into the existing natural environment be eliminated^{1,30} and that an amendment to Section 484(3) be adopted to clarify how the existing uses and scenic standard applies to wind power projects. Language to the following effect is proposed as a new Section 484(3)(G) to the Site Law; again, this language would apply only in the expedited area: “The Legislature recognizes that wind turbines are potentially a highly visible feature of the landscape and will have an impact on views; therefore, the requirement that a development fit harmoniously into the natural environment is eliminated for wind power projects and the test for determining whether a wind power project adversely affects existing uses and scenic character is whether the development significantly compromises views from scenic resources of state or national significance such that it has an unreasonable adverse impact on scenic values and existing uses of those scenic resources.”

It is understood that existing uses can include the appreciation of scenic resources. In addition, the Department would adopt the following as guidance, similar to what the Department has proposed for bird and bat studies:

- In determining whether a project significantly compromises views from scenic resources and as a result would have unreasonable adverse impacts on those scenic resources and existing uses, the Department shall consider only the scenic resources identified in Attachment G to the Task Force Report [Scenic Resources of State or National Significance].
- The Department shall provide guidance to the applicant on whether a visual impact assessment is required to evaluate visual impacts on identified scenic resources.
 - There shall be a rebuttable presumption that no visual impact assessment is required for those portions of the project located more than three miles from a scenic resource. The

¹ Note the precise mechanism for accomplishing this has yet to be determined and in fact it might be possible to accomplish by simply clarifying how the requirement may be met for scenic considerations.

Department may require a scenic analysis beyond three miles if it is persuaded by substantial evidence that the scenic resource is especially significant and that impacts may be substantial.

- Portions of a project located more than eight miles from a scenic resource will be understood to be insignificant from a scenic perspective.
 - In determining whether a visual impact assessment is required and in determining whether a project has an unreasonable adverse impact on scenic resources and existing uses of those resources, the Department shall take into account:
 - The significance of the scenic resource;
 - The existing character of the surrounding area;
 - The expectations of the typical viewer;
 - The project purpose and the context of the proposed activity;
 - The extent, nature, and duration of public use; and
 - The scope and scale of the potential impact of the project views on the scenic resource, including the number and extent of turbines and transmission lines visible from the scenic resource, as well as their distance from the scenic resource and the project's prominence in the landscape.
 - In determining whether a project has an unreasonable adverse impact on scenic resources and existing uses related to those scenic resources, the Department recognizes that wind turbines are potentially a highly visible feature of the landscape and may have an impact on views. The fact that the project, including but not limited to, one or more turbines or part of a transmission line, may be a highly visible feature in the landscape does not by itself mean the visual impact is unreasonable, even if the scenic resource is a high value resource used by many members of the public. Other factors to consider are the scenic character of the landscape in which the project is located, the expectations of users of the scenic resource, and how significantly the public's use and enjoyment of the resource would be adversely impacted by the presence of the project.
 - The Task Force recommends that this same approach for reviewing the scenic impacts of wind power projects be adopted by the Land Use Regulation Commission, and recognizes that this will require statutory changes to accomplish this objective.
 - The Department of Environmental Protection and the Land Use Regulation Commission shall adopt guidance to implement this approach.
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2. Attachment I. DEP Standards on Noise and Shadow Flicker at Wind Power Projects
(January 10, 2008) [From the "*Report of the Governor's Task Force on Wind Power Development* (2-14-2008)"]

To: David Littell, Commissioner
From: Andrew Fisk, Bureau Director, Land & Water Quality
Re: DEP standards on noise and shadow flicker at wind power projects

Noise standards

The Department has extensive experience with its noise regulations (06-096 CMR, Chapter 375) which are administered under the provisions of the Site Location of Development Act.

These rules have been in place since 1979 and have been applied to hundreds of different types of projects around the state. These rules were developed to consider a wide range of activities that generate different types of noise in different settings. The rules were consciously designed to consider many different types of developments, rather than be particular to any one type of noise or development. That said, there are rules and ordinances that have been developed for particular types of projects, including wind power projects.

Following the issuance of the Site Location permit for the Mars Hill wind power project, which required the submission of detailed predevelopment wind studies, the Department worked with the owners of the facility to scope and then review a post-development noise study. This monitoring work began in spring 2007 and is continuing through the winter of 2008. The results of this ongoing assessment of the noise generated by the project have been reviewed by the Department as well as a consultant hired by the Department to peer review the work of the applicant's consultant.

As a result of the consultant's assessment of other existing noise rules developed for wind power projects; the Department's experience with its own noise regulations; and the peer review of both pre- and post-development noise studies at the Mars Hill site, the Department has developed a number of specific conclusions and recommendations regarding the applicability of the noise rules to wind power projects.

Shadow flicker

There has been some comment provided to the Department that wind turbines have caused impacts on private residences from shadow flicker when sun shines behind an operating turbine. Maine's northern latitude may make wind power projects susceptible to causing irritating shadow flicker as a result of low altitude sun during certain times of year. Shadow flicker is described as "moving shadow on the ground resulting in alternating changes in light intensity" and has been noted to cause concern in Northern Europe (NRC 2007). The NRC report notes that there is available modeling software that allows for shadow flicker to be assessed and mitigated in the layout and design of wind power projects that are near developed areas.

Conclusions & recommendations

- Except for one clarifying change outlined below, the existing statute and rules are sufficient to allow the Department to regulate the noise effects of wind power turbines. DEP's noise rules conform with the stated best practices of the National Research Council's 2007 report on the "Environmental Impacts of Wind-Energy Projects."
- Revise Chapter 375.10 (E) to provide the Commissioner with the authority to "establish any reasonable requirement to ensure that the developer has made adequate provision for the control of noise . . ." Present language limits that authority to the Board of Environmental Protection (BEP) only.
- Noise generated from wind turbines does have attributes that warrant particular focus in the review of projects, including the low-frequency modulating noises generated as turbine blades pass by towers.

- Analysis of ambient noise generated by wind must be carefully evaluated with specific equipment in pre-development and post-development monitoring so that it is not considered a component of noise generated by a wind turbine.
- Post-monitoring studies require careful placement of monitors that account for the effects of topography, prevailing wind (at both ground and turbine levels).
- Post-monitoring studies must be conducted during operational conditions that generate the most noise and during seasons or times when sound propagation is likeliest (such as wintertime snow cover).
- Variances from the existing noise regulations should only be granted in the circumstances set forth in the applicable section of the DEP regulations, where particular attention must be focused on precisely determining the characteristics of ambient noise.
- LURC should adopt parallel rules to those of the DEP to provide more detailed guidance than LURC rules currently provide and to make standards consistent statewide.
- To ensure that shadow flicker is not an adverse impact on protected locations, applicants for wind power projects in either LURC or DEP jurisdiction should demonstrate where shadow falls will occur and to what extent shadow flicker will result. Shadow flicker should be considered in the design of any project and minimized to the extent practicable. There is sufficient statutory authority in DEP and LURC law to request and review this information.

References

National Research Council. 2007. Environmental Impacts of Wind-Energy Projects. (Washington, D.C.: National Academies Press)

3. Shadow flicker caused by wind turbines is defined as alternating changes in light intensity caused by the moving blade casting shadows on the ground and stationary objects, such as a window at a dwelling. No shadow flicker is cast when the sun is obscured by clouds/fog or when the turbine rotor is not rotating. Shadow flicker is not the sun seen through a rotating wind turbine rotor, nor what an individual might view moving through the shadows of a wind energy project. The spatial relations between a wind turbine and receptor, as well as wind direction, are the key factors relating to shadow flicker duration. At distances greater than 1,000 feet between the turbines and a receptor, shadow flicker usually only occurs at sunrise or sunset when the cast shadows are sufficiently long. For situations where the rotor plane is in-line with the sun and the receptor (as seen from the receptor), the cast shadows will be very narrow (blade thickness), of low intensity, and will move quickly past the stationary receptor. When the rotor plane is perpendicular to the sun-receptor “view line”, the cast shadow of the blades will move within a circle equal to the turbine rotor diameter.

4. Attachment H. Guidelines for Wind Power Project Ecological Study by the Maine Department of Environmental Protection and Maine Department of Inland Fisheries and Wildlife; February 1, 2008 [From the “*Report of the Governor’s Task Force on Wind Power Development (2-14-2008)*”]

These guidelines are intended to assist wind power developers in Maine and supplement existing Maine statutes and rules developed under the Site Location of Development Law and Natural Resources Protection Act for ecological impact and are focused on assessing potential avian and bat impacts from large scale wind power development in Maine.

- Initial site screening: Initial siting requirements should include screening for bird, bat and wildlife habitat using known data. For initial siting applicants should screen known data on bird, bat, wildlife in the general area of the development and on the specific project site (consulting DIF&W Essential Habitat maps, consult with USFWS on endangered and threatened species, review *Beginning with Habitat Maps*, DIF&W/DEP database of significant wildlife habitat, state database for G1, G2, S1, S2, and S3 imperiled communities). While required for application submittal, screening information should be shared early on in the siting process with DEP, DIF&W, Maine Natural Areas Program, and DMR staff to gather feedback for the applicants and aid in the determination of where to focus additional investigations for final application submittal. Early consultation based on screening information is crucial to determine study needs to study designs.
- Pre-construction study requirements: The Department and review agencies will generally require the submittal of at least two migratory seasons, spring and fall, of bird/bat nocturnal radar, diurnal surveys for migratory birds and raptors, and acoustic studies for bats. If high value resources or habitats are present (e.g. eagle nest, high raptor use, migration corridor, endangered or threatened species), scoping and additional study will be required.
- Methodology for bird and bat pre-construction studies: Bird and bat studies should follow the *Methodologies for Evaluating Bird and Bat Interactions with Wind Turbines in Maine*, including Appendices I-IV, compiled by Maine Audubon based on work of the Maine Windpower Advisory Group, DIF&W, and Wildlife Windpower Siting committee (draft April 12, 2006). When methodologies will vary from specific recommendations in this *Methodologies* document, applicants should consult with DEP and DIF&W.
- Seasonal surveillance period: In most cases, radar studies should be done of at least one fall and one spring migration with at least 20-30 nights each season, representing various seasonal weather fronts. *See Methodologies* at p. 4.
- Combination of approaches advisable²: Preconstruction bird and bat studies by multiple methods: nocturnal bird/bat nocturnal radar³, diurnal surveys for migratory birds and

² The National Research Council's review of observational/monitoring methods found that: "In many cases, using a combination of approaches will be of value as no single method can be used for unambiguously assessing natural populations or the effects of wind turbines on biotic communities. Each approach has its own strengths, limitations, and biases. Investigators should understand the limitations, applicability, and operational considerations of each method before deploying them in the field. Local field guides and taxonomic keys for species identification are essential tools for investigators . . ." *Environmental Impacts of Wind-Energy Projects*, National Research Council of the National Academies (2007) at p. 285.

³ In addition to the *Methodologies* document commending use of both X-band radar pointed vertically and S-band

raptors, acoustic studies for bats, and other studies should be conducted for a minimum of two migratory seasons in the site area. If high use by bird/bats or high-value habitat or species are identified, four migratory seasons may be necessary. Particular attention should be paid to identification of site characteristics that may attract birds/bats such as thermals, forested ridge lines, saddles, etc.

- Lighting: Site design should consider limiting lighting of related maintenance buildings, power stations, etc. equipment that may attract birds in bad weather and insects (therefore bats) at night. Lighting on the towers themselves should consider research on attraction of birds (bats shown not to be attracted to red F.A.A. lighting). *See NRC at p. 86 and p. 321.*
- Post-construction bird and bat mortality: Mortality studies for birds and bats should be conducted for a 2-3 year period (i.e. 2-3 spring and 2-3 fall migration seasons) within 5 years of start of operation. These studies should follow the *Methodologies* recommended for post-construction review and consult with DEP/IF&W when an applicant desires to vary from recommended methodologies.
- Post-construction study plan: The post construction study plan should be co-related to pre-construction study design to provide robust data on environmental impacts that are comparable between the pre and post construction condition. For example, before-after/control impact (BACI) design is useful for impact study design. *See NRC, pp. 280-83.*
- Use of thermal imagery: While relatively new, use of thermal imagery has been documented to be valuable when compared with radar data on birds, bat and insect activity in wind power areas. *See NRC, p. 329.* Initial application of thermal imaging at a few sites is encouraging: when used with long-range imagery capability has been found capable of detecting 100% of the small passerine (song bird) passage within 3000 meters of the unit. *See NRC at p. 332.* When combined with height information (presumably from radar), thermal imagery is the only sensing instrument found to be “excellent” by the National Research Council for detection, tracking and quantification of bird and bat passage. *See NRC, Table C-2, pp. 286-87; see also NRC, pp. 331-336.* If initial screening or initial studies indicate significant concern with potential wind facility rotor interaction with bird/bats species in the projection area or a potential migration corridor, or other specific concerns, use of thermal imagery provide another technology to confirmation migration passage rates and bat activity in vicinity of turbines. If significant mortality occurs at a site despite the best pre-construction review, thermal imagery may be used for post-construction investigation of bird/bat interaction with wind power facilities.
- Mortality species identification: If post-construction studies indicate substantial bird/bat mortality, identification of the species present in the area surrounding a wind power project is essential to assess facility impacts. For carcasses and partial remains, specific identification may require bird feather or bat hair samples. *See NRC, pp 338-39.*

radar pointed horizontally, note that the National Research Council concludes that marine radar should have a transmitter power as high as possible (25kW or greater). *See Methodologies at p. 3 and NRC at p. 317.*

Mitochondrial and DNA markers can determine source populations of birds/bats that move long distances and identify geographic origin of bats and birds killed at wind energy facilities. *See NRC, p. 338.* Bat hair and bird feather samples are maintained in national repositories (American Museum of Natural History for birds/bats tissues collected below wind turbines and Conservation Genetics Research Center at UCLA for feathers samples for genetic analysis) and when conditions specifying use of repositories for samples may be appropriate in certain circumstances. *See NRC, p. 291.*

- **Maine studies:** Studies conducted for projects in Maine will provide valuable data nationally for wind power development in forested ecosystems. Because much existing research on bird and bat population impacts has occurred in desert, prairie, or open agricultural landscapes, research being conducted for Maine projects will contribute to scientific understanding of questions on which limited research data exists. *See NRC pp. 132-38 on information needs and research recommendations.*

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, Germanischer Lloyd Wind Energies, or other similar certifying organizations.
- B. Overspeed Control:** Evidence from the manufacturer or other licensed civil engineer describing the design and function of overspeed control (i.e. aerodynamic overspeed 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.

6. Policy on implementing the tangible benefits provision of P.L. 2008 Chapter 661

The DEP and LURC are charged with reviewing applications for wind energy projects subject to the provisions of this law. 35-A MRSA § 3451 defines tangible benefits as:

- 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.

Where the permitting agencies are required to make findings as directed in 35-A M.R.S.A. §3454 based on comments provided by the State Planning Office, Department of Labor, and the Public Utilities Commission.

The review standard for tangible benefits at 38 M.R.S.A. § 484 (3) (G) for DEP, and 12 M.R.S.A. § 685-B (4-B) for LURC, is that they must be found by the permitting agency to be "significant." The agencies therefore shall be looking for projects that demonstrate a particular and earnest commitment to the requirements of this law.

This standard is applicable to "expedited wind energy development" which is statutorily defined to include large-scale, commercial wind energy development projects in the State's organized area that require the department's approval under the Site Location of Development Act as well as comparable projects located in specified areas within the State's unorganized territory managed by the Land Use Regulation Commission. [See Title 35-A MRS sections 3451(4)]. Statutory provisions expedite review of these projects principally through streamlined administrative procedures and a wind-power specific standard regarding potential effects on scenic resources and related public uses. In enacting these provisions, designed in part to serve the public interest by reducing controversy associated with siting wind energy facilities, the Legislature recognized wind power's potential for both significant energy-related and economic public benefits and, as a potentially highly visible and new landscape feature, site-specific adverse effects on scenic and other natural resources. Accordingly, the Legislature further found that the State's wind energy resources should be developed with assurance that project-specific benefits accrue to the people of the State while addressing as appropriate site-specific natural resources-related issues. The "significant tangible benefits" provision is a key tool for achievement of these legislative policies in a flexible manner adaptable to the unique issues and opportunities presented by each development proposal.

The agencies will consider the following principles when reviewing project applications and determining "significance."

- Tangible benefits that create reduced electrical rates can be structured as either a long-term contract to sell capacity and/or energy to a utility that serves the project area and state or to a particular industry or facility in the project area or state at rates significantly below projected market rates or rates that are indexed at fixed amount or a percentage below market prices.
- Tangible benefits that offset increases in utility rates that occur as a result of transmission line improvements through long-term contracts at rates significantly below projected market rates or rates that are indexed at fixed amount or a percentage below market prices could be considered.
- Tangible benefits should be permanent, or of significant duration.
- Tangible benefits do not mitigate for project impacts, nor should mitigation requirements for impacts to wetlands or habitat, for example, count as tangible benefits.
- Tangible benefits that are presented as developed projects are preferred, however it is recognized that payments to the State or third-parties to undertake projects that will provide tangible benefits, such as land conservation, habitat improvement, or recreational access, are acceptable so long as additional to required regulatory compensation.
- Tangible benefits to natural resource conservation can be either designed to provide recreational amenities or ecological services. As such a project that provides improved recreational access but is located on ordinary or non-significant habitat is still a viable benefit project.
- Tangible economic benefits can include projects that create educational opportunities, including scholarships or educational programs, at institutions that support the facility, the wind power industry, the project area, and economic development of the project area and region.
- Tangible benefits are not to be presented as conditional on a tax increment financing proposal being approved by a local or county jurisdiction.

The following chapters are enacted regarding grid-scale wind energy development:

DEP: Sec. B-12. 38 MRS §484, sub-§10 is enacted to read:

10. Special provisions; grid-scale wind energy development. In the case of a grid-scale wind energy development, the proposed generating facilities, as defined in Title 35-A, section 3451, subsection 5:

- A. Will be designed and sited to avoid unreasonable adverse shadow flicker effects;
- B. Will be constructed with setbacks adequate to protect public safety. In making a finding pursuant to this paragraph, the department 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
- C. *Will provide significant tangible benefits* as determined pursuant to Title 35-A, section 3454, if the development is an expedited wind energy 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.

For purposes of this subsection, "grid-scale wind energy development," "primary siting authority," "significant tangible benefits" and "expedited wind energy development" have the same meanings as in Title 35-A, section 3451.

LURC: Sec. C-4. 12 MRSA §685-B, sub-§4-B is enacted to read:

4-B. Special provisions; wind energy development. In the case of a wind energy development, as defined in Title 35-A, section 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, section 3451, subsection 5:

- A. 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;
 - B. Will be designed and sited to avoid undue adverse shadow flicker effects;
 - C. Will be constructed with setbacks adequate to protect public safety, as provided in Title 35-A, section 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
 - D. *Will provide significant tangible benefits*, as defined in Title 35-A, section 3451, subsection 10, within the State, as provided in Title 35-A, section 3454, if the development is an expedited wind energy development, as defined in Title 35-A, section 3451, subsection 4.
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7. Decommissioning Plan: The applicant must provide a plan for decommissioning the project if that becomes necessary. The decommissioning plan shall include but is not limited to the following:

- A. A description of the trigger for implementing the decommissioning plan. There is a rebuttable presumption that decommissioning is required if no electricity is generated for a continuous period of twelve (12) months. The applicant may rebut the presumption by providing evidence, such as a force majeure event that interrupts the generation of electricity, that although the project has not generated electricity for a continuous period of 12 months, the project has not been abandoned and should not be decommissioned.
- B. A description of the work required to physically remove all wind turbines, associated foundations to a depth of 24 inches, buildings, cabling, electrical components, and any other associated facilities to the extent they are not otherwise in or proposed to be placed

into productive use. All earth disturbed during decommissioning must be graded and reseeded, unless the landowner of the affected land requests otherwise in writing.

[Note: At the time of decommissioning, the applicant may provide evidence of plans for continued beneficial use of any or all of the components of the wind energy development. Any changes to the approved decommissioning plan shall be approved as a minor amendment to the LURC permit for the wind energy development.]

- C. An estimate of the total cost of decommissioning, less salvage value of the equipment, and itemize the estimated major expenses, including the projected costs of measures taken to minimize or prevent adverse effects on the environment during implementation of the decommissioning plan. The itemization of major costs may include, but is not limited to, the cost of the following activities: turbine removal, turbine foundation removal and permanent stabilization, building removal and permanent stabilization, transmission corridor removal and permanent stabilization and road infrastructure removal and permanent stabilization.
 - D. Demonstration in the form of a performance bond, surety bond, letter of credit, parental guarantee or other form of financial assurance as may be acceptable to the Commission that upon the end of the useful life of the wind generation facility the applicant will have the necessary financial assurance in place for 100% of the total cost of decommissioning, less salvage value. The applicant may propose securing the necessary financial assurance in phases, as long as the total required financial assurance is in place a minimum of 5 years prior to the expected end of the useful life of the wind generation equipment.
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8. Soils mapping, as recommended by the Maine State Soil Scientist (excerpted from DEP's Site Law permit application instructions)

- A. **Electrical substations or *wind energy generation facilities*.** Electrical substations, switch yards, or the equivalent, including operation and maintenance buildings, associated with transmission lines, power plants, *wind energy generation facilities*, or comparable developments shall require a Class B (High Intensity) Soil Survey.
- B. **Linear projects or project components that involve soil disturbance, such as *road construction, fairway construction, or trail construction* and that have little of no adjacent development.** [Note: electrical transmission lines or similar projects with minimal soil disturbance are not included in the section, although access roads and other construction related to such projects may be required to submit additional information under this paragraph or paragraph A, above.] These projects must provide site-specific soil survey information sufficient to define drainage across the development corridor and to determine the appropriate type and location of storm water management and erosion and sediment control measures. At a minimum, the soil survey needs to identify the soil parent material, slope, soil texture, depth to hardpan or bedrock (which ever is shallowest) and drainage class (including evidence of oxic (oxygenated groundwater) conditions. The generation of this information shall require, at a minimum, that a qualified soil scientist walk the proposed linear portions of the development and observe

conditions within the proposed development corridor (width where soil is to be disturbed and/or filled). In general, the soil survey information can be obtained by the use of a soil auger (Dutch or screw auger) but shallow soil pits may be useful to supplement the information obtained by these borings. Ground control shall be by the use of GPS or following a survey path prepared by the developer. This soil survey technique does not allow for the proposer classification of soils at the series level, however, the soil scientist shall describe soil map units at the series level (or associations for closely related soils), based upon the information obtained in the field and shall develop a narrative describing the depth and other relevant characteristics of the soil observations and describing assumptions made during field observations. [Note: This soil survey does not meet any of the current classes of soil survey as described in the Maine Association of Professional Soil Scientist's Guidelines for Soil Mapping but provides the minimum amount of information necessary to properly design linear projects with little or no adjacent development. Site-specific soil survey information is not necessary to upgrade existing roads unless the upgrade will require work significantly outside of the existing road footprint.]